

# KNOW YOUR STEEL

## Steel Reference Guide

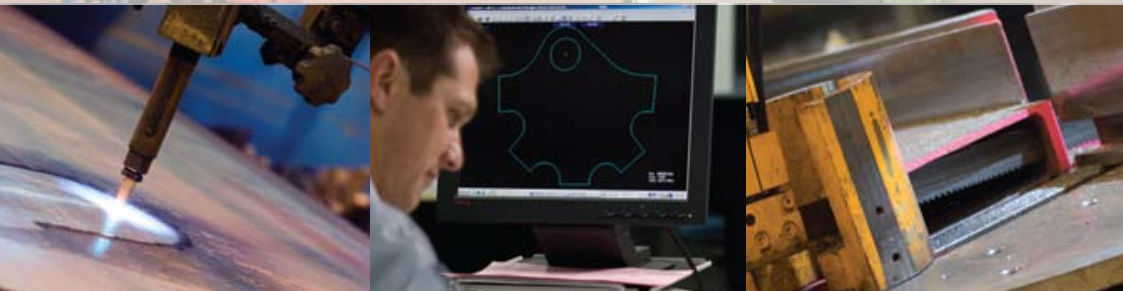


**BUILDING AUSTRALIA  
WITH YOU**

**JANUARY 2010**

# NATIONAL PROCESSING SOLUTIONS

**COMBINING QUALITY PRODUCT, TECHNICAL EXPERTISE & PROJECT MANAGEMENT**



OneSteel Steel & Tube is a major national steel processing provider, as well as a leading steel distributor. We offer customised processing solutions inclusive of an extensive range of additional services, reducing the complexity for you. If you have a major project, contact OneSteel Steel & Tube to find out how you can maximise the quality of results with one of our complete processing packages.

## The Full Processing Package

Our processing packages draw on all of our available resources, including staged planning, dedicated supply, expedited business tools, material traceability and logistics management. Our national footprint means we can supply solutions for you, wherever you need them. We are able to offer direction on alternate product specifications and provide cost savings through waste minimisation. Importantly, you get a full processing package that is delivered with the calibre of service that only a national operator like us can offer.

## Matching Your Needs

To ensure your project runs smoothly, we can customise a processing solution to match your needs. We provide you with a dedicated internal processing team, comprised of estimators, programmers, design engineers, project managers, skilled operators, warehouse coordinators, safety managers and logistics experts. Our state-of-the-art programming software allows us to optimise compatibility with your business. With our team's technical skill and processing expertise, OneSteel Steel & Tube can help deliver a quality result for your project.

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# Foreword

This publication has been prepared by OneSteel Steel & Tube which is an operating business group of OneSteel Distribution, OneSteel Trading Pty Limited ABN 50 007 519 646.

The aim of this booklet is to provide customers with useful information regarding Australian steel. Every effort has been made to ensure that the information contained in this publication is accurate.

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The preferred range of sizes only has been covered, some of these sizes may be subject to minimum order quantities, and every care should be taken to establish availability before proceeding based on the specifications provided. Additional information concerning non-preferred sizes, range of specifications available, or related data not included in this booklet is available on request through OneSteel Steel & Tube sites. Contact details are available on the previous page of this booklet.

Note: Mass Calculations have been based on a mass for carbon steel of 7,850 kg/m<sup>3</sup> rounded off and include a 2.5 per cent rolling tolerance where applicable.

## Sources

- OneSteel - Pricing and Availability Guide - Hot Rolled & Welded Structural Steel (Effective 3rd September 2009); Pricing and Availability Guide - Merchant Bar Products (Effective 4th September 2009); Pricing and Availability Guide - Precision Tube Products (Effective 5th October 2009)
- OneSteel Reinforcing Price & Availability Guides (Effective January 2009)
- Midalia Steel Price List (September 2005)
- Australian Tube Mills - Pricing and Availability Guide - Pipe & Tube Structural Products (Effective 1st September 2009); Pricing and Availability Guide - DuraGal® Profiles (Effective 16th September 2009)
- BTM Information Handbook (Date of Issue: 19/03/03 Issue 2)
- Nationwide Stainless Weights (2009)
- BlueScope Steel - Xlerplate® General Range Price Schedule (Effective 6th June 2008)
- BlueScope Steel - Xlerplate® Coil Plate & Coil Floor Plate Price Schedule (Effective 6th June 2008)

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# Flat Bar\* - Square Edge

6m



| Size<br>mm x mm |   |    | Mass<br>kg/m | Metres per<br>Tonne | Size<br>mm x mm |   |    | Mass<br>kg/m | Metres per<br>Tonne |
|-----------------|---|----|--------------|---------------------|-----------------|---|----|--------------|---------------------|
| 20              | x | 3  | 0.48         | 2070                | 65              | x | 3  | 1.57         | 637                 |
|                 | x | 5  | 0.81         | 1242                |                 | x | 5  | 2.62         | 382                 |
|                 | x | 6  | 0.97         | 1035                |                 | x | 6  | 3.14         | 319                 |
|                 | x | 10 | 1.61         | 622                 |                 | x | 8  | 4.18         | 239                 |
| 25              | x | 3  | 0.60         | 1658                | 75              | x | 10 | 5.23         | 191                 |
|                 | x | 5  | 1.01         | 994                 |                 | x | 12 | 6.28         | 159                 |
|                 | x | 6  | 1.21         | 829                 |                 | x | 16 | 8.37         | 120                 |
|                 | x | 8  | 1.61         | 622                 |                 | x | 20 | 10.5         | 95.6                |
|                 | x | 10 | 2.01         | 497                 |                 | x | 25 | 13.1         | 76.5                |
|                 | x | 12 | 2.41         | 414                 | 90              | x | 5  | 3.02         | 331                 |
| 32              | x | 3  | 0.77         | 1295                |                 | x | 6  | 3.62         | 276                 |
|                 | x | 5  | 1.29         | 777                 |                 | x | 8  | 4.83         | 207                 |
|                 | x | 6  | 1.55         | 647                 |                 | x | 10 | 6.04         | 166                 |
|                 | x | 8  | 2.06         | 485                 |                 | x | 12 | 7.24         | 138                 |
|                 | x | 10 | 2.58         | 388                 |                 | x | 16 | 9.66         | 104                 |
|                 | x | 12 | 3.09         | 324                 |                 | x | 20 | 12.1         | 82.9                |
| 40              | x | 3  | 0.97         | 1035                |                 | x | 25 | 15.1         | 66.3                |
|                 | x | 5  | 1.61         | 622                 |                 | x | 40 | 24.1         | 41.4                |
|                 | x | 6  | 1.93         | 518                 | 100             | x | 5  | 3.62         | 283                 |
|                 | x | 8  | 2.58         | 388                 |                 | x | 6  | 4.35         | 230                 |
|                 | x | 10 | 3.22         | 311                 |                 | x | 8  | 5.79         | 173                 |
|                 | x | 12 | 3.86         | 259                 |                 | x | 10 | 7.24         | 138                 |
|                 | x | 16 | 5.15         | 194                 | 100             | x | 12 | 8.69         | 115                 |
|                 | x | 20 | 6.44         | 159                 |                 | x | 5  | 4.02         | 249                 |
| 50              | x | 3  | 1.21         | 829                 |                 | x | 6  | 4.83         | 207                 |
|                 | x | 5  | 2.01         | 497                 |                 | x | 8  | 6.44         | 155                 |
|                 | x | 6  | 2.41         | 414                 |                 | x | 10 | 8.05         | 124                 |
|                 | x | 8  | 3.22         | 311                 |                 | x | 12 | 9.66         | 104                 |
|                 | x | 10 | 4.02         | 249                 |                 | x | 16 | 12.9         | 77.7                |
|                 | x | 12 | 4.83         | 207                 |                 | x | 20 | 16.1         | 62.1                |
|                 | x | 16 | 6.44         | 155                 |                 | x | 25 | 20.1         | 49.7                |
|                 | x | 20 | 8.05         | 124                 |                 | x | 50 | 40.2         | 24.9                |
|                 | x | 25 | 10.1         | 99.4                |                 |   |    |              |                     |

\* OneSteel typically carries Grade 300 & 1045  
Packs are offered in nominal 2 tonne bundles

# Flat Bar\* - Square Edge

6m



| Size<br>mm x mm |   |    | Mass<br>kg/m | Metres per<br>Tonne | Size<br>mm x mm |   |    | Mass<br>kg/m | Metres per<br>Tonne |
|-----------------|---|----|--------------|---------------------|-----------------|---|----|--------------|---------------------|
| 110             | x | 6  | 5.31         | 188                 | 180             | x | 12 | 17.4         | 57.5                |
|                 | x | 8  | 7.08         | 141                 |                 | x | 16 | 23.2         | 43.2                |
|                 | x | 10 | 8.85         | 113                 |                 | x | 20 | 29.0         | 34.5                |
|                 | x | 12 | 10.6         | 94.2                |                 | x | 25 | 36.2         | 27.6                |
| 130             | x | 5  | 5.23         | 191                 | 200             | x | 6  | 9.66         | 104                 |
|                 | x | 6  | 6.28         | 159                 |                 | x | 8  | 12.9         | 77.7                |
|                 | x | 8  | 8.37         | 120                 |                 | x | 10 | 16.1         | 62.1                |
|                 | x | 10 | 10.5         | 95.6                |                 | x | 12 | 19.3         | 51.8                |
|                 | x | 12 | 12.6         | 79.7                |                 | x | 16 | 25.7         | 38.8                |
|                 | x | 16 | 16.7         | 59.8                |                 | x | 20 | 32.2         | 31.1                |
|                 | x | 20 | 20.9         | 47.8                |                 | x | 25 | 40.3         | 24.9                |
|                 | x | 25 | 26.2         | 38.2                | 250             | x | 6  | 12.1         | 82.9                |
| 150             | x | 5  | 6.04         | 166                 |                 | x | 8  | 16.1         | 62.2                |
|                 | x | 6  | 7.24         | 138                 |                 | x | 10 | 20.1         | 49.7                |
|                 | x | 8  | 9.66         | 104                 |                 | x | 12 | 24.1         | 41.4                |
|                 | x | 10 | 12.1         | 82.9                |                 | x | 16 | 32.2         | 31.1                |
|                 | x | 12 | 14.5         | 69.1                |                 | x | 20 | 40.2         | 24.9                |
|                 | x | 16 | 19.3         | 51.8                |                 | x | 25 | 50.3         | 19.9                |
|                 | x | 20 | 24.1         | 41.4                | 300             | x | 6  | 14.5         | 69.1                |
|                 | x | 25 | 30.1         | 33.1                |                 | x | 8  | 19.3         | 51.8                |
|                 | x | 50 | 60.4         | 16.6                |                 | x | 10 | 24.1         | 41.4                |
| 180             | x | 5  | 7.24         | 138                 |                 | x | 12 | 29.0         | 34.5                |
|                 | x | 6  | 8.69         | 115                 |                 | x | 16 | 38.6         | 25.9                |
|                 | x | 10 | 14.5         | 69.1                |                 | x | 20 | 48.3         | 20.7                |
|                 |   |    |              |                     |                 | x | 25 | 60.4         | 16.6                |

# Flat Bar\* - Round Edge

4m



| Size<br>mm x mm |   |   | Mass<br>kg/m | Metres per<br>Tonne | Size<br>mm x mm |   |   | Mass<br>kg/m | Metres per<br>Tonne |
|-----------------|---|---|--------------|---------------------|-----------------|---|---|--------------|---------------------|
| 10              | x | 3 | 0.24         | 4132                | 16              | x | 3 | 0.39         | 2590                |
| 13              | x | 3 | 0.31         | 3185                |                 | x | 5 | 0.64         | 1552                |
|                 | x | 5 | 0.52         | 1912                |                 | x | 8 | 1.03         | 971                 |
|                 | x | 6 | 0.63         | 1592                |                 |   |   |              |                     |

\* OneSteel typically carries Grade 300 & 1045  
Packs are offered in nominal 2 tonne bundles



| Size mm | Nominal Thickness mm | Mass kg/m | Metres per Tonne | Pack Size (Lns) | Size mm | Nominal Thickness mm | Mass kg/m | Metres per Tonne | Pack Size (Lns) |
|---------|----------------------|-----------|------------------|-----------------|---------|----------------------|-----------|------------------|-----------------|
| 50      | 4                    | 1.49      | 671              | 57              | 150     | 5                    | 5.53      | 181              | 28              |
|         | 5                    | 1.84      | 543              | 45              |         | 6                    | 7.07      | 142              | 24              |
| 65      | 4                    | 1.94      | 515              | 44              |         | 8                    | 9.42      | 106              | 22              |
|         | 5                    | 2.40      | 417              | 36              | 200     | 5                    | 7.38      | 136              | 32              |
| 75      | 4                    | 2.24      | 447              | 38              |         | 6                    | 9.42      | 106              | 28              |
|         | 5                    | 2.77      | 361              | 32              |         | 8                    | 12.6      | 79.6             | 22              |
| 100     | 4                    | 2.98      | 336              | 28              | 250     | 5                    | 9.22      | 108              | 23              |
|         | 5                    | 3.69      | 271              | 28              |         | 8                    | 15.7      | 63.7             | 16              |
|         | 6                    | 4.71      | 212              | 26              | 300     | 5                    | 11.1      | 90.1             | 19              |
|         | 8                    | 6.28      | 160              | 22              |         | 8                    | 18.8      | 53.1             | 12              |
| 130     | 5                    | 4.80      | 208              | 28              |         |                      |           |                  |                 |



| Diameter mm | Mass kg/m | Metres per Tonne | Diameter mm | Mass kg/m | Metres per Tonne |
|-------------|-----------|------------------|-------------|-----------|------------------|
| 10          | 0.64      | 1563             | 56          | 19.8      | 50               |
| 12          | 0.92      | 1087             | 60          | 22.8      | 44               |
| 14          | 1.24      | 806              | 65          | 26.7      | 37               |
| 16          | 1.62      | 617              | 75          | 35.6      | 28               |
| 18          | 2.05      | 488              | 80          | 40.5      | 24               |
| 20          | 2.53      | 395              | 90          | 51.2      | 20               |
| 22          | 3.06      | 327              | 100         | 63.2      | 16               |
| 24          | 3.65      | 274              | 110         | 76.5      | 13               |
| 27          | 4.61      | 217              | 120         | 91.0      | 11               |
| 30          | 5.69      | 176              | 130         | 107       | 9.4              |
| 33          | 6.89      | 145              | 140         | 124       | 8.1              |
| 36          | 8.20      | 122              | 150         | 142       | 7.0              |
| 39          | 9.62      | 104              | 160         | 162       | 6.2              |
| 42          | 11.15     | 90               | 170         | 182       | 5.5              |
| 45          | 12.80     | 78               | 180         | 205       | 4.9              |
| 48          | 14.57     | 69               | 190         | 229       | 4.4              |
| 50          | 15.80     | 63               | 200         | 253       | 4.0              |



## Square Bar\*

6m



| Size<br>mm x mm | Mass<br>kg/m | Metres per<br>Tonne |
|-----------------|--------------|---------------------|
| 10 x 10         | 0.81         | 1235                |
| 12 x 12         | 1.16         | 862                 |
| 16 x 16         | 2.06         | 485                 |
| 20 x 20         | 3.22         | 311                 |
| 25 x 25         | 5.03         | 219                 |
| 32 x 32         | 8.24         | 121                 |
| 40 x 40         | 12.8         | 78                  |

## Billets\*

6m



| Size<br>mm x mm | Mass<br>kg/m | Metres per<br>Tonne |
|-----------------|--------------|---------------------|
| 45 x 45         | 16.30        | 61                  |
| 50 x 50         | 27.80        | 36                  |
| 63 x 63         | 31.20        | 32                  |
| 75 x 75         | 45.27        | 22                  |

## Angles - 300PLUS® Equal

Various Standard  
Lengths



| Size<br>mm x mm | Mass<br>kg/m | Metres per<br>Tonne | Size<br>mm x mm | Mass<br>kg/m | Metres per<br>Tonne |
|-----------------|--------------|---------------------|-----------------|--------------|---------------------|
| 20 x 20 x 3     | 0.95         | 1053                | 75 x 75 x 5     | 5.27         | 190                 |
| 25 x 25 x 3     | 1.12         | 893                 | x 6             | 6.81         | 147                 |
| x 5             | 1.65         | 606                 | x 8             | 8.73         | 115                 |
| x 6             | 2.08         | 481                 | x 10            | 10.5         | 95                  |
| 30 x 30 x 3     | 1.35         | 741                 | 90 x 90 x 6     | 8.22         | 122                 |
| x 5             | 2.01         | 498                 | x 8             | 10.6         | 94                  |
| x 6             | 2.56         | 391                 | x 10            | 12.7         | 79                  |
| 40 x 40 x 3     | 1.83         | 546                 | 100 x 100 x 6   | 9.16         | 109                 |
| x 5             | 2.73         | 366                 | x 8             | 11.8         | 85                  |
| x 6             | 3.50         | 286                 | x 10            | 14.2         | 70                  |
| 45 x 45 x 3     | 2.06         | 485                 | x 12            | 17.7         | 57                  |
| x 5             | 3.10         | 323                 | 125 x 125 x 8   | 14.9         | 67                  |
| x 6             | 3.97         | 252                 | x 10            | 18.0         | 56                  |
| 50 x 50 x 3     | 2.31         | 433                 | x 12            | 22.5         | 44                  |
| x 5             | 3.48         | 287                 | x 16            | 29.1         | 34                  |
| x 6             | 4.46         | 224                 | 150 x 150 x 10  | 21.9         | 46                  |
| x 8             | 5.68         | 176                 | x 12            | 27.3         | 37                  |
| 55 x 55 x 5     | 3.84         | 260                 | x 16            | 35.4         | 28                  |
| x 6             | 4.93         | 203                 | x 19            | 42.1         | 24                  |
| 65 x 65 x 5     | 4.56         | 219                 | 200 x 200 x 13  | 40.0         | 25                  |
| x 6             | 5.87         | 170                 | x 16            | 48.7         | 21                  |
| x 8             | 7.51         | 133                 | x 18            | 54.4         | 18                  |
| x 10            | 9.02         | 111                 | x 20            | 60.1         | 17                  |
|                 |              |                     | x 26            | 76.8         | 13                  |

\* OneSteel typically carries Grade 300 & 1045  
Packs are offered in nominal 2 tonne bundles

# Angles - DuraGal®

Various Standard  
Lengths



| Size<br>mm | Nominal<br>Thickness<br>mm | Mass<br>kg/m | Metres per<br>Tonne | Length/<br>Pack |     |
|------------|----------------------------|--------------|---------------------|-----------------|-----|
|            |                            |              |                     | Standard        |     |
|            |                            |              |                     | 6.0             | 9.0 |
| 30 x 30    | 2.5                        | 1.06         | 947                 | 80              |     |
| 40 x 40    | 2.5                        | 1.43         | 699                 | 60              |     |
|            | 4.0                        | 2.20         | 455                 | 39              |     |
| 45 x 45    | 2.5                        | 1.62         | 617                 | 54              |     |
|            | 4.0                        | 2.50         | 400                 | 36              |     |
| 50 x 50    | 2.5                        | 1.81         | 553                 | 33              | 33  |
|            | 4.0                        | 2.80         | 357                 | 27              | 27  |
|            | 5.0                        | 3.40         | 294                 |                 | 24  |
|            | 6.0                        | 4.21         | 238                 |                 | 21  |
| 65 x 65    | 4.0                        | 3.69         | 271                 |                 | 22  |
|            | 5.0                        | 4.51         | 222                 |                 | 22  |
|            | 6.0                        | 5.62         | 178                 |                 | 18  |
| 75 x 75    | 4.0                        | 4.29         | 233                 |                 | 22  |
|            | 5.0                        | 5.25         | 190                 |                 | 22  |
| 75 x 75    | 6.0                        | 6.56         | 152                 | 18              |     |
| 90 x 90    | 8.0                        | 8.59         | 116                 | 18              |     |
|            | 5.0                        | 6.37         | 157                 | 22              |     |
| 100 x 100  | 8.0                        | 10.5         | 95.2                | 18              |     |
|            | 6.0                        | 8.92         | 112                 |                 | 16  |
| 125 x 125  | 8.0                        | 11.7         | 85.5                |                 | 14  |
|            | 4.0                        | 7.27         | 138                 |                 | 20  |
| 150 x 150  | 5.0                        | 8.95         | 112                 |                 | 18  |
|            | 8.0                        | 14.9         | 67.1                |                 | 12  |
|            | 5.0                        | 10.8         | 92.6                |                 | 18  |
|            | 8.0                        | 18.0         | 55.6                |                 | 12  |

# Angles - 300PLUS® Unequal

Various Standard  
Lengths



| Size<br>mm x mm | Mass<br>kg/m | Metres per<br>Tonne | Size<br>mm x mm | Mass<br>kg/m | Metres per<br>Tonne |
|-----------------|--------------|---------------------|-----------------|--------------|---------------------|
| 65 x 50 x 5     | 4.02         | 249                 | 125 x 75 x 6    | 9.16         | 109                 |
| x 6             | 5.16         | 194                 | x 8             | 11.8         | 85                  |
| x 8             | 6.59         | 152                 | x 10            | 14.2         | 70                  |
|                 |              |                     | x 12            | 17.7         | 57                  |
| 75 x 50 x 5     | 4.40         | 227                 | 150 x 90 x 8    | 14.3         | 70                  |
| x 6             | 5.64         | 177                 |                 | 17.3         | 58                  |
| x 8             | 7.21         | 139                 |                 | 21.6         | 46                  |
|                 |              |                     |                 | 27.9         | 36                  |
| 100 x 75 x 6    | 7.98         | 125                 | 150 x 100 x 10  | 18.0         | 56                  |
| x 8             | 10.3         | 97                  |                 | 22.5         | 44                  |
| x 10            | 12.4         | 81                  |                 |              |                     |

# Channels - DuraGal®

Various Standard  
Lengths



| Size<br>mm | Nominal<br>Thickness<br>mm | Mass<br>kg/m | Metres per<br>Tonne | Length/<br>Pack |    |
|------------|----------------------------|--------------|---------------------|-----------------|----|
|            |                            |              |                     | Standard        |    |
|            |                            |              |                     | 9.0             | 12 |
| 75 x 40    | 4.0                        | 4.25         | 235                 | 18              |    |
| 100 x 50   | 4.0                        | 5.59         | 179                 | 18              |    |
| 125 x 65   | 4.0                        | 7.23         | 138                 | 18              |    |
| 150 x 75   | 5.0                        | 10.5         | 95.1                |                 | 12 |
| 180 x 75   | 5.0                        | 11.6         | 86.2                |                 | 12 |

| Size<br>mm | Nominal<br>Thickness<br>mm | Mass<br>kg/m | Metres per<br>Tonne | Length/<br>Pack |    |
|------------|----------------------------|--------------|---------------------|-----------------|----|
|            |                            |              |                     | Standard        |    |
|            |                            |              |                     | 9.0             | 12 |
| 200 x 75   | 5.0                        | 12.4         | 80.7                |                 | 12 |
|            | 6.0                        | 15.5         | 64.6                |                 | 12 |
| 230 x 75   | 6.0                        | 16.9         | 59.2                |                 | 12 |
| 250 x 90   | 6.0                        | 19.2         | 52.1                |                 | 8  |
| 300 x 90   | 6.0                        | 21.6         | 46.3                |                 | 6  |
|            | 8.0                        | 28.5         | 35.1                |                 | 6  |

# Channels - 300PLUS® Parallel Flange

Various Standard  
Lengths



| Size<br>mm x mm | Mass<br>kg/m | Metres per<br>Tonne |
|-----------------|--------------|---------------------|
| 50 x 25*        | 4.50         | 222                 |
| 75 x 40         | 5.92         | 169                 |
| 100 x 50        | 8.33         | 120                 |
| 125 x 65        | 11.9         | 84.0                |
| 150 x 75        | 17.7         | 56.5                |
| 180 x 75        | 20.9         | 47.9                |

| Size<br>mm x mm | Mass<br>kg/m | Metres per<br>Tonne |
|-----------------|--------------|---------------------|
| 200 x 75        | 22.9         | 43.7                |
| 230 x 75        | 25.1         | 39.8                |
| 250 x 90        | 35.5         | 28.2                |
| 300 x 90        | 40.1         | 24.9                |
| 380 x 100       | 55.2         | 18.1                |

\*Taper Flange Channel

# Rails



| Section | Mass<br>kg/m | Metres per<br>Tonne |
|---------|--------------|---------------------|
| 10      | 10.10        | 99.00               |
| 15      | 15.20        | 65.79               |
| 22      | 22.30        | 44.84               |
| 30      | 30.10        | 33.22               |
| 41      | 40.80        | 24.51               |
| 50      | 50.60        | 19.76               |

| Section | Mass<br>kg/m | Metres per<br>Tonne |
|---------|--------------|---------------------|
| 53      | 53.00        | 18.87               |
| 60      | 60.60        | 16.50               |
| 68      | 67.50        | 14.81               |
| 73      | 73.63        | 13.58               |
| 86      | 85.50        | 11.70               |

Rails are not normally a stocked item - Lead times may apply

# Beams - 300PLUS® Universal

Various Standard  
Lengths

I

| Metric Designation | Size mm x mm | Mass kg/m | Metres per Tonne |
|--------------------|--------------|-----------|------------------|
| 150 UB             | 150 x 75     | 14.0      | 71               |
|                    | 155 x 75     | 18.0      | 56               |
| 180 UB             | 173 x 90     | 16.1      | 62               |
|                    | 175 x 90     | 18.1      | 55               |
|                    | 179 x 90     | 22.2      | 45               |
| 200 UB             | 198 x 99     | 18.2      | 55               |
|                    | 202 x 133    | 22.3      | 45               |
|                    | 203 x 133    | 25.4      | 39               |
|                    | 207 x 134    | 29.8      | 34               |
| 250 UB             | 248 x 124    | 25.7      | 39               |
|                    | 252 x 146    | 31.4      | 32               |
|                    | 256 x 146    | 37.3      | 27               |
| 310 UB             | 298 x 149    | 32.0      | 31               |
|                    | 304 x 165    | 40.4      | 25               |
|                    | 307 x 166    | 46.2      | 22               |

| Metric Designation | Size mm x mm | Mass kg/m | Metres per Tonne |
|--------------------|--------------|-----------|------------------|
| 360 UB             | 352 x 171    | 44.7      | 22               |
|                    | 356 x 171    | 50.7      | 20               |
|                    | 359 x 172    | 56.7      | 18               |
| 410 UB             | 403 x 178    | 53.7      | 19               |
|                    | 406 x 178    | 59.7      | 17               |
| 460 UB             | 454 x 190    | 67.1      | 15               |
|                    | 457 x 190    | 74.6      | 13               |
|                    | 460 x 191    | 82.1      | 12               |
| 530 UB             | 528 x 209    | 82.0      | 12               |
|                    | 533 x 209    | 92.4      | 11               |
| 610 UB             | 602 x 228    | 101       | 10               |
|                    | 607 x 228    | 113       | 9                |
|                    | 612 x 229    | 125       | 8                |

# Beams - 300PLUS® Welded

Various Standard  
Lengths

I

| Metric Designation | Size mm x mm | Mass kg/m | Metres per Tonne |
|--------------------|--------------|-----------|------------------|
| 700 WB             | 692 x 250    | 115       | 8.70             |
|                    | 700 x 250    | 130       | 7.69             |
|                    | 710 x 250    | 150       | 6.67             |
|                    | 716 x 275    | 173       | 5.78             |
| 800 WB             | 792 x 250    | 122       | 8.20             |
|                    | 800 x 275    | 146       | 6.85             |
|                    | 810 x 275    | 168       | 5.95             |
|                    | 816 x 300    | 192       | 5.21             |
| 900 WB             | 900 x 300    | 175       | 5.71             |
|                    | 910 x 350    | 218       | 4.59             |
|                    | 916 x 400    | 257       | 3.89             |
|                    | 924 x 400    | 282       | 3.55             |

| Metric Designation | Size mm x mm | Mass kg/m | Metres per Tonne |
|--------------------|--------------|-----------|------------------|
| 1000 WB            | 1000 x 300   | 215       | 4.65             |
|                    | 1010 x 350   | 258       | 3.88             |
|                    | 1016 x 400   | 296       | 3.38             |
|                    | 1024 x 400   | 322       | 3.11             |
| 1200 WB            | 1170 x 275   | 249       | 4.02             |
|                    | 1170 x 350   | 278       | 3.60             |
|                    | 1176 x 400   | 317       | 3.15             |
|                    | 1184 x 400   | 342       | 2.92             |
|                    | 1184 x 500   | 392       | 2.55             |
|                    | 1192 x 500   | 423       | 2.36             |
|                    | 1200 x 500   | 455       | 2.20             |

# Beams - 300PLUS® Taper Flange

Various Standard  
Lengths



| Size<br>mm x mm | Mass<br>kg/m | Metres per<br>Tonne | Size<br>mm x mm | Mass<br>kg/m | Metres per<br>Tonne |
|-----------------|--------------|---------------------|-----------------|--------------|---------------------|
| 100 x 45        | 7.20         | 139                 | 125 x 65        | 13.1         | 76.0                |

# Columns - 300PLUS® Universal

Various Standard  
Lengths



| Metric<br>Designation | Size<br>mm x mm | Mass<br>kg/m | Metres per<br>Tonne | Metric<br>Designation | Size<br>mm x mm | Mass<br>kg/m | Metres per<br>Tonne |
|-----------------------|-----------------|--------------|---------------------|-----------------------|-----------------|--------------|---------------------|
| 100 UC                | 97 x 99         | 14.8         | 68                  | 250 UC                | 254 x 254       | 72.9         | 14                  |
| 150 UC                | 152 x 152       | 23.4         | 43                  |                       | 260 x 256       | 89.5         | 11                  |
|                       | 158 x 153       | 30.0         | 33                  | 310 UC                | 308 x 305       | 96.8         | 10                  |
|                       | 162 x 154       | 37.2         | 27                  |                       | 315 x 307       | 118          | 8                   |
| 200 UC                | 203 x 203       | 46.2         | 22                  |                       | 321 x 309       | 137          | 7                   |
|                       | 206 x 204       | 52.2         | 19                  |                       | 327 x 311       | 158          | 6                   |
|                       | 210 x 205       | 59.5         | 17                  |                       |                 |              |                     |

# Columns - 300PLUS® Welded

Various Standard  
Lengths



| Metric<br>Designation | Size<br>mm x mm | Mass<br>kg/m | Metres per<br>Tonne | Metric<br>Designation | Size<br>mm x mm | Mass<br>kg/m | Metres per<br>Tonne |
|-----------------------|-----------------|--------------|---------------------|-----------------------|-----------------|--------------|---------------------|
| 350 WC                | 331 x 350       | 197          | 5.08                | 500 WC                | 490 x 500       | 228          | 4.39                |
|                       | 339 x 350       | 230          | 4.35                |                       | 500 x 500       | 267          | 3.75                |
|                       | 347 x 350       | 258          | 3.88                |                       | 506 x 500       | 290          | 3.45                |
|                       | 355 x 350       | 280          | 3.57                |                       | 514 x 500       | 340          | 2.94                |
| 400 WC                | 382 x 400       | 144          | 6.94                |                       | 472 x 500       | 383          | 2.61                |
|                       | 390 x 400       | 181          | 5.52                |                       | 480 x 500       | 414          | 2.42                |
|                       | 400 x 400       | 212          | 4.72                |                       | 480 x 500       | 440          | 2.27                |
|                       | 414 x 400       | 270          | 3.7                 |                       |                 |              |                     |
|                       | 422 x 400       | 303          | 3.3                 |                       |                 |              |                     |
|                       | 430 x 400       | 328          | 3.05                |                       |                 |              |                     |
|                       | 430 x 400       | 361          | 2.77                |                       |                 |              |                     |

# Hot Rolled Structural Standard Bundle Configuration

| Channels | kg/m | 6.0-9.0<br>m | 9.1-10.5<br>m | 10.6-12.0<br>m | 12.1-13.5<br>m | 13.6-15.0<br>m | 15.1-16.5<br>m | 16.6-18.0<br>m |
|----------|------|--------------|---------------|----------------|----------------|----------------|----------------|----------------|
| 150 PFC  | 17.7 | 30           | 24            | 20             | 20             | 16             | 16             | 12             |
| 180 PFC  | 20.9 | 24           | 20            | 16             | 16             | 12             | 12             | 12             |
| 200 PFC  | 22.9 | 24           | 20            | 16             | 16             | 12             | 12             | 12             |
| 230 PFC  | 25.1 | 20           | 16            | 16             | 12             | 12             | 12             | 10             |
| 250 PFC  | 35.5 | 12           | 12            | 8              | 8              | 8              | 8              | 8              |
| 300 PFC  | 40.1 | 12           | 8             | 8              | 8              | 8              | 6              | 6              |
| 380 PFC  | 55.2 | 10           | 8             | 6              | 6              | 6              | 4              | 4              |

| Angles         | kg/m | 6.0-9.0<br>m | 9.1-10.5<br>m | 10.6-12.0<br>m | 12.1-13.5<br>m | 13.6-15.0<br>m |
|----------------|------|--------------|---------------|----------------|----------------|----------------|
| 125 x 125 x 8  | 14.9 | 36           | 30            | 26             | 21             | 21             |
| 125 x 125 x 10 | 18.0 | 30           | 25            | 22             | 18             | 18             |
| 125 x 125 x 12 | 22.5 | 24           | 20            | 18             | 14             | 14             |
| 125 x 125 x 16 | 29.1 | 19           | 16            | 14             | 11             | 11             |
| 150 x 90 x 8   | 14.3 | 36           | 30            | 27             | 21             | 21             |
| 150 x 90 x 10  | 17.3 | 32           | 27            | 24             | 19             | 19             |
| 150 x 90 x 12  | 21.6 | 24           | 21            | 18             | 15             | 15             |
| 150 x 90 x 16  | 27.9 | 19           | 16            | 14             | 11             | 11             |
| 150 x 100 x 10 | 18.0 | 30           | 25            | 22             | 18             | 18             |
| 150 x 100 x 12 | 22.5 | 24           | 20            | 18             | 14             | 14             |
| 150 x 150 x 10 | 21.9 | 25           | 21            | 18             | 15             | 15             |
| 150 x 150 x 12 | 27.3 | 20           | 16            | 15             | 12             | 12             |
| 150 x 150 x 16 | 35.4 | 15           | 13            | 11             | 9              | 9              |
| 150 x 150 x 19 | 42.1 | 13           | 11            | 9              | 7              | 7              |
| 200 x 200 x 13 | 40.0 | 13           | 11            | 10             | 8              | 8              |
| 200 x 200 x 16 | 48.7 | 11           | 9             | 8              | 6              | 6              |
| 200 x 200 x 18 | 54.4 | 10           | 8             | 7              | 6              | 6              |
| 200 x 200 x 20 | 60.1 | 9            | 7             | 6              | 5              | 5              |
| 200 x 200 x 26 | 76.8 | 7            | 6             | 5              | 4              | 4              |

| Universal<br>Beams | kg/m | 6.0-9.0<br>m | 9.1-10.5<br>m | 10.6-12.0<br>m | 12.1-13.5<br>m | 13.6-15.0<br>m | 15.1-16.5<br>m | 16.6-18.0<br>m | 20.0<br>m |
|--------------------|------|--------------|---------------|----------------|----------------|----------------|----------------|----------------|-----------|
| 150 UB             | 14.0 | 36           | 30            | 24             | 24             | 20             | 20             | 16             |           |
|                    | 18.0 | 30           | 24            | 20             | 18             | 16             | 16             | 14             |           |
| 180 UB             | 16.1 | 30           | 24            | 20             | 18             | 16             | 16             | 14             |           |
|                    | 18.1 | 30           | 24            | 20             | 18             | 16             | 16             | 14             |           |
|                    | 22.2 | 24           | 20            | 16             | 16             | 14             | 12             | 12             |           |

Continued on next page...

# Hot Rolled Structural Standard Bundle Configuration

| Universal Beams | kg/m | 6.0-9.0 m | 9.1-10.5 m | 10.6-12.0 m | 12.1-13.5 m | 13.6-15.0 m | 15.1-16.5 m | 16.6-18.0 m | 20.0 m |
|-----------------|------|-----------|------------|-------------|-------------|-------------|-------------|-------------|--------|
| 200 UB          | 18.2 | 30        | 24         | 22          | 18          | 18          | 16          | 14          |        |
|                 | 22.3 | 18        | 18         | 18          | 16          | 14          | 12          | 12          |        |
|                 | 25.4 | 18        | 18         | 16          | 14          | 12          | 10          | 10          |        |
| 250 UB          | 29.8 | 18        | 16         | 12          | 12          | 10          | 10          | 8           |        |
|                 | 25.7 | 20        | 18         | 16          | 14          | 12          | 10          | 10          |        |
|                 | 31.4 | 16        | 14         | 12          | 10          | 10          | 8           | 8           |        |
| 310 UB          | 37.3 | 14        | 12         | 10          | 8           | 8           | 8           | 7           |        |
|                 | 32.0 | 16        | 14         | 12          | 10          | 10          | 8           | 8           |        |
|                 | 40.4 | 12        | 10         | 10          | 8           | 8           | 6           | 6           | 6      |
| 360 UB          | 46.2 | 12        | 10         | 8           | 8           | 7           | 6           | 6           | 5      |
|                 | 44.7 | 12        | 10         | 7           | 7           | 7           | 6           | 6           | 5      |
|                 | 50.7 | 10        | 7          | 7           | 7           | 6           | 5           | 5           | 4      |
| 410 UB          | 56.7 | 7         | 7          | 7           | 6           | 5           | 5           | 4           | 4      |
|                 | 53.7 | 10        | 7          | 6           | 6           | 6           | 5           | 5           | 4      |
|                 | 59.7 | 7         | 7          | 6           | 6           | 5           | 5           | 4           | 4      |
| 460 UB          | 67.1 | 6         | 6          | 6           | 5           | 4           | 4           | 4           | 3      |
|                 | 74.6 | 6         | 6          | 5           | 4           | 4           | 4           | 3           | 3      |
|                 | 82.1 | 6         | 5          | 5           | 4           | 4           | 3           | 3           | 3      |
| 530 UB          | 82.0 | 5         | 5          | 5           | 4           | 4           | 3           | 3           | 3      |
|                 | 92.4 | 5         | 5          | 4           | 4           | 3           | 3           | 3           | 1      |
|                 | 101  | 4         | 4          | 3           | 3           | 3           | 3           | 1           | 1      |
| 610 UB          | 113  | 4         | 4          | 3           | 3           | 1           | 1           | 1           | 1      |
|                 | 125  | 4         | 3          | 3           | 1           | 1           | 1           | 1           | 1      |

| Universal Columns | kg/m | 6.0-9.0 m | 9.1-10.5 m | 10.6-12.0 m | 12.1-13.5 m | 13.6-15.0 m | 15.1-16.5 m | 16.6-18.0 m | 20.0 m |
|-------------------|------|-----------|------------|-------------|-------------|-------------|-------------|-------------|--------|
| 100 UC            | 14.8 | 36        | 28         | 24          | 24          | 21          | 18          | 16          |        |
|                   | 23.4 | 21        | 18         | 15          | 15          | 12          | 12          | 10          |        |
|                   | 30.0 | 18        | 15         | 12          | 12          | 10          | 10          | 8           |        |
| 200 UC            | 37.2 | 12        | 12         | 10          | 8           | 8           | 8           | 6           |        |
|                   | 46.2 | 12        | 10         | 8           | 8           | 6           | 6           | 6           |        |
|                   | 52.2 | 10        | 8          | 6           | 6           | 6           | 5           | 5           |        |
| 250 UC            | 59.5 | 8         | 8          | 6           | 6           | 5           | 5           | 4           |        |
|                   | 72.9 | 6         | 6          | 4           | 4           | 4           | 4           | 3           | 3      |
|                   | 89.5 | 6         | 4          | 4           | 4           | 3           | 3           | 3           | 2      |
| 310 UC            | 96.8 | 3         | 3          | 3           | 3           | 3           | 3           | 2           | 2      |
|                   | 118  | 3         | 3          | 3           | 3           | 2           | 2           | 2           |        |
|                   | 137  | 3         | 3          | 3           | 2           | 2           | 2           | 2           |        |
|                   | 158  | 3         | 2          | 2           | 2           | 2           | 1           | 1           |        |

Not all lengths available at all locations

# Plate - Grade 250



| Thickness<br>mm | Mass<br>kg/m <sup>2</sup> | Width<br>mm | Length<br>m | kg/lineal metre<br>of plate width | Thickness<br>mm | Mass<br>kg/m <sup>2</sup> | Width<br>mm | Length<br>m | kg/lineal metre<br>of plate width |
|-----------------|---------------------------|-------------|-------------|-----------------------------------|-----------------|---------------------------|-------------|-------------|-----------------------------------|
| 5               | 39.25                     | 2400        | 9.0         | 94.20                             | 36              | 282.60                    | 2400        | 6.0         | 678.24                            |
|                 |                           | 3000        | 9.0         | 117.75                            |                 |                           | 2400        | 9.0         | 678.24                            |
| 6               | 47.10                     | 2400        | 6.0         | 113.04                            | 40              | 314.00                    | 1800        | 6.0         | 565.20                            |
|                 |                           | 2400        | 9.0         | 113.04                            |                 |                           | 2400        | 6.0         | 753.60                            |
|                 |                           | 3000        | 9.0         | 141.30                            |                 |                           | 2400        | 9.0         | 753.60                            |
|                 |                           | 3200        | 12          | 150.72                            |                 |                           | 2400        | 6.0         | 847.80                            |
| 8               | 62.80                     | 1800        | 6.0         | 113.04                            | 45              | 353.25                    | 2400        | 6.0         | 847.80                            |
|                 |                           | 2400        | 6.0         | 150.72                            |                 |                           | 2400        | 9.0         | 847.80                            |
|                 |                           | 2400        | 9.0         | 150.72                            |                 |                           | 1800        | 6.0         | 706.50                            |
|                 |                           | 3000        | 9.0         | 188.40                            | 50              | 392.50                    | 2400        | 6.0         | 942.00                            |
|                 |                           | 3200        | 12          | 200.96                            |                 |                           | 2400        | 9.0         | 942.00                            |
| 10              | 78.50                     | 1800        | 6.0         | 141.30                            | 55              | 431.75                    | 2400        | 6.0         | 1036.20                           |
|                 |                           | 2400        | 6.0         | 188.40                            |                 |                           | 2400        | 8.4         | 1036.20                           |
|                 |                           | 2400        | 9.0         | 188.40                            | 60              | 471.00                    | 1800        | 6.0         | 847.80                            |
|                 |                           | 3000        | 9.0         | 235.50                            |                 |                           | 2400        | 6.4         | 1130.40                           |
|                 |                           | 3200        | 12          | 251.20                            | 70              | 549.50                    | 1800        | 6.0         | 989.10                            |
| 12              | 94.20                     | 1800        | 6.0         | 169.56                            |                 |                           | 2400        | 6.0         | 1318.80                           |
|                 |                           | 2400        | 6.0         | 226.08                            | 80              | 628.00                    | 1800        | 6.0         | 1130.40                           |
|                 |                           | 2400        | 9.0         | 226.08                            |                 |                           | 2400        | 6.0         | 1507.20                           |
|                 |                           | 3000        | 6.0         | 282.60                            | 90              | 706.50                    | 1800        | 6.0         | 1695.60                           |
|                 |                           | 3000        | 9.0         | 282.60                            |                 |                           | 1800        | 5.6         | 1413.00                           |
|                 |                           | 3200        | 12          | 301.44                            | 100             | 785.00                    | 2400        | 5.2         | 1884.00                           |
| 16              | 125.60                    | 1800        | 6.0         | 226.08                            |                 |                           | 1800        | 5.0         | 1554.30                           |
|                 |                           | 2400        | 6.0         | 301.44                            | 110             | 863.50                    | 2400        | 4.0         | 2072.40                           |
|                 |                           | 2400        | 9.0         | 301.44                            |                 |                           | 1800        | 4.6         | 1695.60                           |
|                 |                           | 3000        | 6.0         | 376.80                            | 120             | 942.00                    | 2400        | 3.1         | 2260.80                           |
|                 |                           | 3000        | 9.0         | 376.80                            |                 |                           | 1800        | 4.2         | 1837.80                           |
|                 |                           | 3200        | 12          | 401.92                            | 130             | 1021.0                    | 2400        | 3.1         | 2450.40                           |
| 20              | 157.00                    | 1800        | 6.0         | 282.60                            |                 |                           | 1800        | 3.9         | 1978.20                           |
|                 |                           | 2400        | 6.0         | 376.80                            | 140             | 1099.0                    | 2400        | 2.9         | 2637.60                           |
|                 |                           | 2400        | 9.0         | 376.80                            |                 |                           | 1800        | 3.6         | 2119.50                           |
|                 |                           | 3000        | 9.0         | 471.00                            |                 |                           | 2400        | 2.7         | 2826.00                           |
|                 |                           | 3200        | 12          | 502.40                            | 150             | 1177.5                    |             |             |                                   |
| 25              | 196.25                    | 1800        | 6.0         | 353.25                            |                 |                           |             |             |                                   |
|                 |                           | 2400        | 6.0         | 471.00                            |                 |                           |             |             |                                   |
|                 |                           | 2400        | 9.0         | 471.00                            |                 |                           |             |             |                                   |
|                 |                           | 3000        | 9.0         | 588.75                            |                 |                           |             |             |                                   |
| 28              | 279.80                    | 3200        | 12          | 628.00                            |                 |                           |             |             |                                   |
|                 |                           | 2400        | 6.0         | 527.52                            |                 |                           |             |             |                                   |
|                 |                           | 2400        | 9.0         | 527.52                            |                 |                           |             |             |                                   |



## Plate - Grade 350



| Thickness<br>mm | Mass<br>kg/m <sup>2</sup> | Width<br>mm | Length<br>m | kg/lineal metre<br>of plate width |
|-----------------|---------------------------|-------------|-------------|-----------------------------------|
| 5               | 39.25                     | 2400        | 9.0         | 94.20                             |
|                 |                           | 3000        | 9.0         | 117.75                            |
| 6               | 47.10                     | 2400        | 9.6         | 113.04                            |
| 8               | 62.80                     | 2400        | 9.6         | 150.72                            |
| 10              | 78.50                     | 2400        | 9.6         | 188.40                            |
|                 |                           | 3100        | 9.6         | 243.35                            |
| 12              | 94.20                     | 2400        | 9.6         | 226.08                            |
|                 |                           | 3100        | 9.6         | 292.02                            |
| 16              | 125.60                    | 2400        | 9.6         | 301.44                            |
|                 |                           | 3100        | 9.6         | 389.36                            |
| 20              | 157.00                    | 2400        | 9.6         | 376.80                            |
|                 |                           | 3100        | 9.6         | 486.70                            |
| 25              | 196.25                    | 2400        | 9.6         | 471.00                            |
| 32              | 251.20                    | 2400        | 9.6         | 602.88                            |
| 40              | 314.00                    | 2400        | 7.6         | 753.60                            |
| 50              | 392.50                    | 2400        | 7.6         | 942.00                            |
| 60              | 471.00                    | 2400        | 7.6         | 1130.40                           |
| 70              | 549.50                    | 2400        | 6.0         | 1318.80                           |
| 80              | 628.00                    | 2400        | 5.5         | 1507.20                           |

## Plate - Boiler (AS 1548-PT 460 NR)



| Thickness<br>mm | Mass<br>kg/m <sup>2</sup> | Width<br>mm | Length<br>m | kg/lineal metre<br>of plate width |
|-----------------|---------------------------|-------------|-------------|-----------------------------------|
| 6               | 47.10                     | 3100        | 9.6         | 146.01                            |
| 8               | 62.80                     | 3100        | 9.6         | 194.68                            |
| 10              | 78.50                     | 3100        | 9.6         | 243.35                            |
| 12              | 94.20                     | 3100        | 9.6         | 292.02                            |
| 16              | 125.60                    | 3100        | 9.6         | 389.36                            |
| 20              | 157.00                    | 3100        | 9.6         | 486.70                            |
| 25              | 196.25                    | 3100        | 9.6         | 608.38                            |
| 32              | 251.20                    | 3100        | 9.6         | 778.72                            |
| 40              | 314.00                    | 2400        | 9.6         | 753.60                            |
| 50              | 392.50                    | 2400        | 7.6         | 942.00                            |
| 60              | 471.00                    | 2400        | 6.0         | 1130.40                           |
| 70              | 549.50                    | 2400        | 6.0         | 1318.80                           |
| 80              | 628.00                    | 2400        | 5.2         | 1507.20                           |
| 90              | 706.50                    | 2400        | 5.2         | 1695.60                           |
| 100             | 785.00                    | 2400        | 5.2         | 1884.00                           |

## Plate - Pressure Vessel (SA/AS 1548-7-430R)



| Thickness<br>mm | Mass<br>kg/m <sup>2</sup> | Width<br>mm | Length<br>m | kg/lineal metre<br>of plate width |
|-----------------|---------------------------|-------------|-------------|-----------------------------------|
| 5               | 39.25                     | 2400        | 9.0         | 94.20                             |

## Plate - Grade K1042



| Thickness<br>mm | Mass<br>kg/m <sup>2</sup> | Width<br>mm | Length<br>m | kg/lineal metre<br>of plate width |
|-----------------|---------------------------|-------------|-------------|-----------------------------------|
| 12              | 94.20                     | 2400        | 6.0         | 226.08                            |
| 16              | 125.60                    | 2400        | 6.2         | 301.44                            |
| 20              | 157.00                    | 2400        | 6.0         | 376.80                            |
| 25              | 196.25                    | 2400        | 6.0         | 471.00                            |
| 32              | 251.20                    | 2400        | 6.3         | 602.88                            |
| 40              | 314.00                    | 2400        | 7.6         | 753.60                            |
| 50              | 392.50                    | 2400        | 6.0         | 942.00                            |
| 60              | 471.00                    | 2400        | 6.0         | 1130.40                           |
| 70              | 549.50                    | 2400        | 5.8         | 1318.80                           |
| 80              | 628.00                    | 2400        | 5.0         | 1507.20                           |

## Plate - Lasercut™ (AS/NZS 3678-Lasercut™250)



| Thickness<br>mm | Mass<br>kg/m <sup>2</sup> | Width<br>mm | Length<br>m | kg/lineal metre<br>of plate width |
|-----------------|---------------------------|-------------|-------------|-----------------------------------|
| 16              | 125.60                    | 1500        | 6.0         | 188.40                            |
|                 |                           | 1500        | 9.0         | 188.40                            |
|                 |                           | 2400        | 6.0         | 301.44                            |
| 20              | 157.00                    | 1500        | 6.0         | 235.50                            |
|                 |                           | 1500        | 9.0         | 235.50                            |
|                 |                           | 2400        | 6.0         | 376.80                            |
|                 |                           | 2400        | 6.0         | 376.80                            |
| 25              | 196.25                    | 1500        | 6.0         | 294.38                            |
|                 |                           | 1500        | 9.0         | 294.38                            |
|                 |                           | 2400        | 6.0         | 471.00                            |
|                 |                           | 2400        | 6.0         | 471.00                            |
| 32              | 251.20                    | 1500        | 6.0         | 376.80                            |
|                 |                           | 1500        | 9.0         | 376.80                            |

## Plate - Coil (AS/NZS 1594 - HA250)



| Thickness<br>mm | Mass<br>kg/m <sup>2</sup> | Width<br>mm                                                                |                                             |
|-----------------|---------------------------|----------------------------------------------------------------------------|---------------------------------------------|
|                 |                           | 910 - 1550                                                                 | 1765 - 1800                                 |
| 3               | 23.55                     | Typically 1200mm wide<br>coils are stored.<br>Also 1500mm may<br>be stored | Typically 1800mm<br>wide coil stored.       |
| 4               | 31.40                     |                                                                            |                                             |
| 5               | 39.25                     |                                                                            | These coils are supplied as<br>mill widths. |
| 6               | 47.10                     | These coils supplied as<br>mill widths.                                    | n/a                                         |
| 8               | 62.80                     |                                                                            | n/a                                         |
| 10              | 78.50                     |                                                                            | n/a                                         |
| 12              | 94.20                     |                                                                            | n/a                                         |

## Plate - Coil Floor (AS/NZS 1594 - HA250)



| Thickness<br>mm | Mass<br>kg/m <sup>2</sup> | Width<br>mm | kg/lineal metre<br>of plate width |
|-----------------|---------------------------|-------------|-----------------------------------|
| 2.1*            | 18.54                     | 1200        | 22.24                             |
| 3.0             | 25.55                     | 1200        | 30.66                             |
| 5.0             | 41.25                     | 1200        | 49.50                             |
|                 |                           | 1500        | 61.88                             |
| 6.0             | 49.10                     | 1200        | 58.92                             |
|                 |                           | 1500        | 73.65                             |
|                 |                           | 1800        | 88.38                             |
| 8.0             | 64.80                     | 1500        | 97.20                             |

\* 2.1mm Thickness Floorplate is considered 1210mm in width. The above sizes of floor plate coils may weigh approximately 14 tonnes each

## Plate - Floor (AS/NZS 3678 - 250)



| Thickness<br>mm | Mass<br>kg/m <sup>2</sup> | Width<br>mm | Length<br>m | kg/lineal metre<br>of plate width |
|-----------------|---------------------------|-------------|-------------|-----------------------------------|
| 6               | 49.10                     | 1800        | 6.0         | 88.38                             |
| 8               | 64.80                     | 1800        | 6.0         | 116.64                            |
| 10              | 80.50                     | 1800        | 6.0         | 144.90                            |
| 12              | 96.20                     | 1800        | 6.0         | 173.16                            |

# Plate - Quenched & Tempered



| Thickness<br>mm | Mass<br>kg/m <sup>2</sup> | Bisalloy 80                           | Bisalloy 400                           | Bisalloy 500                           |
|-----------------|---------------------------|---------------------------------------|----------------------------------------|----------------------------------------|
|                 |                           | Tensile Strength: Typical -<br>830MPa | Tensile Strength: Typical -<br>1320MPa | Tensile Strength: Typical -<br>1640MPa |
| 5               | 39.25                     | 1525 x 8000                           | 2485 x 8000                            |                                        |
| 6               | 47.10                     | 1525 x 8000<br>2485 x 8000            | 2485 x 8000                            |                                        |
| 8               | 62.80                     | 2485 x 8000                           | 2485 x 8000                            |                                        |
| 10              | 78.50                     | 2485 x 8000<br>3100 x 8000            | 2485 x 8000                            |                                        |
| 12              | 94.20                     | 2485 x 8000                           | 2485 x 8000                            | 2485 x 8000                            |
| 16              | 125.60                    |                                       | 2485 x 8000                            | 2485 x 8000                            |
| 20              | 157.00                    |                                       | 2485 x 8000                            | 2485 x 8000                            |
| 25              | 196.25                    |                                       | 2485 x 8000                            | 2485 x 8000                            |
| 32              | 251.20                    |                                       | 2485 x 8000                            | 2485 x 8000                            |
| 40              | 314.00                    |                                       | 2485 x 8000                            | 2485 x 8000                            |
| 50              | 392.50                    |                                       | 2485 x 8000                            |                                        |
| 60              | 471.00                    |                                       | 2485 x 8000                            |                                        |

# Steel Plates

## Structural Plate - International Standard Comparisons

| Structural Plate - International Standards |                    |                                          |                  |                  |                                                                    |                                       |                       |
|--------------------------------------------|--------------------|------------------------------------------|------------------|------------------|--------------------------------------------------------------------|---------------------------------------|-----------------------|
| Tensile Strength MPa                       | Australian AS 3678 | European* EN10025                        | British* BS 4360 | German* DIN17100 | Japanese JIS                                                       | American ASTM                         | International ISO 630 |
| 290                                        |                    |                                          |                  | St33             |                                                                    |                                       |                       |
| 300                                        | 200                |                                          |                  |                  |                                                                    |                                       |                       |
| 310                                        |                    |                                          |                  |                  |                                                                    | A283A                                 | Fe310-0               |
| 330                                        |                    |                                          |                  |                  | G3101-SS330                                                        |                                       |                       |
| 360                                        |                    | S235JR                                   | 40A, B, C, D     | St37-2<br>St37-3 |                                                                    | A283B                                 | Fe360A<br>B, C, D     |
| 380                                        |                    |                                          |                  |                  |                                                                    | A283C                                 |                       |
| 400                                        |                    |                                          |                  |                  | G3101-SS400<br>G316-SM400<br>A, B, C                               | A36,<br>A573-400                      |                       |
| 410                                        | 250<br>250L15      | S275JR<br>S275JO<br>S275J2G3<br>S275J2G4 |                  |                  | St44-2<br>St44-3                                                   | A283D<br>A284C, D<br>A529<br>A572-290 |                       |
| 430                                        | 300<br>300L15      | Fe430B<br>C, D1, D2                      | 43A,<br>B, C, D  |                  |                                                                    | A633A                                 | Fe430A<br>B, C, D     |
| 450                                        | 350<br>350L15      |                                          |                  |                  |                                                                    | A573-450<br>A572-345                  |                       |
| 480                                        | 400<br>400L15      |                                          |                  |                  |                                                                    | A573-485                              |                       |
| 490                                        |                    | S355JR<br>S355JD<br>S355J2G3             | 50A,<br>B, C, D  | S152-3           | G3101-SS490<br>G3106-SM490<br>A, B, C<br><br>G3106-SM490<br>YA, YB |                                       | Fe510<br>B, C, D      |
| 520                                        | 450<br>450L15      |                                          |                  |                  | G3106-SM520<br>B, C                                                | A572-415                              | Fe510<br>B, C, D      |
| 540                                        |                    |                                          |                  |                  | G3101-SS540                                                        |                                       |                       |

\* EN10025 has replaced BS4360 and DIN17100 Standards

- The table indicates the approximate relationship between Australian grades and their international counterparts.
- Grades are shown in increasing tensile strength order. In the case of American ASTM Standards some grades are shown in increasing yield strength (YS) order, as their position in the hierarchy is different when based on the yield strength compared to tensile strength (TS).
- For grades with suffix letters C, D on British, European and International Standards, B, C on Japanese Standards and suffix numbers 2, 3 on German Standards, the appropriate Australian alternative is the nearest L15 grade of the equivalent strength level (ie. High or Medium).
- This table is designed for customers to determine the nearest available Australian grade to an international specification.

# Boiler Plate - International Standard Comparisons

| Boiler Plate - International Standards |                    |                   |                                          |                  |                                                             |                                         |                       |
|----------------------------------------|--------------------|-------------------|------------------------------------------|------------------|-------------------------------------------------------------|-----------------------------------------|-----------------------|
| Tensile Strength MPa                   | Australian AS 3678 | European* EN10025 | British* BS 4360                         | German* DIN17100 | Japanese JIS                                                | American ASTM                           | International ISO 630 |
| 310                                    |                    |                   |                                          |                  |                                                             | A285-A                                  |                       |
| 340                                    |                    |                   |                                          |                  |                                                             | A285-B                                  |                       |
| 360                                    |                    | 2-P235GH          | 151-360<br>161-360<br>164-360            | H1               |                                                             |                                         | P235                  |
| 380                                    |                    |                   |                                          |                  |                                                             | A285-C<br>A442-55<br>A515-55<br>A516-55 |                       |
| 390                                    |                    | 3-P275N           |                                          |                  |                                                             |                                         |                       |
| 400                                    |                    |                   | 151-400<br>161-400<br>164-400<br>224-400 | H11              | G3103-SB410<br>G3115-SPV235<br>G3118-SGV410<br>G3126-SLA235 | A682-A                                  | P265                  |
| 410                                    |                    | 2P265GH           |                                          |                  | G3118-SGV410                                                |                                         | P265                  |
| 415                                    |                    |                   |                                          |                  |                                                             | A515-65<br>A518-60                      |                       |
| 430                                    | 7-430              |                   |                                          |                  |                                                             |                                         |                       |
| 440                                    |                    |                   |                                          |                  | G3126-SLA325                                                |                                         |                       |
| 450                                    |                    |                   |                                          |                  | G3118-SB450<br>G3118-SGC450                                 | A515-65<br>A516-65                      |                       |
| 460                                    | 7-460              | 2-P295GH          |                                          |                  |                                                             | A662-B*                                 | P290                  |
| 480                                    |                    |                   |                                          |                  | G3103-SB480<br>G3118-SGV480                                 |                                         |                       |
| 490                                    | 7-490              |                   | 224-490                                  | 19Mn6            | G3115-SPV3115                                               | A515-70<br>A516-70<br>A841              | P315                  |
| 490                                    | 5-490              | 3-P355GH          |                                          |                  | G3126-SLA360                                                | A537-C11<br>A737-B<br>A841              | P315                  |
| 510                                    |                    | 2-P355GH          |                                          |                  |                                                             |                                         | P355                  |
| 520                                    |                    |                   |                                          |                  | G3115-SPV355                                                | A299<br>A455<br>A738-A                  |                       |

\* EN10025 has replaced BS4360 and DIN17100 Standards

- The table indicates the approximate relationship between Australian grades and their international counterparts.
- Grades are shown in increasing tensile strength order. AS 1548-5-490 & equivalent grades have a higher minimum yield strength requirement than the corresponding AS1548-7-490 & equivalent grades.
- Grade equivalence shown is based on room temperature tensile properties only.

| Nominal Size (NB) | Section     | Outside Diameter mm | Wall Thickness mm | Mass kg/m | Metres per Tonne | Pack Size (Lns) |
|-------------------|-------------|---------------------|-------------------|-----------|------------------|-----------------|
| 15                | Medium      | 21.3                | 2.6               | 1.21      | 830              | 217             |
| 20                | Extra Light | 26.9                | 2.0               | 1.23      | 814              | 127             |
|                   | Light       |                     | 2.3               | 1.40      | 717              | 127             |
|                   | Medium      |                     | 2.6               | 1.56      | 642              | 127             |
|                   | Heavy       |                     | 3.2               | 1.87      | 535              | 127             |
|                   | Extra Heavy |                     | 4.0               | 2.26      | 443              | 127             |
| 25                | Extra Light | 33.7                | 2.0               | 1.56      | 640              | 91              |
|                   | Light       |                     | 2.6               | 1.99      | 501              | 91              |
|                   | Medium      |                     | 3.2               | 2.41      | 414              | 91              |
|                   | Heavy       |                     | 4.0               | 2.94      | 340              | 91              |
| 32                | Extra Light | 42.4                | 2.0               | 1.99      | 502              | 61              |
|                   | Light       |                     | 2.6               | 2.55      | 392              | 61              |
|                   | Medium      |                     | 3.2               | 3.10      | 322              | 61              |
|                   | Heavy       |                     | 4.0               | 3.80      | 263              | 61              |
| 40                | Extra Light | 48.3                | 2.3               | 2.61      | 382              | 61              |
|                   | Light       |                     | 2.9               | 3.25      | 308              | 61              |
|                   | Medium      |                     | 3.2               | 3.57      | 280              | 61              |
|                   | Heavy       |                     | 4.0               | 4.38      | 228              | 61              |
|                   | Extra Heavy |                     | 5.4               | 5.71      | 175              | 61              |
| 50                | Extra Light | 60.3                | 2.3               | 3.29      | 304              | 37              |
|                   | Light       |                     | 2.9               | 4.11      | 244              | 37              |
|                   | Medium      |                     | 3.6               | 5.03      | 199              | 37              |
|                   | Heavy       |                     | 4.5               | 6.19      | 161              | 37              |
|                   | Extra Heavy |                     | 5.4               | 7.31      | 137              | 37              |
| 65                | Extra Light | 76.1                | 2.3               | 4.19      | 239              | 37              |
|                   | Light       |                     | 3.2               | 5.75      | 174              | 37              |
|                   | Medium      |                     | 3.6               | 6.43      | 156              | 37              |
|                   | Heavy       |                     | 4.5               | 7.93      | 126              | 37              |
|                   | Extra Heavy |                     | 5.9               | 10.2      | 97.9             | 37              |
| 80                | Extra Light | 88.9                | 2.6               | 5.53      | 181              | 19              |
|                   | Light       |                     | 3.2               | 6.76      | 148              | 19              |
|                   | Medium      |                     | 4.0               | 8.37      | 120              | 19              |
|                   | Heavy       |                     | 5.0               | 10.3      | 96.8             | 19              |
|                   | Extra Heavy |                     | 5.9               | 12.1      | 82.8             | 19              |
| 90                | Extra Light | 101.6               | 2.6               | 6.35      | 158              | 19              |
|                   | Light       |                     | 3.2               | 7.77      | 129              | 19              |
|                   | Medium      |                     | 4.0               | 9.63      | 104              | 19              |
|                   | Heavy       |                     | 5.0               | 11.9      | 84.0             | 19              |

End Finish: Plain ends, shouldered, roll grooved, screwed BSP or swaged

Continued on next page...

# Pipe - Painted (AS/NZS 1163-2009)

6.5m ○

| Nominal Size (NB) | Section     | Outside Diameter mm | Wall Thickness mm | Mass kg/m | Metres per Tonne | Pack Size (Lns) |
|-------------------|-------------|---------------------|-------------------|-----------|------------------|-----------------|
| 100               | Extra Light | 114.3               | 3.2               | 8.77      | 114              | 19              |
|                   | Light       |                     | 3.6               | 9.83      | 102              | 19              |
|                   | Medium      |                     | 4.5               | 12.2      | 82.2             | 19              |
|                   | Heavy       |                     | 5.4               | 14.5      | 69.1             | 19              |
| 125               | Extra Light | 139.7               | 3.0               | 10.1      | 98.9             | 13              |
|                   | Light       |                     | 3.5               | 11.8      | 85.1             | 13              |
|                   | Medium      |                     | 5.0               | 16.6      | 60.2             | 13              |
|                   | Heavy       |                     | 5.4               | 17.9      | 55.9             | 13              |
| 150               | Extra Light | 165.1               | 3.0               | 12.0      | 83.4             | 10              |
|                   | Light       |                     | 3.5               | 13.9      | 71.7             | 10              |
|                   | Medium      |                     | 5.0               | 19.7      | 50.7             | 10              |
|                   | Heavy       |                     | 5.4               | 21.3      | 47.0             | 10              |

End Finish: Plain ends, shouldered, roll grooved, screwed BSP or swaged

# OZTUBE™ Pipe - Painted (AS 1450)

6.5m ○

| Nominal Size (NB) | Section     | Outside Diameter mm | Wall Thickness mm | Mass kg/m | Metres per Tonne | Pack Size 6.5 (Lns) |
|-------------------|-------------|---------------------|-------------------|-----------|------------------|---------------------|
| 20                | Extra Light | 26.9                | 2.0               | 1.23      | 814              | 127                 |
|                   | Light       |                     | 2.3               | 1.40      | 717              | 127                 |
|                   | Medium      |                     | 2.6               | 1.56      | 642              | 127                 |
| 25                | Extra Light | 33.7                | 2.0               | 1.56      | 640              | 91                  |
|                   | Light       |                     | 2.6               | 1.99      | 501              | 91                  |
|                   | Medium      |                     | 3.2               | 2.41      | 414              | 91                  |
| 32                | Light       | 42.4                | 2.6               | 2.55      | 392              | 61                  |
|                   | Medium      |                     | 3.2               | 3.10      | 322              | 61                  |
| 40                | Light       | 48.3                | 2.9               | 3.25      | 308              | 61                  |
|                   | Medium      |                     | 3.2               | 3.57      | 280              | 61                  |
| 50                | Extra Light | 60.3                | 2.3               | 3.29      | 304              | 37                  |
|                   | Light       |                     | 2.9               | 4.11      | 244              | 37                  |
|                   | Medium      |                     | 3.6               | 5.03      | 199              | 37                  |
| 65                | Extra Light | 76.1                | 2.3               | 4.19      | 239              | 37                  |
|                   | Medium      |                     | 3.6               | 6.43      | 156              | 37                  |

End Finish: Plain ends

| Nominal Size (NB) | Section     | Outside Diameter mm | Wall Thickness mm | Mass kg/m | Metres per Tonne | Pack Size (Lns) |
|-------------------|-------------|---------------------|-------------------|-----------|------------------|-----------------|
| 15                | Medium      | 21.3                | 2.6               | 1.24      | 806              | 217             |
| 20                | Extra Light | 26.9                | 2.0               | 1.28      | 784              | 127             |
|                   | Light       |                     | 2.3               | 1.44      | 694              | 127             |
|                   | Medium      |                     | 2.6               | 1.60      | 623              | 127             |
|                   | Heavy       |                     | 3.2               | 1.92      | 522              | 127             |
| 25                | Extra Light | 33.7                | 2.0               | 1.62      | 616              | 91              |
|                   | Light       |                     | 2.6               | 2.05      | 487              | 91              |
|                   | Medium      |                     | 3.2               | 2.47      | 404              | 91              |
|                   | Heavy       |                     | 4.0               | 3.00      | 334              | 91              |
| 32                | Extra Light | 42.4                | 2.0               | 2.07      | 483              | 61              |
|                   | Light       |                     | 2.6               | 2.63      | 381              | 61              |
|                   | Medium      |                     | 3.2               | 3.18      | 315              | 61              |
|                   | Heavy       |                     | 4.0               | 3.87      | 258              | 61              |
| 40                | Extra Light | 48.3                | 2.3               | 2.70      | 369              | 61              |
|                   | Light       |                     | 2.9               | 3.33      | 300              | 61              |
|                   | Medium      |                     | 3.2               | 3.65      | 274              | 61              |
|                   | Heavy       |                     | 4.0               | 4.46      | 224              | 61              |
| 50                | Extra Light | 60.3                | 2.3               | 3.40      | 294              | 37              |
|                   | Light       |                     | 2.9               | 4.21      | 237              | 37              |
|                   | Medium      |                     | 3.6               | 5.14      | 195              | 37              |
|                   | Heavy       |                     | 4.5               | 6.30      | 159              | 37              |
| 65                | Extra Light | 76.1                | 2.3               | 4.33      | 231              | 37              |
|                   | Light       |                     | 3.2               | 5.89      | 170              | 37              |
|                   | Medium      |                     | 3.6               | 6.56      | 152              | 37              |
|                   | Heavy       |                     | 4.5               | 8.07      | 124              | 37              |
| 80                | Extra Light | 88.9                | 2.6               | 5.70      | 176              | 19              |
|                   | Light       |                     | 3.2               | 6.92      | 144              | 19              |
|                   | Medium      |                     | 4.0               | 8.53      | 117              | 19              |
|                   | Heavy       |                     | 5.0               | 10.5      | 95.3             | 19              |
| 90                | Extra Light | 101.6               | 2.6               | 6.53      | 153              | 19              |
|                   | Light       |                     | 3.2               | 7.95      | 126              | 19              |
|                   | Medium      |                     | 4.0               | 9.81      | 102              | 19              |
|                   | Heavy       |                     | 5.0               | 12.1      | 82.7             | 19              |
| 100               | Extra Light | 114.3               | 3.2               | 8.98      | 111              | 19              |
|                   | Light       |                     | 3.6               | 10.0      | 99.6             | 19              |
|                   | Medium      |                     | 4.5               | 12.4      | 80.8             | 19              |
|                   | Heavy       |                     | 5.4               | 14.7      | 68.1             | 19              |

End Finish: Plain ends, shouldered, roll grooved, screwed BSP or swaged

Continued on next page...



# Pipe - Galvanised (AS/NZS 1163-2009)

6.5m



| Nominal Size (NB) | Section     | Outside Diameter mm | Wall Thickness mm | Mass kg/m | Metres per Tonne | Pack Size (Lns) |
|-------------------|-------------|---------------------|-------------------|-----------|------------------|-----------------|
| 125               | Extra Light | 139.7               | 3.0               | 10.4      | 6.4              | 13              |
|                   | Light       |                     | 3.5               | 12.0      | 83.2             | 13              |
|                   | Medium      |                     | 5.0               | 16.9      | 59.3             | 13              |
|                   | Heavy       |                     | 5.4               | 18.1      | 55.2             | 13              |
| 150               | Extra Light | 165.1               | 3.0               | 12.3      | 81.3             | 10              |
|                   | Light       |                     | 3.5               | 14.3      | 70.2             | 10              |
|                   | Medium      |                     | 5.0               | 20.0      | 49.9             | 10              |
|                   | Heavy       |                     | 5.4               | 21.6      | 46.4             | 10              |

End Finish: Plain ends, shouldered, roll grooved, screwed BSP or swaged

# Pipe - DuraGal® & SupaGal® Extra Light (AS/NZS 1163-2009) 6.5m



| Nominal Size (NB) | Outside Diameter mm | Wall Thickness mm | Mass kg/m | Metres per Tonne | Pack Size (Lns) |
|-------------------|---------------------|-------------------|-----------|------------------|-----------------|
| 20                | 26.9                | 2.0               | 1.23      | 814              | 127             |
| 25                | 33.7                | 2.0               | 1.56      | 640              | 91              |
| 32                | 42.4                | 2.0               | 1.99      | 502              | 61              |
| 40                | 48.3                | 2.3               | 2.61      | 383              | 61              |
| 50                | 60.3                | 2.3               | 3.29      | 304              | 37              |
| 65#               | 76.1                | 2.3               | 4.19      | 212              | 37              |

#DuraGal® only.

# CHS Large Structural (AS/NZS 1163-2009 C350LO)



| Size d <sub>o</sub> x t (mm) | Mass kg/m | Pack Size (Lns) | Size d <sub>o</sub> x t (mm) | Mass kg/m | Pack Size (Lns) | Size d <sub>o</sub> x t (mm) | Mass kg/m | Pack Size (Lns) |
|------------------------------|-----------|-----------------|------------------------------|-----------|-----------------|------------------------------|-----------|-----------------|
| 168.3 x 4.8                  | 19.4      | 1               | 323.9 x 6.4                  | 50.1      | 1               | 406.4 x 12.5                 | 121       | 1               |
| x 6.4                        | 25.6      | 1               | x 9.5                        | 73.7      | 1               | x 12.7                       | 123       | 1               |
| x 7.1                        | 28.2      | 1               | x 12.5                       | 96.0      | 1               |                              |           |                 |
|                              |           |                 | x 12.7                       | 97.5      | 1               | 457.0 x 6.4                  | 71.1      | 1               |
| 219.1 x 4.8                  | 25.4      | 1               |                              |           |                 | x 9.5                        | 105       | 1               |
| x 6.4                        | 33.6      | 1               | 355.6 x 6.4                  | 55.1      | 1               | x 12.5                       | 137       | 1               |
| x 8.2                        | 42.6      | 1               | x 9.5                        | 81.1      | 1               | x 12.7                       | 139       | 1               |
| x 12.5                       | 63.7      | 1               | x 12.5                       | 106       | 1               |                              |           |                 |
|                              |           |                 | x 12.7                       | 107       | 1               | 508.0 x 6.4                  | 79.2      | 1               |
| 273.1 x 4.8                  | 31.8      | 1               |                              |           |                 | x 9.5                        | 117       | 1               |
|                              |           |                 | 406.4 x 6.4                  | 63.1      | 1               | x 12.5                       | 153       | 1               |
| 273.1 x 6.4                  | 42.1      | 1               | x 9.5                        | 93.0      | 1               | x 12.7                       | 155       | 1               |
| x 9.3                        | 60.5      | 1               |                              |           |                 |                              |           |                 |
| x 12.5                       | 80.3      | 1               |                              |           |                 |                              |           |                 |

# SHS - Squares (AS/NZS 1163-2009)

Various Standard  
Lengths



| Size<br>mm x mm x mm | Surface<br>Finish | Mass<br>kg/m | Metres<br>per<br>Tonne | Length/<br>Pack |     | Size<br>mm x mm x mm | Surface<br>Finish | Mass<br>kg/m | Metres<br>per<br>Tonne | Length/<br>Pack |      |
|----------------------|-------------------|--------------|------------------------|-----------------|-----|----------------------|-------------------|--------------|------------------------|-----------------|------|
|                      |                   |              |                        | Standard        |     |                      |                   |              |                        | Standard        |      |
|                      |                   |              |                        | 6.5             | 8.0 |                      |                   |              |                        | 8.0             | 12   |
| 20 x 20              | x 1.6             | P,S,D        | 0.873                  | 1150            | 96  | 65 x 65              | x 3.0             | P,S,D        | 5.66                   | 177             | 36   |
|                      | x 2.0             | P,S          | 1.05                   | 953             | 96  |                      | x 4.0             | P,S,D        | 7.23                   | 138             | 30   |
| 25 x 25              | x 1.6             | P,S,D        | 1.12                   | 890             | 100 |                      | x 5.0             | P,S,D        | 8.75                   | 114             | 25   |
|                      | x 2.0             | P,S,D        | 1.36                   | 733             | 100 | x 6.0                | P,D               | 10.1         | 98.6                   | 20              |      |
|                      | x 2.5             | P,S,D        | 1.64                   | 610             | 100 | 75 x 75              | x 2.0             | P,S,D        | 4.50                   | 222             | 36   |
|                      | x 3.0             | P,S,D        | 1.89                   | 529             | 100 |                      | x 2.5             | P,S,D        | 5.56                   | 180             | 30   |
| 30 x 30              | x 1.6             | P,S,D        | 1.38                   | 727             | 100 |                      | x 3.0             | P,S,D        | 6.60                   | 152             | 30   |
|                      | x 2.0             | P,S,D        | 1.68                   | 596             | 100 |                      | x 3.5             | P,S,D        | 7.53                   | 133             | 25   |
|                      | x 2.5             | P,S          | 2.03                   | 492             | 100 |                      | x 4.0             | P,S,D        | 8.49                   | 118             | 25   |
|                      | x 3.0             | P,S          | 2.36                   | 423             | 64  |                      | x 5.0             | P,S,D        | 10.3                   | 96.9            | 20   |
| 35 x 35              | x 1.6             | P,S,D        | 1.63                   | 615             | 100 |                      | x 6.0             | P,D          | 12.0                   | 83.1            | 16   |
|                      | x 2.0             | P,S,D        | 1.99                   | 502             | 100 | 89 x 89              | x 2.0             | S            | 5.38                   | 186             | 20   |
|                      | x 2.5             | P,S,D        | 2.42                   | 412             | 64  |                      | x 3.5             | P,S,D        | 9.07                   | 110             | 20   |
|                      | x 3.0             | P,S,D        | 2.83                   | 353             | 64  |                      | x 5.0             | P,S,D        | 12.5                   | 80.0            | 16   |
| 40 x 40              | x 1.6             | P,S,D        | 1.88                   | 533             | 81  |                      | x 6.0             | P,D          | 14.7                   | 68.3            | 12   |
|                      | x 2.0             | P,S,D        | 2.31                   | 434             | 81  | 90 x 90              | x 2.0             | P,D          | 5.45                   | 184             | 20   |
|                      | x 2.5             | P,S,D        | 2.82                   | 355             | 64  |                      | x 2.5             | P,D          | 6.74                   | 148             | 20   |
|                      | x 3.0             | P,S,D        | 3.30                   | 303             | 64  | 100 x 100            | x 2.0             | P,D          | 6.07                   | 165             | 20   |
|                      | x 4.0             | P,S,D        | 4.09                   | 244             | 49  |                      | x 2.5             | P,S,D        | 7.53                   | 133             | 20   |
| 50 x 50              | x 1.6             | P,S,D        | 2.38                   | 420             | 64  |                      | x 3.0             | P,S,D        | 8.96                   | 112             | 20   |
|                      | x 2.0             | P,S,D        | 2.93                   | 300             | 64  |                      | x 4.0             | P,S,D        | 11.6                   | 86.0            | 16   |
|                      | x 2.5             | P,S,D        | 3.60                   | 278             | 49  |                      | x 5.0             | P,S,D        | 14.2                   | 70.2            | 12   |
|                      | x 3.0             | P,S,D        | 4.25                   | 236             | 49  |                      | x 6.0             | P,D          | 16.7                   | 59.7            | 12   |
|                      | x 4.0             | P,S,D        | 5.35                   | 187             | 36  | x 8.0                | L                 | 21.4         | 46.7                   | 9               |      |
|                      | x 5.0             | P,S,D        | 6.39                   | 156             | 30  | x 9.0                | P,L               | 23.5         | 42.5                   | 9               |      |
|                      | x 6.0             | L            | 7.32                   | 137             | 25  | x 10.0               | L                 | 25.6         | 39.0                   | 6               |      |
|                      | 65 x 65           | x 1.6        | P,S,D                  | 3.13            | 319 | 49                   | 125 x 125         | x 4.0        | C,P                    | 14.8            | 67.7 |
| x 2.0                |                   | P,S,D        | 3.88                   | 258             | 42  | x 5.0                |                   | C,P          | 18.2                   | 55.0            | 12   |
| x 2.5                |                   | P,S,D        | 4.78                   | 209             | 42  | x 6.0                |                   | C,P          | 21.4                   | 46.6            | 9    |
| x 2.5                |                   | P,S,D        | 4.78                   | 209             | 42  | x 8.0                |                   | L            | 27.7                   | 36.1            | 6    |
|                      |                   |              |                        |                 |     | x 9.0                |                   | C,P,L        | 30.6                   | 32.7            | 8    |
|                      | x 10.0            |              |                        |                 |     | L                    |                   | 33.4         | 29.9                   | 4               |      |

# SHS - Squares (AS/NZS 1163-2009)

Various Standard  
Lengths



| Size<br>mm x mm x mm | Surface<br>Finish | Mass<br>kg/m | Metres<br>per<br>Tonne | Length/<br>Pack |    | Size<br>mm x mm x mm | Surface<br>Finish | Mass<br>kg/m | Metres<br>per<br>Tonne | Length/<br>Pack |      |  |   |
|----------------------|-------------------|--------------|------------------------|-----------------|----|----------------------|-------------------|--------------|------------------------|-----------------|------|--|---|
|                      |                   |              |                        | Standard        |    |                      |                   |              |                        | Standard        |      |  |   |
|                      |                   |              |                        | 8.0             | 12 |                      |                   |              |                        | 8.0             | 12   |  |   |
| 150 x 150            | x 5.0             | C,P          | 22.1                   | 45.3            | 9  | 6                    | 300 x 300         | x 8.0        | L                      | 71.6            | 14.0 |  | 1 |
|                      | x 6.0             | C,P          | 26.2                   | 38.2            | 6  | 6                    |                   | x 10.0       | L                      | 88.4            | 11.3 |  | 1 |
|                      | x 8.0             | L            | 33.9                   | 29.5            | 6  | 4                    |                   | x 12.5       | L                      | 109             | 9.21 |  | 1 |
|                      | x 9.0             | C,P,L        | 37.7                   | 26.6            | 6  | 4                    |                   | x 16.0       | L                      | 136             | 7.36 |  | 1 |
|                      | x 10.0            | L            | 41.3                   | 24.2            |    | 2                    |                   |              |                        |                 |      |  |   |
| 200 x 200            | x 5.0             | C,P          | 29.9                   | 33.4            | 6  | 4                    | 350 x 350         | x 8.0        | L                      | 84.2            | 11.9 |  | 1 |
|                      | x 6.0             | C,P          | 35.6                   | 28.1            | 4  | 4                    |                   | x 10.0       | L                      | 104             | 9.61 |  | 1 |
|                      | x 8.0             | L            | 46.5                   | 21.5            | 4  | 2                    |                   | x 12.5       | L                      | 128             | 7.80 |  | 1 |
|                      | x 9.0             | C,L          | 51.8                   | 19.3            | 4  | 2                    |                   | x 16.0       | L                      | 161             | 6.21 |  | 1 |
|                      | x 10.0            | L            | 57.0                   | 17.6            |    | 2                    | 400 x 400         | x 10.0       | L                      | 120             | 8.35 |  | 1 |
|                      | x 12.5            | L            | 69.4                   | 14.4            |    | 2                    |                   | x 12.5       | L                      | 148             | 6.76 |  | 1 |
|                      | x 16.0            | L            | 85.5                   | 11.7            |    | 1                    |                   | x 16.0       | L                      | 186             | 5.38 |  | 1 |
| 250 x 250            | x 6.0             | C,L          | 45.0                   | 22.2            | 4  | 2                    |                   |              |                        |                 |      |  |   |
|                      | x 8.0             | L            | 59.1                   | 16.9            | 4  | 2                    |                   |              |                        |                 |      |  |   |
|                      | x 9.0             | C,L          | 65.9                   | 15.2            | 2  | 2                    |                   |              |                        |                 |      |  |   |
|                      | x 10.0            | L            | 72.7                   | 13.8            |    | 2                    |                   |              |                        |                 |      |  |   |
|                      | x 12.5            | L            | 89.0                   | 11.2            |    | 1                    |                   |              |                        |                 |      |  |   |
|                      | x 16.0            | L            | 111                    | 9.04            |    | 1                    |                   |              |                        |                 |      |  |   |

# OZTUBE™ SHS - Squares (AS 1450)

Various Standard  
Lengths



| Size<br>mm x mm x mm | Surface<br>Finish | Mass<br>kg/m | Metres<br>per<br>Tonne | Length/<br>Pack |     | Size<br>mm x mm x mm | Surface<br>Finish | Mass<br>kg/m | Metres<br>per<br>Tonne | Length/<br>Pack |     |    |    |
|----------------------|-------------------|--------------|------------------------|-----------------|-----|----------------------|-------------------|--------------|------------------------|-----------------|-----|----|----|
|                      |                   |              |                        | Standard        |     |                      |                   |              |                        | Standard        |     |    |    |
|                      |                   |              |                        | 6.5             | 8.0 |                      |                   |              |                        | 6.5             | 8.0 |    |    |
| 25 x 25              | x 1.6             | P, PG        | 1.12                   | 890             | 100 | 50 x 50              | x 1.6             | P, PG        | 2.38                   | 420             |     | 64 |    |
|                      | x 2.0             | P, PG        | 1.36                   | 733             | 100 |                      | x 2.0             | P, PG        | 2.93                   | 300             |     | 64 |    |
| 30 x 30              | x 1.6             | P, PG        | 1.38                   | 727             |     |                      | 100               | x 2.5        | P                      | 3.60            | 278 |    | 49 |
|                      | x 2.0             | P, PG        | 1.68                   | 596             |     | 100                  | x 3.0             | P, PG        | 4.25                   | 236             |     | 49 |    |
|                      | x 2.5             | P            | 2.03                   | 492             |     | 100                  | 65 x 65           | x 1.6        | PG                     | 3.13            | 319 |    | 49 |
| 40 x 40              | x 1.6             | P, PG        | 1.88                   | 533             |     | 81                   |                   | x 2.0        | P, PG                  | 3.88            | 258 |    | 42 |
|                      | x 2.0             | P, PG        | 2.31                   | 434             |     | 81                   |                   | x 2.5        | P                      | 4.78            | 209 |    | 42 |
|                      | x 2.5             | P            | 2.82                   | 355             |     | 64                   |                   | x 3.0        | P, PG                  | 5.66            | 177 |    | 36 |
|                      | x 3.0             | P, PG        | 3.30                   | 303             |     | 64                   |                   |              |                        |                 |     |    |    |

# RHS - Rectangles (AS/NZS 1163-2009)

Various Standard  
Lengths



| Size<br>mm x mm x mm                                                          | Surface<br>Finish | Mass<br>kg/m | Metres<br>per<br>Tonne | Length/<br>Pack |       | Size<br>mm x mm x mm                                          | Surface<br>Finish                                                        | Mass<br>kg/m                                                  | Metres<br>per<br>Tonne       | Length/<br>Pack                              |                                              |                              |
|-------------------------------------------------------------------------------|-------------------|--------------|------------------------|-----------------|-------|---------------------------------------------------------------|--------------------------------------------------------------------------|---------------------------------------------------------------|------------------------------|----------------------------------------------|----------------------------------------------|------------------------------|
|                                                                               |                   |              |                        | Standard        |       |                                                               |                                                                          |                                                               |                              | Standard                                     |                                              |                              |
|                                                                               |                   |              |                        | 8.0             | 12    |                                                               |                                                                          |                                                               |                              | 8.0                                          | 12                                           |                              |
| 50 x 20 x 1.6<br>x 2.0<br>x 2.5<br>x 3.0                                      | P,D               | 1.63         | 615                    | 96              |       | 125 x 75 x 2.0<br>x 2.5<br>x 3.0<br>x 4.0<br>x 5.0<br>x 6.0   | P,D                                                                      | 6.07                                                          | 165                          | 24                                           |                                              |                              |
|                                                                               | P,D               | 1.99         | 502                    | 96              |       |                                                               | P,S,D                                                                    | 7.53                                                          | 133                          | 24                                           |                                              | 20                           |
|                                                                               | P,D               | 2.42         | 412                    | 72              |       |                                                               | P,S,D                                                                    | 8.96                                                          | 112                          | 20                                           |                                              | 20                           |
|                                                                               | P,D               | 2.83         | 353                    | 72              |       |                                                               | P,S,D                                                                    | 11.6                                                          | 86.0                         | 15                                           |                                              | 15                           |
| 50 x 25 x 1.6<br>x 2.0<br>x 2.5<br>x 3.0                                      | P,S,D             | 1.75         | 571                    | 96              |       | 127 x 51 x 3.5<br>x 5.0<br>x 6.0                              | P,S,D                                                                    | 14.2                                                          | 70.2                         | 15                                           | 12                                           |                              |
|                                                                               | P,S,D             | 2.15         | 465                    | 96              |       |                                                               | P,D                                                                      | 16.7                                                          | 59.7                         | 12                                           | 6                                            |                              |
|                                                                               | P,S,D             | 2.62         | 382                    | 72              |       |                                                               | P                                                                        | 9.07                                                          | 110                          | 21                                           |                                              |                              |
|                                                                               | P,S,D             | 3.07         | 326                    | 60              |       |                                                               | P                                                                        | 12.5                                                          | 79.9                         | 18                                           |                                              |                              |
| 65 x 35 x 2.0<br>x 2.5<br>x 3.0<br>x 4.0                                      | P,S,D             | 2.93         | 341                    | 54              |       | 150 x 50 x 2.0<br>x 2.5<br>x 3.0<br>x 4.0<br>x 5.0<br>x 6.0   | P                                                                        | 14.7                                                          | 68.2                         | 14                                           |                                              |                              |
|                                                                               | P,S,D             | 3.60         | 278                    | 54              |       |                                                               | P                                                                        | 12.5                                                          | 79.9                         | 18                                           |                                              |                              |
|                                                                               | P,S,D             | 4.25         | 236                    | 45              |       |                                                               | P                                                                        | 14.7                                                          | 68.2                         | 14                                           |                                              |                              |
|                                                                               | P,D               | 5.35         | 187                    | 45              |       |                                                               |                                                                          |                                                               |                              |                                              |                                              |                              |
| 75 x 25 x 1.6<br>x 2.0<br>x 2.5                                               | P,S,D             | 2.38         | 420                    | 65              |       | 150 x 50 x 2.0<br>x 2.5<br>x 3.0<br>x 4.0<br>x 5.0<br>x 6.0   | P,D                                                                      | 6.07                                                          | 165                          | 21                                           | 21                                           |                              |
|                                                                               | P,S,D             | 2.93         | 341                    | 65              |       |                                                               | P,D                                                                      | 7.53                                                          | 133                          | 24                                           |                                              |                              |
|                                                                               | P,S,D             | 3.60         | 278                    | 48              |       |                                                               | P,S,D                                                                    | 8.96                                                          | 112                          | 21                                           | 15                                           |                              |
|                                                                               |                   |              |                        |                 |       |                                                               | P,S,D                                                                    | 11.6                                                          | 86.0                         | 15                                           | 15                                           |                              |
| 75 x 50 x 1.6<br>x 2.0<br>x 2.5<br>x 3.0<br>x 4.0<br>x 5.0<br>x 6.0           | P,S,D             | 2.38         | 420                    | 65              |       | 150 x 50 x 2.0<br>x 2.5<br>x 3.0<br>x 4.0<br>x 5.0<br>x 6.0   | P,S,D                                                                    | 14.2                                                          | 70.2                         | 15                                           | 9                                            |                              |
|                                                                               | P,S,D             | 2.93         | 341                    | 65              |       |                                                               | C,P,D                                                                    | 16.7                                                          | 59.7                         | 15                                           | 9                                            |                              |
|                                                                               | P,S,D             | 3.60         | 278                    | 48              |       |                                                               |                                                                          |                                                               |                              |                                              |                                              |                              |
|                                                                               | P,S,D             | 3.01         | 332                    | 54              |       |                                                               | 54                                                                       | 150 x 100 x 4.0<br>x 5.0<br>x 6.0<br>x 8.0<br>x 9.0<br>x 10.0 | P<br>P<br>P<br>P<br>P<br>P,L | 14.8<br>18.2<br>21.4<br>27.7<br>30.6<br>33.4 | 67.7<br>55.0<br>46.6<br>36.1<br>32.7<br>29.9 | 12<br>12<br>9<br>6<br>6<br>4 |
| 75 x 50 x 1.6<br>x 2.0<br>x 2.5<br>x 3.0<br>x 4.0<br>x 5.0<br>x 6.0           | P,S,D             | 3.01         | 332                    | 54              | 54    |                                                               | 152 x 76 x 5.0<br>x 6.0                                                  | P,S,D                                                         | 14.2                         | 70.2                                         | 15                                           | 9                            |
|                                                                               | P,S,D             | 2.93         | 341                    | 65              | C,P,D |                                                               |                                                                          | 16.7                                                          | 59.7                         | 15                                           | 9                                            |                              |
|                                                                               | P,S,D             | 3.60         | 278                    | 48              |       |                                                               |                                                                          |                                                               |                              |                                              |                                              |                              |
|                                                                               | P,S,D             | 3.01         | 332                    | 54              | 54    |                                                               |                                                                          | 150 x 100 x 4.0<br>x 5.0<br>x 6.0<br>x 8.0<br>x 9.0<br>x 10.0 | P<br>P<br>P<br>P<br>P<br>P,L | 14.8<br>18.2<br>21.4<br>27.7<br>30.6<br>33.4 | 67.7<br>55.0<br>46.6<br>36.1<br>32.7<br>29.9 | 12<br>12<br>9<br>6<br>6<br>4 |
| 75 x 50 x 1.6<br>x 2.0<br>x 2.5<br>x 3.0<br>x 4.0<br>x 5.0<br>x 6.0           | P,S,D             | 3.01         | 332                    | 54              | 54    |                                                               | 152 x 76 x 5.0<br>x 6.0                                                  | P,S,D                                                         | 14.2                         | 70.2                                         | 15                                           | 9                            |
|                                                                               | P,S,D             | 2.93         | 341                    | 65              | C,P,D |                                                               |                                                                          | 16.7                                                          | 59.7                         | 15                                           | 9                                            |                              |
|                                                                               | P,S,D             | 3.60         | 278                    | 48              |       |                                                               |                                                                          |                                                               |                              |                                              |                                              |                              |
|                                                                               | P,S,D             | 3.01         | 332                    | 54              | 54    |                                                               |                                                                          | 150 x 100 x 4.0<br>x 5.0<br>x 6.0<br>x 8.0<br>x 9.0<br>x 10.0 | P<br>P<br>P<br>P<br>P<br>P,L | 14.8<br>18.2<br>21.4<br>27.7<br>30.6<br>33.4 | 67.7<br>55.0<br>46.6<br>36.1<br>32.7<br>29.9 | 12<br>12<br>9<br>6<br>6<br>4 |
| 76 x 38 x 2.5<br>x 3.0<br>x 4.0                                               | P                 | 4.15         | 241                    | 45              |       | 200 x 100 x 4.0<br>x 5.0<br>x 6.0<br>x 8.0<br>x 9.0<br>x 10.0 | P                                                                        | 17.9                                                          | 55.8                         | 8                                            | 6                                            |                              |
|                                                                               | P                 | 4.90         | 204                    | 40              |       |                                                               | P                                                                        | 22.1                                                          | 45.3                         | 8                                            | 6                                            |                              |
|                                                                               | P                 | 6.23         | 161                    | 32              |       |                                                               | P                                                                        | 26.2                                                          | 38.2                         | 8                                            | 4                                            |                              |
|                                                                               |                   |              |                        |                 |       |                                                               | P,L                                                                      | 33.9                                                          | 29.5                         | 6                                            | 4                                            |                              |
| 100 x 50 x 1.6<br>x 2.0<br>x 2.5<br>x 3.0<br>x 3.5<br>x 4.0<br>x 5.0<br>x 6.0 | P,D               | 3.64         | 275                    | 32              | 32    |                                                               | 250 x 150 x 5.0<br>x 6.0<br>x 8.0<br>x 9.0<br>x 10.0<br>x 12.5<br>x 16.0 | P                                                             | 29.9                         | 33.4                                         | 6                                            | 4                            |
|                                                                               | P,S,D             | 4.50         | 222                    | 32              | 32    |                                                               |                                                                          | C                                                             | 35.6                         | 28.1                                         | 4                                            | 4                            |
|                                                                               | P,S,D             | 5.56         | 180                    | 32              | 24    |                                                               |                                                                          | C,L                                                           | 46.5                         | 21.5                                         | 4                                            | 2                            |
|                                                                               | P,S,D             | 6.60         | 152                    | 32              | 24    |                                                               |                                                                          | C,L                                                           | 51.8                         | 19.3                                         | 4                                            | 2                            |
| 102 x 76 x 3.5<br>x 5.0<br>x 6.0                                              | P,S,D             | 7.53         | 133                    | 24              | 18    |                                                               | 250 x 150 x 5.0<br>x 6.0<br>x 8.0<br>x 9.0<br>x 10.0<br>x 12.5<br>x 16.0 | C                                                             | 29.9                         | 33.4                                         | 6                                            | 4                            |
|                                                                               | P,S,D             | 8.49         | 118                    | 24              | 18    |                                                               |                                                                          | C                                                             | 35.6                         | 28.1                                         | 4                                            | 4                            |
|                                                                               | P,S,D             | 10.3         | 96.9                   | 18              | 15    |                                                               |                                                                          | C,L                                                           | 46.5                         | 21.5                                         | 4                                            | 2                            |
|                                                                               | P,D               | 12.0         | 83.1                   | 15              | 12    |                                                               |                                                                          | C,L                                                           | 51.8                         | 19.3                                         | 4                                            | 2                            |
| 102 x 76 x 3.5<br>x 5.0<br>x 6.0                                              | P                 | 9.07         | 110                    | 20              |       |                                                               | 250 x 150 x 5.0<br>x 6.0<br>x 8.0<br>x 9.0<br>x 10.0<br>x 12.5<br>x 16.0 | L                                                             | 57.0                         | 17.6                                         |                                              | 2                            |
|                                                                               | P                 | 12.5         | 79.9                   | 16              |       |                                                               |                                                                          | L                                                             | 69.4                         | 14.4                                         |                                              | 2                            |
|                                                                               | P                 | 14.7         | 68.2                   | 12              |       |                                                               |                                                                          | L                                                             | 85.5                         | 11.7                                         |                                              | 1                            |
|                                                                               |                   |              |                        |                 |       |                                                               |                                                                          |                                                               |                              |                                              |                                              |                              |

Continued on next page...

# RHS - Rectangles (AS/NZS 1163-2009)

Various Standard  
Lengths



| Size<br>mm x mm x mm | Surface<br>Finish | Mass<br>kg/m | Metres<br>per<br>Tonne | Length/<br>Pack |    |
|----------------------|-------------------|--------------|------------------------|-----------------|----|
|                      |                   |              |                        | Standard        |    |
|                      |                   |              |                        | 8.0             | 12 |
| 300 x 200            | x 6.0             | L            | 45.0                   | 22.2            | 2  |
|                      | x 8.0             | C,P,L        | 59.1                   | 16.9            | 2  |
|                      | x 10.0            | C,P,L        | 72.7                   | 13.8            | 2  |
|                      | x 12.5            | L            | 89.0                   | 11.2            | 1  |
|                      | x 16.0            | L            | 111                    | 9.04            | 1  |
| 350 x 250            | x 6.0             | L            | 54.4                   | 18.4            | 2  |
|                      | x 8.0             | L            | 71.6                   | 14.0            | 2  |
|                      | x 10.0            | L            | 88.4                   | 11.3            | 1  |
|                      | x 12.5            | L            | 109                    | 9.21            | 1  |
|                      | x 16.0            | L            | 136                    | 7.36            | 1  |

| Size<br>mm x mm x mm | Surface<br>Finish | Mass<br>kg/m | Metres<br>per<br>Tonne | Length/<br>Pack |    |
|----------------------|-------------------|--------------|------------------------|-----------------|----|
|                      |                   |              |                        | Standard        |    |
|                      |                   |              |                        | 8.0             | 12 |
| 400 x 200            | x 8.0             | L            | 71.6                   | 14.0            | 2  |
|                      | x 10.0            | L            | 88.4                   | 11.3            | 1  |
|                      | x 12.5            | L            | 109                    | 9.21            | 1  |
|                      | x 16.0            | L            | 136                    | 7.36            | 1  |
| 400 x 300            | x 8.0             | L            | 84.2                   | 11.9            | 1  |
|                      | x 10.0            | L            | 104                    | 9.61            | 1  |
|                      | x 12.5            | L            | 128                    | 7.80            | 1  |
|                      | x 16.0            | L            | 161                    | 6.21            | 1  |

## OZTUBE™ RHS - Rectangles (AS 1450)

8m



| Size<br>mm x mm x mm | Surface<br>Finish | Mass<br>kg/m | Metres<br>per<br>Tonne | Length/<br>Pack |    |
|----------------------|-------------------|--------------|------------------------|-----------------|----|
|                      |                   |              |                        | Standard        |    |
|                      |                   |              |                        | 6.5             | 8  |
| 50 x 25              | x 1.6             | P, PG        | 1.75                   | 571             | 96 |
|                      | x 2.0             | P, PG        | 2.15                   | 465             | 96 |
|                      | x 2.5             | P, PG        | 2.62                   | 382             | 72 |
|                      | x 3.0             | P            | 3.07                   | 326             | 72 |
| 65 x 35              | x 2.0             | P            | 2.93                   | 341             | 54 |
|                      | x 2.5             | P            | 3.60                   | 278             | 54 |
|                      | x 3.0             | P            | 4.25                   | 236             | 45 |

| Size<br>mm x mm x mm | Surface<br>Finish | Mass<br>kg/m | Metres<br>per<br>Tonne | Length/<br>Pack |    |
|----------------------|-------------------|--------------|------------------------|-----------------|----|
|                      |                   |              |                        | Standard        |    |
|                      |                   |              |                        | 6.5             | 8  |
| 75 x 25              | x 1.6             | P            | 2.38                   | 420             | 65 |
|                      | x 2.0             | P            | 2.93                   | 341             | 65 |
|                      | x 2.5             | P            | 3.60                   | 278             | 48 |
| 75 x 50              | x 1.6             | P            | 3.01                   | 332             | 54 |
|                      | x 2.0             | P, PG        | 3.72                   | 269             | 42 |
|                      | x 2.5             | P            | 4.58                   | 218             | 42 |
|                      | x 3.0             | P, PG        | 5.42                   | 184             | 35 |

## Tubecolor® (TS50)

Various Lengths

| Size<br>mm x mm | Thickness<br>mm | Mass<br>kg/m | Metres per<br>Tonne |
|-----------------|-----------------|--------------|---------------------|
| 76 x 38         | 1.20            | 2.29         | 437                 |
|                 | 1.60            | 3.00         | 333                 |
| 90 x 38         | 2.00            | 3.68         | 272                 |
|                 | 2.00            | 4.16         | 240                 |

| Size<br>mm x mm | Thickness<br>mm | Mass<br>kg/m | Metres per<br>Tonne |
|-----------------|-----------------|--------------|---------------------|
| 90 x 90         | 2.00            | 6.02         | 166                 |
| 100 x 50        | 2.00            | 5.15         | 194                 |
| 150 x 50        | 2.00            | 6.66         | 150                 |

Note: Tubecolor® is only readily available in WA

| Size (OD)<br>mm | Thickness<br>mm | Mass<br>kg/m | Metres per<br>Tonne | Lengths<br>per Pack | Size (OD)<br>mm | Thickness<br>mm | Mass<br>kg/m | Metres<br>per Tonne | Lengths<br>per Pack |
|-----------------|-----------------|--------------|---------------------|---------------------|-----------------|-----------------|--------------|---------------------|---------------------|
| 16.0            | 1.2             | 0.438        | 2280                | 217                 | 40.0            | 1.6             | 1.52         | 660                 | 91                  |
|                 | 1.6             | 0.568        | 1760                | 217                 |                 |                 |              |                     |                     |
| 19.0            | 0.9             | 0.402        | 2490                | 217                 | 41.3            | 1.2             | 1.19         | 843                 | 91                  |
|                 | 1.2             | 0.527        | 1900                | 217                 |                 | 1.6             | 1.57         | 638                 | 91                  |
|                 | 1.4             | 0.608        | 1650                | 217                 |                 | 2.0             | 1.94         | 516                 | 91                  |
|                 | 1.6             | 0.687        | 1460                | 217                 |                 | 2.6             | 2.48         | 403                 | 91                  |
|                 | 2.0             | 0.838        | 1190                | 217                 |                 | 3.2             | 3.01         | 333                 | 91                  |
|                 |                 |              |                     |                     |                 |                 |              |                     |                     |
| 22.2            | 0.9             | 0.473        | 2120                | 217                 | 44.5            | 0.9             | 0.968        | 1030                | 91                  |
|                 | 1.2             | 0.621        | 1610                | 217                 |                 | 1.2             | 1.28         | 780                 | 91                  |
|                 | 1.4             | 0.718        | 1390                | 217                 |                 | 1.4             | 1.49         | 672                 | 91                  |
|                 | 1.6             | 0.813        | 1230                | 217                 |                 | 1.6             | 1.69         | 591                 | 91                  |
|                 | 2.0             | 0.996        | 1000                | 217                 |                 | 2.0             | 2.10         | 477                 | 91                  |
|                 | 2.6             | 1.26         | 796                 | 217                 |                 | 2.6             | 2.69         | 372                 | 91                  |
| 25.4            | 0.9             | 0.544        | 1840                | 169                 | 47.6            | 3.2             | 3.26         | 307                 | 91                  |
|                 | 1.2             | 0.716        | 1400                | 169                 |                 | 0.9             | 1.04         | 965                 | 61                  |
|                 | 1.4             | 0.829        | 1210                | 169                 |                 | 1.2             | 1.37         | 728                 | 61                  |
|                 | 1.6             | 0.939        | 1060                | 169                 |                 | 1.4             | 1.60         | 625                 | 61                  |
|                 | 2.0             | 1.15         | 866                 | 169                 |                 | 1.6             | 1.82         | 551                 | 61                  |
|                 | 2.6             | 1.46         | 684                 | 169                 |                 | 2.0             | 2.25         | 445                 | 61                  |
|                 | 3.2             | 1.75         | 571                 | 169                 |                 | 2.6             | 2.89         | 347                 | 61                  |
|                 |                 |              |                     |                     |                 | 3.2             | 3.50         | 285                 | 61                  |
| 31.8            | 0.9             | 0.686        | 1460                | 127                 | 50.8/ 51.0      | 1.2             | 1.47         | 679                 | 61                  |
|                 | 1.2             | 0.906        | 1100                | 127                 |                 | 1.4             | 1.71         | 584                 | 61                  |
|                 | 1.4             | 1.05         | 953                 | 127                 |                 | 1.6             | 1.94         | 515                 | 61                  |
|                 | 1.6             | 1.19         | 839                 | 127                 |                 | 2.0             | 2.41         | 414                 | 61                  |
|                 | 2.0             | 1.47         | 680                 | 127                 |                 | 2.3             | 2.75         | 363                 | 61                  |
|                 | 3.2             | 2.26         | 443                 | 127                 |                 | 2.5             | 2.98         | 335                 | 61                  |
| 35.0            | 1.2             | 1.00         | 1000                | 91                  |                 | 2.6             | 3.09         | 323                 | 61                  |
|                 | 1.6             | 1.32         | 759                 | 91                  |                 | 3.2             | 3.76         | 265                 | 61                  |
|                 | 2.0             | 1.63         | 614                 | 91                  | 54.0            | 1.2             | 1.56         | 640                 | 61                  |
|                 | 2.6             | 2.08         | 481                 | 91                  |                 | 1.4             | 1.82         | 551                 | 61                  |
|                 | 3.2             | 2.51         | 398                 | 91                  |                 | 1.6             | 2.07         | 484                 | 61                  |
| 38.0            | 0.9             | 0.823        | 1210                | 91                  |                 | 2.0             | 2.56         | 390                 | 61                  |
|                 | 1.2             | 1.09         | 918                 | 91                  |                 | 2.6             | 3.30         | 303                 | 61                  |
|                 | 1.6             | 1.44         | 696                 | 91                  |                 | 3.2             | 4.01         | 249                 | 61                  |
|                 | 2.0             | 1.78         | 563                 | 91                  |                 |                 |              |                     |                     |
|                 | 2.6             | 2.27         | 441                 | 91                  |                 |                 |              |                     |                     |
|                 | 3.2             | 2.75         | 364                 | 91                  |                 |                 |              |                     |                     |

Continued on next page...

Please note: Not all sizes are available in every finish &amp; minimum order quantities may apply

Finishes: Hot rolled, EZYFORM®, HI-FORM®, GALVATUBE®

# ERW Steel Tube - Circular

6.1m



| Size (OD)<br>mm | Thickness<br>mm | Mass<br>kg/m | Metres per<br>Tonne | Lengths<br>per Pack | Size (OD)<br>mm | Thickness<br>mm | Mass<br>kg/m | Metres per<br>Tonne | Lengths<br>per Pack |
|-----------------|-----------------|--------------|---------------------|---------------------|-----------------|-----------------|--------------|---------------------|---------------------|
| 57.2            | 1.2             | 1.66         | 603                 | 61                  | 76.2            | 1.2             | 2.22         | 451                 | 37                  |
|                 | 1.4             | 1.93         | 519                 | 61                  |                 | 1.4             | 2.58         | 387                 | 37                  |
|                 | 1.6             | 2.19         | 456                 | 61                  |                 | 1.6             | 2.94         | 340                 | 37                  |
|                 | 2.0             | 2.72         | 367                 | 61                  |                 | 2.0             | 3.66         | 273                 | 37                  |
|                 | 2.6             | 3.50         | 286                 | 61                  |                 | 2.6             | 4.72         | 212                 | 37                  |
|                 | 3.2             | 4.26         | 235                 | 61                  |                 | 3.2             | 5.76         | 174                 | 37                  |
| 60.3            | 2.6             | 3.70         | 270                 | 61                  | 88.9            | 1.2             | 2.60         | 385                 | 19                  |
| 63.5            | 1.2             | 1.84         | 542                 | 37                  |                 | 1.4             | 3.02         | 331                 | 19                  |
|                 |                 |              |                     |                     | 1.6             | 3.44            | 290          | 19                  |                     |
|                 |                 |              |                     |                     | 2.0             | 4.29            | 233          | 19                  |                     |
|                 |                 |              |                     |                     | 2.6             | 5.53            | 181          | 19                  |                     |
|                 |                 |              |                     |                     | 3.2             | 6.76            | 148          | 19                  |                     |
|                 |                 |              |                     |                     | 100.0           | 1.6             | 3.88         | 257                 | 19                  |
| 69.9            | 2.0             | 3.35         | 298                 | 37                  | 101.6           | 1.6             | 3.95         | 253                 | 19                  |
|                 |                 |              |                     |                     |                 | 2.0             | 4.91         | 204                 | 19                  |
| 70.0            | 1.6             | 2.70         | 370                 | 37                  |                 | 2.6             | 6.35         | 158                 | 19                  |
|                 |                 |              |                     |                     |                 | 3.2             | 7.77         | 129                 | 19                  |

# ERW Steel Tube - Oval

6.1m



| Dimensions<br>mm x mm | Thickness<br>mm | Mass<br>kg/m | Metres per<br>Tonne | Lengths<br>per Pack | Dimensions<br>mm x mm | Thickness<br>mm | Mass<br>kg/m | Metres per<br>Tonne | Lengths<br>per Pack |
|-----------------------|-----------------|--------------|---------------------|---------------------|-----------------------|-----------------|--------------|---------------------|---------------------|
| 31.8 x 16.0*          | 1.2             | 0.736        | 1359                | 162                 | 50.8 x 15.9*          | 1.2             | 1.09         | 915                 | 102                 |
|                       | 1.6             | 0.965        | 1036                | 162                 |                       | 1.6             | 1.44         | 694                 | 102                 |
|                       | 2.0             | 1.18         | 847                 | 162                 |                       | 2.0             | 1.78         | 562                 | 102                 |

\*Flat sided oval

Please note: Not all sizes are available in every finish & minimum order quantities may apply

Finishes: Hot rolled, EZYFORM®, HI-FORM®, GALVATUBE®

| Dimensions<br>mm x mm | Thickness<br>mm  | Mass<br>kg/m | Metres<br>per Tonne | Lengths<br>per Pack | Dimensions<br>mm x mm | Thickness<br>mm  | Mass<br>kg/m | Metres per<br>Tonne | Lengths<br>per Pack |
|-----------------------|------------------|--------------|---------------------|---------------------|-----------------------|------------------|--------------|---------------------|---------------------|
| 19.0 x 19.0           | 0.9              | 0.487        | 2050                | 168                 | 31.8 x 31.8           | 1.2              | 1.13         | 885                 | 128                 |
|                       | 1.2              | 0.640        | 1560                | 168                 |                       | 1.4              | 1.31         | 762                 | 128                 |
|                       | 1.4              | 0.740        | 1350                | 168                 |                       | 1.6              | 1.49         | 671                 | 128                 |
|                       | 1.6              | 0.838        | 1190                | 168                 |                       | 2.0              | 1.84         | 542                 | 128                 |
|                       | 2.0              | 1.03         | 974                 | 168                 | 35.0 x 35.0           | 1.6              | 1.64         | 609                 | 84                  |
| 22.2 x 22.2           | 0.9              | 0.583        | 1710                | 168                 |                       | 2.0              | 1.99         | 502                 | 84                  |
|                       | 1.2              | 0.769        | 1300                | 168                 |                       | 2.3              | 2.29         | 4.36                | 84                  |
|                       | 1.4              | 0.890        | 1120                | 168                 | 38.0 x 38.0           | 1.2              | 1.37         | 729                 | 84                  |
|                       | 1.6              | 1.01         | 991                 | 168                 |                       | 1.4              | 1.59         | 627                 | 84                  |
|                       | 2.0              | 1.24         | 805                 | 168                 |                       | 1.6              | 1.81         | 551                 | 84                  |
| 25.4 x 25.4           | 0.9              | 0.668        | 1497                | 168                 |                       | 2.0              | 2.25         | 445                 | 84                  |
|                       | 1.2              | 0.881        | 1130                | 168                 | 50.0 x 50.0           | 2.5              | 2.78         | 359                 | 84                  |
|                       | 1.4              | 1.02         | 979                 | 168                 |                       | 1.6              | 2.39         | 418                 | 60                  |
|                       | 1.6              | 1.16         | 863                 | 168                 | 60.0 x 60.0           | 2.0 <sup>#</sup> | 2.97         | 336                 | 60                  |
|                       | 2.0              | 1.43         | 700                 | 168                 |                       | 1.6              | 2.89         | 346                 | 32                  |
| 30.0 x 30.0           | 1.2              | 1.05         | 956                 | 128                 |                       | 2.0              | 3.59         | 279                 | 32                  |
|                       | 1.6 <sup>#</sup> | 1.38         | 725                 | 128                 |                       |                  |              |                     |                     |

Please note: Not all sizes are available in every finish & minimum order quantities may apply

Finishes: Hot rolled, EZYFORM®, HI-FORM®, GALVATUBE®

# GALVATUBE® finish only



| Dimensions<br>mm x mm    | Thickness<br>mm | Mass<br>kg/m | Metres per<br>Tonne | Lengths<br>per Pack | Dimensions<br>mm x mm    | Thickness<br>mm | Mass<br>kg/m | Metres per<br>Tonne | Lengths<br>per Pack |
|--------------------------|-----------------|--------------|---------------------|---------------------|--------------------------|-----------------|--------------|---------------------|---------------------|
| 25.4 x 12.7              | 0.9             | 0.488        | 2050                | 180                 | 50.0 x 20.0              | 1.6             | 1.63         | 613                 | 110                 |
|                          | 1.2             | 0.642        | 1560                | 180                 |                          | 1.2             | 1.32         | 757                 | 110                 |
|                          | 1.4             | 0.742        | 1350                | 180                 |                          | 1.4             | 1.53         | 652                 | 110                 |
|                          | 1.6             | 0.840        | 1190                | 180                 |                          | 1.6             | 1.75         | 573                 | 110                 |
| 31.8 x 12.7              | 1.2             | 0.762        | 1310                | 162                 | 50.0 x 25.0              | 2.0             | 2.16         | 463                 | 110                 |
|                          | 1.4             | 0.883        | 1130                | 162                 |                          | 1.2             | 1.47         | 679                 | 54                  |
|                          | 1.6             | 1.00         | 999                 | 162                 |                          | 1.4             | 1.71         | 584                 | 54                  |
| 31.8 x 22.2              | 1.2             | 0.941        | 1060                | 126                 | 50.8 x 31.8              | 1.6             | 1.95         | 513                 | 54                  |
|                          | 1.4             | 1.09         | 916                 | 126                 |                          | 2.0             | 2.42         | 413                 | 54                  |
|                          | 1.6             | 1.23         | 813                 | 126                 |                          | 1.6             | 2.19         | 456                 | 72                  |
|                          |                 |              |                     |                     |                          | 2.0             | 2.72         | 367                 | 72                  |
| 35.0 x 19.0              | 1.2             | 0.950        | 1050                | 144                 | 57.0 x 35.0              | 1.6             | 2.44         | 410                 | 42                  |
|                          | 1.4             | 1.10         | 908                 | 144                 |                          | 2.0             | 3.03         | 330                 | 42                  |
|                          | 1.6             | 1.25         | 800                 | 144                 | 70.0 x 34.0              | 1.6             | 2.90         | 345                 | 42                  |
|                          | 2.0             | 1.54         | 648                 | 144                 |                          | 2.0             | 3.60         | 278                 | 42                  |
| 38.1 x 25.4              | 1.2             | 1.13         | 881                 | 80                  |                          | 1.6             | 2.89         | 346                 | 42                  |
|                          | 1.4             | 1.32         | 759                 | 80                  |                          | 2.0             | 3.59         | 279                 | 42                  |
|                          | 1.6             | 1.50         | 668                 | 80                  | 80.0 x 40.0              | 1.6             | 2.89         | 346                 | 42                  |
|                          | 2.0             | 1.85         | 540                 | 80                  |                          | 2.0             | 3.59         | 279                 | 42                  |
| 50.0 x 10.0 <sup>#</sup> |                 |              |                     |                     |                          | 1.6             | 2.89         | 346                 | 42                  |
|                          | 0.9             | 0.81         | 1240                | 125                 |                          | 2.0             | 3.59         | 279                 | 42                  |
|                          |                 |              |                     |                     | 90.0 x 38.0 <sup>+</sup> | 2.0             | 3.84         | 260                 | 42                  |
|                          |                 |              |                     |                     |                          |                 |              |                     |                     |

Please note: Not all sizes are available in every finish & minimum order quantities may apply

Finishes: Hot rolled, EZYFORM®, HI-FORM®, GALVATUBE®

# GALVATUBE® finish only    <sup>+</sup> Only readily available in WA

## Sheet - BLACKFORM®

| Base Metal<br>Thickness<br>mm | Width<br>mm | kg/m <sup>2</sup> | Base Metal<br>Thickness<br>mm | Width<br>mm | kg/m <sup>2</sup> | Base Metal<br>Thickness<br>mm | Width<br>mm | kg/m <sup>2</sup> |
|-------------------------------|-------------|-------------------|-------------------------------|-------------|-------------------|-------------------------------|-------------|-------------------|
| 1.50                          | 1200        | 11.77             | 1.95                          | 1210        | 15.30             | 2.95                          | 1500        | 23.16             |
| 1.50                          | 1210        | 11.77             | 2.40                          | 1200        | 18.84             | 2.95                          | 1800        | 23.16             |
| 1.60                          | 910         | 12.56             | 2.50                          | 1195        | 19.63             | 3.00                          | 895         | 23.55             |
| 1.60                          | 1195        | 12.56             | 2.50                          | 1210        | 19.63             | 3.00                          | 1195        | 23.55             |
| 1.60                          | 1200        | 12.56             | 2.50                          | 1495        | 19.63             | 3.00                          | 1210        | 23.55             |
| 1.60                          | 1210        | 12.56             | 2.50                          | 1510        | 19.63             | 3.00                          | 1495        | 23.55             |
| 1.95                          | 900         | 15.30             | 2.90                          | 1210        | 22.77             | 3.00                          | 1510        | 23.55             |
| 1.95                          | 1195        | 15.30             | 2.90                          | 1500        | 22.77             | 3.00                          | 1800        | 23.55             |
| 1.95                          | 1200        | 15.30             | 2.95                          | 1200        | 23.16             |                               |             |                   |

## Sheet - BRIGHTFORM®

| Base Metal Thickness<br>mm | Width<br>mm | kg/m <sup>2</sup> |
|----------------------------|-------------|-------------------|
| 1.60                       | 910         | 12.56             |
| 1.60                       | 1210        | 12.56             |
| 1.60                       | 1510        | 12.56             |
| 2.00                       | 910         | 15.70             |

| Base Metal Thickness<br>mm | Width<br>mm | kg/m <sup>2</sup> |
|----------------------------|-------------|-------------------|
| 2.00                       | 1210        | 15.70             |
| 2.00                       | 1510        | 15.70             |
| 2.50                       | 1210        | 19.63             |

| Base Metal Thickness<br>mm | Width<br>mm | kg/m <sup>2</sup> |
|----------------------------|-------------|-------------------|
| 2.95                       | 1210        | 23.16             |
| 3.00                       | 910         | 23.55             |
| 3.00                       | 1210        | 23.55             |

## Sheet - Hot Rolled Pickled HA3-P LY-TEN®

| Base Metal Thickness<br>mm | Width<br>mm | kg/m <sup>2</sup> |
|----------------------------|-------------|-------------------|
| 1.60                       | 1210        | 12.56             |
| 2.00                       | 910         | 15.70             |
| 2.00                       | 1210        | 15.70             |

| Base Metal Thickness<br>mm | Width<br>mm | kg/m <sup>2</sup> |
|----------------------------|-------------|-------------------|
| 2.50                       | 1210        | 19.63             |
| 3.00                       | 1210        | 23.55             |
| 4.00                       | 1210        | 31.40             |

| Base Metal Thickness<br>mm | Width<br>mm | kg/m <sup>2</sup> |
|----------------------------|-------------|-------------------|
| 5.00                       | 1210        | 39.25             |
| 6.00                       | 1210        | 47.10             |

## Sheet - COLD ROLLED (CA2S-E)

| Base Metal Thickness<br>mm | Width<br>mm | kg/m <sup>2</sup> |
|----------------------------|-------------|-------------------|
| 0.75                       | 915         | 5.89              |
| 0.75                       | 1220        | 5.89              |
| 0.80                       | 1220        | 6.28              |
| 0.90                       | 1220        | 7.07              |

| Base Metal Thickness<br>mm | Width<br>mm | kg/m <sup>2</sup> |
|----------------------------|-------------|-------------------|
| 0.95                       | 1220        | 7.46              |
| 1.15                       | 915         | 9.03              |
| 1.15                       | 1220        | 9.03              |
| 1.55                       | 1220        | 12.17             |

| Base Metal Thickness<br>mm | Width<br>mm | kg/m <sup>2</sup> |
|----------------------------|-------------|-------------------|
| 1.95                       | 1220        | 15.31             |
| 2.45                       | 1220        | 19.23             |
| 3.00                       | 1220        | 23.55             |

## Sheet - COLD ROLLED (CA3SN-G)

| Base Metal Thickness<br>mm | Width<br>mm | kg/m <sup>2</sup> |
|----------------------------|-------------|-------------------|
| 0.60                       | 1220        | 4.71              |
| 0.80                       | 1220        | 6.28              |
| 1.00                       | 1220        | 7.85              |

| Base Metal Thickness<br>mm | Width<br>mm | kg/m <sup>2</sup> |
|----------------------------|-------------|-------------------|
| 1.20                       | 1220        | 9.42              |
| 1.50                       | 1220        | 11.78             |
| 1.60                       | 1220        | 12.56             |

| Base Metal Thickness<br>mm | Width<br>mm | kg/m <sup>2</sup> |
|----------------------------|-------------|-------------------|
| 2.00                       | 1220        | 15.70             |
| 2.50                       | 1220        | 19.63             |
| 3.00                       | 1220        | 23.55             |

## Sheet - GALVABOND® (G2 Z275)

| Base Metal Thickness<br>mm | Width<br>mm | kg/m <sup>2</sup> |
|----------------------------|-------------|-------------------|
| 0.40                       | 915         | 3.43              |
| 0.40                       | 1220        | 3.43              |
| 0.45                       | 915         | 3.82              |
| 0.50                       | 1220        | 4.22              |
| 0.55                       | 915         | 4.61              |
| 0.55                       | 1200        | 4.61              |
| 0.55                       | 1220        | 4.61              |
| 0.55                       | 1500        | 4.61              |
| 0.60                       | 1525        | 5.00              |
| 0.70                       | 1220        | 5.79              |
| 0.75                       | 915         | 6.18              |
| 0.75                       | 1200        | 6.18              |
| 0.75                       | 1220        | 6.18              |
| 0.75                       | 1500        | 6.18              |

| Base Metal Thickness<br>mm | Width<br>mm | kg/m <sup>2</sup> |
|----------------------------|-------------|-------------------|
| 0.80                       | 1525        | 6.57              |
| 0.90                       | 915         | 7.36              |
| 0.90                       | 1220        | 7.36              |
| 0.95                       | 1200        | 7.75              |
| 0.95                       | 1220        | 7.75              |
| 0.95                       | 1500        | 7.75              |
| 1.00                       | 1220        | 8.14              |
| 1.00                       | 1525        | 8.14              |
| 1.10                       | 915         | 8.92              |
| 1.10                       | 1220        | 8.92              |
| 1.15                       | 915         | 9.32              |
| 1.15                       | 1200        | 9.32              |
| 1.15                       | 1220        | 9.32              |
| 1.15                       | 1500        | 9.32              |

| Base Metal Thickness<br>mm | Width<br>mm | kg/m <sup>2</sup> |
|----------------------------|-------------|-------------------|
| 1.20                       | 1525        | 9.71              |
| 1.50                       | 915         | 12.07             |
| 1.50                       | 1220        | 12.07             |
| 1.50                       | 1500        | 12.07             |
| 1.55                       | 1200        | 12.46             |
| 1.55                       | 1220        | 12.46             |
| 1.55                       | 1500        | 12.46             |
| 1.60                       | 1525        | 12.85             |
| 1.90                       | 1220        | 15.21             |
| 1.95                       | 1200        | 15.59             |
| 1.95                       | 1220        | 15.59             |
| 2.40                       | 1220        | 19.13             |
| 2.45                       | 1200        | 19.52             |
| 2.90                       | 1220        | 23.06             |

## Sheet - GALVASKIN® (G2 Z200)

| Base Metal Thickness<br>mm | Width<br>mm | kg/m <sup>2</sup> |
|----------------------------|-------------|-------------------|
| 0.40                       | 915         | 3.36              |
| 0.40                       | 1220        | 3.36              |
| 0.45                       | 915         | 3.75              |
| 0.50                       | 1220        | 4.15              |
| 0.55                       | 915         | 4.54              |
| 0.55                       | 1200        | 4.54              |
| 0.55                       | 1220        | 4.54              |
| 0.55                       | 1500        | 4.54              |

| Base Metal Thickness<br>mm | Width<br>mm | kg/m <sup>2</sup> |
|----------------------------|-------------|-------------------|
| 0.60                       | 1525        | 4.93              |
| 0.70                       | 1220        | 5.72              |
| 0.75                       | 915         | 6.11              |
| 0.75                       | 1200        | 6.11              |
| 0.75                       | 1220        | 6.11              |
| 0.75                       | 1500        | 6.11              |
| 0.80                       | 1525        | 6.50              |

| Base Metal Thickness<br>mm | Width<br>mm | kg/m <sup>2</sup> |
|----------------------------|-------------|-------------------|
| 0.90                       | 915         | 7.29              |
| 0.90                       | 1220        | 7.29              |
| 0.95                       | 1200        | 7.68              |
| 0.95                       | 1220        | 7.68              |
| 0.95                       | 1500        | 7.68              |
| 1.00                       | 1220        | 8.07              |
| 1.00                       | 1525        | 8.07              |

## Sheet - ZINCANNEAL® (G2S ZF100)

| Base Metal Thickness<br>mm | Width<br>mm | kg/m <sup>2</sup> | Base Metal Thickness<br>mm | Width<br>mm | kg/m <sup>2</sup> | Base Metal Thickness<br>mm | Width<br>mm | kg/m <sup>2</sup> |
|----------------------------|-------------|-------------------|----------------------------|-------------|-------------------|----------------------------|-------------|-------------------|
| 0.50                       | 1220        | 4.06              | 0.95                       | 1220        | 7.59              | 1.40                       | 1220        | 11.12             |
| 0.55                       | 1220        | 4.45              | 1.00                       | 1200        | 7.98              | 1.50                       | 915         | 11.91             |
| 0.70                       | 1220        | 5.63              | 1.10                       | 1050        | 8.77              | 1.50                       | 1200        | 11.91             |
| 0.75                       | 1220        | 6.02              | 1.10                       | 1200        | 8.77              | 1.50                       | 1220        | 11.91             |
| 0.80                       | 1200        | 6.41              | 1.10                       | 1220        | 8.77              | 1.55                       | 1200        | 12.29             |
| 0.90                       | 915         | 7.19              | 1.15                       | 1200        | 9.16              | 1.60                       | 1200        | 12.69             |
| 0.90                       | 1220        | 7.19              | 1.15                       | 1220        | 9.16              | 1.90                       | 1220        | 15.05             |
| 0.95                       | 1200        | 7.59              | 1.20                       | 1200        | 9.55              | 1.95                       | 1200        | 15.44             |

## Sheet - ZINCALUME® (G300 AZ150)

| Base Metal Thickness<br>mm | Width<br>mm | kg/m <sup>2</sup> | Base Metal Thickness<br>mm | Width<br>mm | kg/m <sup>2</sup> | Base Metal Thickness<br>mm | Width<br>mm | kg/m <sup>2</sup> |
|----------------------------|-------------|-------------------|----------------------------|-------------|-------------------|----------------------------|-------------|-------------------|
| 0.40                       | 1200        | 3.31              | 0.75                       | 1200        | 6.06              | 1.20                       | 900         | 9.59              |
| 0.55                       | 1200        | 4.49              | 1.00                       | 900         | 8.02              | 1.20                       | 1200        | 9.59              |
| 0.55                       | 900         | 4.49              | 1.00                       | 1200        | 8.02              |                            |             |                   |

## Sheet - COLORBOND® (CG300 AZ150)

| Size<br>mm x mm x mm | Colours                                                                                                                                                                                                                                            | Mass<br>sheets/tonne |
|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| 1200 x 2400 x 0.55   | Headland®, Manor Red®, Jasper®, Sandbank®, Classic Cream™, Surfmist®, Paperbark®, Dune®, Shale Grey™, Windspray®, Woodland Grey®, Bushland®, Pale Eucalypt®, Wilderness®, Cottage Green®, Monument™, Deep Ocean®, Ironstone®, Evening Haze®, Loft® | 76                   |
| 1200 x 2400 x 0.55   | Surfmist®                                                                                                                                                                                                                                          | 76                   |
| x 3050 x 0.55        |                                                                                                                                                                                                                                                    | 60                   |
| x 3660 x 0.55        |                                                                                                                                                                                                                                                    | 51                   |
| 1200 x 2440 x 0.55   | Appliance                                                                                                                                                                                                                                          | 76                   |
| 1200 x 1800 x 0.55   | Sign White                                                                                                                                                                                                                                         | 100                  |
| x 2400 x 0.55        |                                                                                                                                                                                                                                                    | 75                   |
| x 2400 x 0.80        |                                                                                                                                                                                                                                                    | 63                   |
| x 3000 x 0.80        |                                                                                                                                                                                                                                                    | 43                   |

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## Coil - COLORGUARD®

Exterior Durability  
Application

| Size<br>mm x mm       | Colours<br>SMP/ Polyester                                                                                               | Substrate  |
|-----------------------|-------------------------------------------------------------------------------------------------------------------------|------------|
| 1200 x 0.40<br>x 0.55 | Tuscan Red, Heritage Red, Jasmin Brown, Sandlewood, Smooth Cream, Off White, Birch, Gull Grey, Armour Grey, Slate Grey, | G300 AZ150 |
| 940 x 0.42<br>x 0.48  | Bushsmoke, Mist Green, Rivergum, Caulfield Green, Monolith, Mt Blue, Iron Grey, Dusk, Attic                             | G550 AZ150 |
| 1200 x 0.55           | Appliance White*, Sign White*                                                                                           | G300 AZ150 |

\* Available in sheet form where required

## Coil - COLORGUARD® PLUS

Marine & Highly  
Corrosive Application

| Size<br>mm x mm                     | Colours<br>PVDF                                                                         | Substrate                |
|-------------------------------------|-----------------------------------------------------------------------------------------|--------------------------|
| 1200 x 0.55<br>940 x 0.42<br>x 0.48 | Birch, Gull Grey, Armour Grey, Slate Grey, Rivergum, Iron Grey, Black Grey, Coral White | G300 AZ200<br>G550 AZ200 |

## Coil - COLORGUARD® METALLIC

Architectural  
Application

| Size<br>mm x mm                     | Colours<br>SMP/ Polyester                                                                                                                  | Substrate                |
|-------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|
| 1200 x 0.55<br>940 x 0.42<br>x 0.48 | Silver Coin, Champagne, Portico Grey, Alliance Grey, Glasshouse, Light Blue Metallic, Coppery Penny, Silver City, Silversmith, Temple Gold | G300 AZ150<br>G550 AZ150 |

## Stainless Steel - Austenitic Sheet & Coil

SS

| Grade | Thickness Range<br>mm | Width<br>mm           |
|-------|-----------------------|-----------------------|
| 316   | 0.55 to 6.00          | 914, 1219, 1500, 1525 |
| 304   | 0.55 to 6.00          | 914, 1219, 1500, 1525 |

## Stainless Steel - Ferritic Sheet & Coil

SS

| Grade | Thickness Range<br>mm | Width<br>mm |
|-------|-----------------------|-------------|
| 430   | 0.55 to 0.9           | 914, 1219   |

Range of Stainless Steel includes:

Grades: 304, 316, 430

Finishes: 2B, No. 4 Polished, bright annealed

## Stainless Steel - Flat Bar (Grades 304, 316)

SS

| Size<br>mm x mm | Mass<br>kg/m | Size<br>mm x mm | Mass<br>kg/m | Size<br>mm x mm | Mass<br>kg/m |
|-----------------|--------------|-----------------|--------------|-----------------|--------------|
| 12 x 3          | 0.29         | 32 x 5          | 1.30         | 50 x 12         | 4.90         |
| x 6             | 0.58         | x 6             | 1.57         | 65 x 5          | 2.61         |
| 20 x 3          | 0.49         | x 10            | 2.62         | x 6             | 3.18         |
| x 5             | 0.81         | 40 x 3          | 0.98         | 65 x 10         | 5.31         |
| x 6             | 0.98         | x 5             | 1.61         | 75 x 5          | 3.06         |
| 25 x 3          | 0.61         | x 6             | 1.96         | x 6             | 3.68         |
| x 5             | 1.02         | x 10            | 3.27         | x 10            | 6.04         |
| x 6             | 1.21         | x 12            | 3.92         | x 12            | 7.25         |
| x 10            | 2.04         | 50 x 3          | 1.21         | 100 x 6         | 4.91         |
| x 12            | 2.45         | x 5             | 2.04         | x 10            | 8.18         |
| 32 x 3          | 0.77         | x 6             | 2.45         |                 |              |
|                 |              | x 10            | 4.08         |                 |              |

Range of Stainless Steel includes:

Grades: 304, 304L, 316, 316L

## Stainless Steel - Angle (Grades 304, 316)



| Size<br>mm  | Mass<br>kg/m | Size<br>mm  | Mass<br>kg/m |
|-------------|--------------|-------------|--------------|
| 25 x 25 x 3 | 1.13         | 40 x 40 x 3 | 1.85         |
| x 5         | 1.77         | x 5         | 2.98         |
| x 6         | 2.06         | x 6         | 3.49         |
| 30 x 30 x 3 | 1.36         | 50 x 50 x 3 | 2.36         |
| x 5         | 2.17         | x 5         | 3.79         |
| x 6         | 2.53         | x 6         | 4.46         |

## Stainless Steel - Round Bar (Grades 304, 316 & 430)



| Diameter<br>mm | Mass<br>kg/m | Diameter<br>mm | Mass<br>kg/m | Diameter<br>mm | Mass<br>kg/m |
|----------------|--------------|----------------|--------------|----------------|--------------|
| 3.18           | 0.06         | 20.0           | 2.47         | 50.8           | 15.90        |
| 4.76           | 0.14         | 22.2           | 3.04         | 54.0           | 17.95        |
| 6.35           | 0.25         | 24.0           | 3.55         | 57.2           | 20.13        |
| 7.94           | 0.39         | 25.4           | 3.98         | 63.5           | 24.85        |
| 9.00           | 0.50         | 30.0           | 5.55         | 66.7           | 27.39        |
| 10.0           | 0.62         | 31.8           | 6.21         | 69.9           | 30.07        |
| 12.0           | 0.89         | 32.0           | 6.31         | 76.2           | 35.76        |
| 12.7           | 0.99         | 35.0           | 7.55         | 82.6           | 42.00        |
| 15.9           | 1.55         | 38.1           | 8.94         | 88.9           | 48.69        |
| 16.0           | 1.58         | 40.0           | 9.86         | 101.6          | 63.62        |
| 19.1           | 2.24         | 44.5           | 12.18        | 127            | 99.40        |

# Stainless Steel Pipes

## Stainless Steel Pipes to ASME B36.19

| NOMINAL<br>SIZE<br><br>DN | OUT-<br>SIDE<br>DIAM.<br>mm | NOMINAL WALL THICKNESS & INSIDE DIAMETER – millimetres |                    |                   |                    |                   |                    |                   |                    |
|---------------------------|-----------------------------|--------------------------------------------------------|--------------------|-------------------|--------------------|-------------------|--------------------|-------------------|--------------------|
|                           |                             | SCHEDULE 5S                                            |                    | SCHEDULE 10S      |                    | SCHEDULE 40S      |                    | SCHEDULE 80S      |                    |
|                           |                             | Wall<br>Thickness                                      | Inside<br>Diameter | Wall<br>Thickness | Inside<br>Diameter | Wall<br>Thickness | Inside<br>Diameter | Wall<br>Thickness | Inside<br>Diameter |
| 6                         | 10.29                       | –                                                      | –                  | 1.24              | 7.81               | 1.73              | 6.83               | 2.41              | 5.47               |
| 8                         | 13.72                       | –                                                      | –                  | 1.65              | 10.42              | 2.24              | 9.24               | 3.02              | 7.68               |
| 10                        | 17.15                       | –                                                      | –                  | 1.65              | 13.85              | 2.31              | 12.53              | 3.20              | 10.75              |
| 15                        | 21.34                       | 1.65                                                   | 18.04              | 2.11              | 17.12              | 2.77              | 15.80              | 3.73              | 13.88              |
| 20                        | 26.67                       | 1.65                                                   | 23.37              | 2.11              | 22.45              | 2.87              | 20.93              | 3.91              | 18.85              |
| 25                        | 33.40                       | 1.65                                                   | 30.10              | 2.77              | 27.86              | 3.38              | 26.64              | 4.55              | 24.30              |
| 32                        | 42.16                       | 1.65                                                   | 38.86              | 2.77              | 36.62              | 3.56              | 35.04              | 4.85              | 32.46              |
| 40                        | 48.26                       | 1.65                                                   | 44.96              | 2.77              | 42.72              | 3.68              | 40.90              | 5.08              | 38.10              |
| 50                        | 60.33                       | 1.65                                                   | 57.03              | 2.77              | 54.79              | 3.91              | 52.51              | 5.54              | 49.25              |
| 65                        | 73.03                       | 2.11                                                   | 68.81              | 3.05              | 66.93              | 5.16              | 62.71              | 7.01              | 59.01              |
| 80                        | 88.90                       | 2.11                                                   | 84.68              | 3.05              | 82.80              | 5.49              | 77.92              | 7.62              | 73.66              |
| 100                       | 114.30                      | 2.11                                                   | 110.08             | 3.05              | 108.20             | 6.02              | 102.26             | 8.56              | 97.18              |
| 125                       | 141.30                      | 2.77                                                   | 135.76             | 3.40              | 134.50             | 6.55              | 128.19             | 9.52              | 122.25             |
| 150                       | 168.28                      | 2.77                                                   | 162.74             | 3.40              | 161.47             | 7.11              | 154.05             | 10.97             | 146.33             |
| 200                       | 219.08                      | 2.77                                                   | 213.54             | 3.76              | 211.56             | 8.18              | 202.72             | 12.70             | 193.68             |
| 250                       | 273.05                      | 3.40                                                   | 266.24             | 4.19              | 264.67             | 9.27              | 254.51             | 12.70*            | 247.65             |
| 300                       | 323.85                      | 3.96                                                   | 315.93             | 4.57              | 314.71             | 9.52              | 304.08             | 12.70*            | 298.45             |
| 350                       | 355.60                      | 3.96                                                   | 347.68             | 4.78              | 346.05             | –                 | –                  | –                 | –                  |
| 400                       | 406.40                      | 4.19                                                   | 398.02             | 4.78              | 396.85             | –                 | –                  | –                 | –                  |
| 450                       | 457.20                      | 4.19                                                   | 448.82             | 4.78              | 447.65             | –                 | –                  | –                 | –                  |
| 500                       | 508.00                      | 4.78                                                   | 498.45             | 5.54              | 496.93             | –                 | –                  | –                 | –                  |
| 600                       | 609.60                      | 5.54                                                   | 598.53             | 6.35              | 596.90             | –                 | –                  | –                 | –                  |
| 750                       | 762.00                      | 6.35                                                   | 749.30             | 7.92              | 746.16             | –                 | –                  | –                 | –                  |





## Standard Lengths

All LSB sizes listed in the tables are readily available from authorised LSB distribution outlets in standard lengths. However, the availability should be checked for large quantities of individual sizes and for non-standard lengths.

| LSB AZ+ Section |       |     | Dimensions |                  |        |       |           | Length Availability |      |      |
|-----------------|-------|-----|------------|------------------|--------|-------|-----------|---------------------|------|------|
| Designation     |       |     | Mass       | AZ+ Coating Mass | Height | Width | Thickness | 8.0                 | 12.0 | 13.5 |
| $d$             | $b_f$ | $t$ |            |                  |        |       |           |                     |      |      |
| mm              | mm    | mm  | kg/m       | g/sqm            | mm     | mm    | mm        | m                   | m    | m    |
| 300 x 75        | x 3.0 | LSB | 14.5       | 120              | 300    | 75    | 3.0       | ✓                   | ✓    | ✓    |
|                 | 2.5   | LSB | 12.2       | 120              | 300    | 75    | 2.5       | ✓                   | ✓    | ✓    |
| 300 x 60        | x 2.0 | LSB | 8.80       | 150              | 300    | 60    | 2.0       | ✓                   | ✓    | ✓    |
| 250 x 75        | x 3.0 | LSB | 13.3       | 120              | 250    | 75    | 3.0       | ✓                   | ✓    | ✓    |
|                 | 2.5   | LSB | 11.2       | 120              | 250    | 75    | 2.5       | ✓                   | ✓    | ✓    |
| 250 x 60        | x 2.0 | LSB | 8.00       | 150              | 250    | 60    | 2.0       | ✓                   | ✓    | ✓    |
| 200 x 60        | x 2.5 | LSB | 8.86       | 120              | 200    | 60    | 2.5       | ✓                   | ✓    | ✓    |
|                 | 2.0   | LSB | 7.21       | 150              | 200    | 60    | 2.0       | ✓                   | ✓    | ✓    |
| 200 x 45        | x 1.6 | LSB | 4.95       | 150              | 200    | 45    | 1.6       | ✓                   | ✓    | ✓    |
| 150 x 45        | x 2.0 | LSB | 5.31       | 150              | 150    | 45    | 2.0       | ✓                   | ✓    | ✓    |
|                 | 1.6   | LSB | 4.32       | 150              | 150    | 45    | 1.6       | ✓                   | ✓    | ✓    |

The full range of LSB sections is summarised in the table below. Sections can be ordered in non-standard lengths subject to minimum order requirements and mill rolling schedules.

| Size                                                                             | Non-Standard Lengths (m) |
|----------------------------------------------------------------------------------|--------------------------|
| 300 x 75<br>300 x 60<br>250 x 75<br>250 x 60<br>200 x 60<br>200 x 45<br>150 x 45 | 6.0 to 13.5              |

Notes: 1. Standard lengths may vary in some states. Please check with your local supplier when ordering.

## Mechanical Properties

The DuoSteel grade LiteSteel beam is manufactured from a base steel which has a minimum yield stress  $f_y = 380$  MPa and a tensile strength  $f_u = 490$  MPa. The cold-forming process enhances the yield stress and tensile strength of the flanges of the LSB in the same way it does for the rectangular hollow sections, producing a formed section which complies with the following requirements:

| Location | Minimum Yield Stress<br>$f_y$<br>MPa | Minimum Tensile Strength<br>$f_u$<br>MPa | Minimum Elongation as a proportion of Gauge Length of<br>$5.65/\sqrt{S_0}$<br>% |
|----------|--------------------------------------|------------------------------------------|---------------------------------------------------------------------------------|
| Web      | 380                                  | 490                                      | 14                                                                              |
| Flanges  | 450                                  | 500                                      | 14                                                                              |

These values are monitored by testing in accordance with AS 1391.

# Coatings Compared

Research has shown that LiteSteel beam with AZ+ is ideal for external use in moderate environments without the need for a painted top coat. Other pre-galvanised coatings simply don't make the grade, with expensive paints required to achieve the corrosion protection required by BCA guidelines.

Comparison and Suitability of Protective Coatings:

| Coating                               | Moderate Environment                                                                                                              |                         | Severe Environment                                                                                                      |                          |
|---------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|-------------------------|-------------------------------------------------------------------------------------------------------------------------|--------------------------|
|                                       | More than 1 km from breaking surf, or more than 100 m from salt water not subject to breaking surf, or non-heavy industrial areas |                         | Within 1 km from breaking surf, or within 100 m from salt water not subject to breaking surf, or heavy industrial areas |                          |
|                                       | Internal                                                                                                                          | External                | Internal                                                                                                                | External                 |
| LSB AZ+                               | ✓                                                                                                                                 | ✓                       | ✓                                                                                                                       | Paint Top Coat Required  |
| Hot Dip Galvanised (post manufacture) | ✓                                                                                                                                 | ✓                       | ✓                                                                                                                       | Suppliers Recommendation |
| Z200 (100 g/m <sup>2</sup> per side)  | ✓                                                                                                                                 | Paint Top Coat Required | Paint Top Coat Required                                                                                                 | ✗                        |
| Prime Painted                         | ✓                                                                                                                                 | Paint Top Coat Required | Paint Top Coat Required                                                                                                 | ✗                        |

- Notes:
- ✓ means that the protective coating satisfies the requirements of Table 3.4.4.2 of the BCA Volume Two.
  - 'Paint Top Coat Required' means that a paint top coat treatment is needed to satisfy the requirements of Table 3.4.4.2 of the BCA Volume Two.
  - 'Prime Painted' refers to standard water based EnviroKote paint primer.
  - The comparative performance of the AZ+ coating with the other coatings is obtained from the following references:
    - Smorgon Steel Reinforcing, Sunshine Laboratory (2007), "Test Report No. TR07-01 (including NATA Endorsed Test Certificate 06N001)", Victoria, Australia, 10 January 2007.
    - Townsend, H. E. and Borzillo, A. R. (1997), "55% Al-Zn Alloy Coated Sheet Steel: The Versatile, Long Lasting Building Panel Steel", 5th International Conference on Zinc Coated Steel Sheet, Birmingham, England, 12-13 June 1997.
  - The distances listed in this table defining moderate and severe environments are minimum distances and should be used as a guide only. The appropriate distance from breaking surf or from salt water not subject to breaking surf depends on regional factors, and may be significantly larger. In some locations, the acceptable distance from breaking surf could extend as far as 10 to 50 km inland. Local factors such as prevailing winds, topography, shielding by other buildings and trees, and exposure to rain will also influence the classification of the exposure environment. The nature of a structure and the design details of that structure may also have a significant affect on the susceptibility of individual members to corrosion. AZ+ is not recommended for use in non-sealed decks and verandahs within the splash zone of swimming pools. If you are uncertain as to the suitability of a protective coating for your intended application, please refer to AS/NZS 2312. As a guide, AZ+ is considered to last 3 to 4 times longer than galvanised coatings of equal coating mass under the same exposure conditions.

## Welding Information

The LSB can be readily welded using appropriate arc welding processes. The design of welded connections for the LSB must comply with Section 5.2 of AS/NZS 4600.

The following welding consumables are suitable for the DuoSteel grade LSB:

| Welding Process                 | Australian Standard | Consumables | Nominal Weld Tensile Strength $f_{uw}$ (MPa) |
|---------------------------------|---------------------|-------------|----------------------------------------------|
| MMAW (Manual Metal Arc Welding) | AS 1553.1           | E48XX       | 480                                          |
| GMAW (Gas Metal Arc Welding)    | AS 2717.1           | W50X        | 480                                          |
| FCAW (Flux Cored Arc Welding)   | AS 2203.1           | W50X        | 480                                          |

These consumables are also acceptable and commonly used for welding to Grade 300 Angles and Flats and to Grade 250 Plate.

## Welding Safety

Weld fume monitoring tests conducted on the LSB AZ+ coating indicate that selected metal particulate concentrations were below the respective exposure standards for each particular metalloid contaminant. Measured ozone, nitric oxide, carbon monoxide and nitrogen dioxide concentrations were also well below the respective exposure standards. Unless extended and continuous welding periods are anticipated, no further protection other than standard welding personal protective equipment (PPE) would be required to control zinc exposures under normal operating conditions. Welding in confined spaces or other spaces with poor general ventilation should be avoided unless appropriate controls (including supplied air) can be instituted. Those workers using an respiratory protective device (RPD) must be trained in its selection, use, and maintenance. All tests were conducted as part of an occupational hygiene survey by NSCA on behalf of LiteSteel Technologies.



# DuraGal Carport®

The DuraGal Carport® brings to the market a system that offers:

- A lightweight, efficient structure constructed from high strength GAL140™ RHS.
- A cost-effective coating system. The internal and external hot dip galvanized coating applied provides a product ready for use.
- Proprietary fittings allow fast and efficient assembly.
- A selection of sizes includes cyclone ratings to suit all markets.

## Size Range

Standard Height 2.150m

- 5.4 x 3.0 & 5.4 (m)
- 6.0 x 3.0, 3.6 & 6.0 (m)
- 7.0 x 3.6 & 6.0 (m)

## GAL140™ sizes

Rafters: 150x50x2.0/3.0

100x50x1.6/2.0

Purlins: 150x50x2.0/3.0

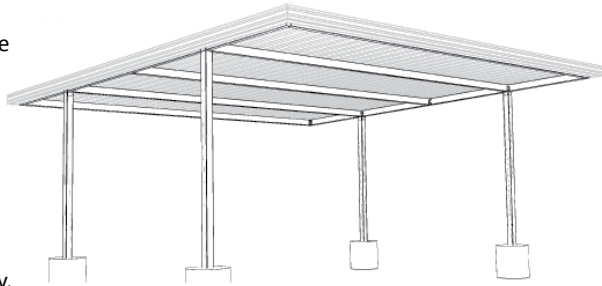
100x50x1.6/2.0

Posts: 90x90x2.0

The DuraGal Carport® uses high strength C450L0 grade galvanised GAL140™ Hollow Sections. The sections are strong and lightweight making them easy and safe to handle on site. The DuraGal Carport® is designed using a range of speciality fittings to allow safe and easy construction.

## Advantages of the DuraGal Carport®

- Material pre-cut and delivered direct to site as a flat pack, read to install.
- Reduced edges minimise the chance of vermin perching and nesting.
- No protruding fasteners.
- Easy & quick to erect.
- Visually pleasing clean lines.
- Simple Purlin fixing.
- Self-drilling screws allow speedier assembly.
- Easily cleaned.
- No welding and no time-consuming bolted connections.



# DuraGal Flooring System®

## Fully Engineered System

The DuraGal Flooring System® is a fully engineered steel flooring system\* developed to provide a termite resistant, economical and easy-to-install alternative to conventional timber bearers & joists.

## Easy to Install

The DuraGal Flooring System® uses high strength C450L0 grade galvanized GAL140™ Hollow Sections. The sections are strong and lightweight making them easy to handle on site.

GAL140™ is easy to cut and drill, and best of all the system has been designed so that it simply screws together on site using a screw gun fitted with a hex head bit.

The DuraGal Flooring System® features a range of speciality galvanized fittings designed to allow you to get on with the job easily and quickly. Fast and accurate levelling of the floor using the adjustable piers during and after construction is a great feature.

Sheet flooring can still be attached in the traditional way using building adhesive and gun-nailing. Most reputable nail tool suppliers have hardened tipped nails to suit common nail guns to sheet flooring to steel joists up to and including 2mm thick.

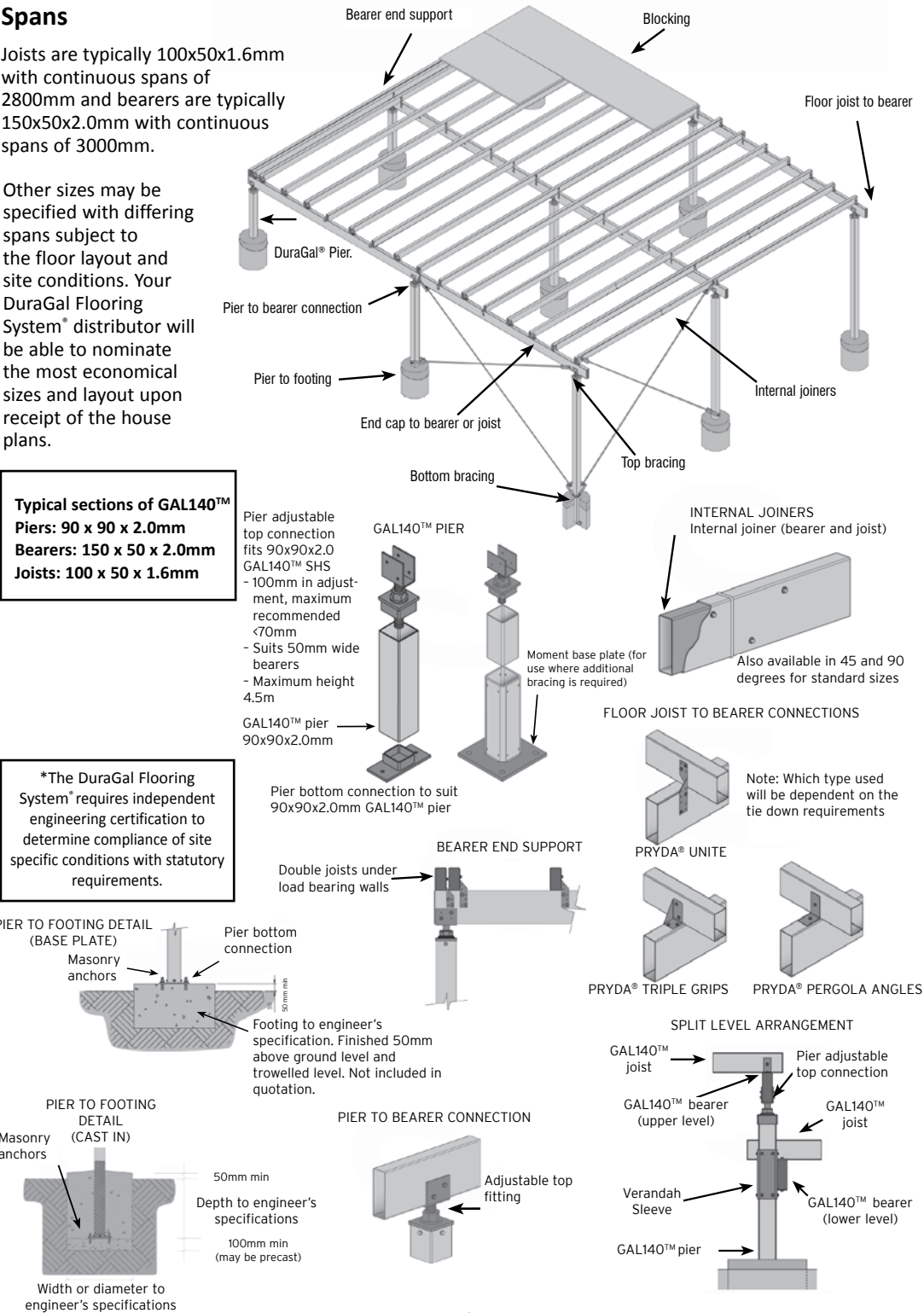
Spans

Joists are typically 100x50x1.6mm with continuous spans of 2800mm and bearers are typically 150x50x2.0mm with continuous spans of 3000mm.

Other sizes may be specified with differing spans subject to the floor layout and site conditions. Your DuraGal Flooring System® distributor will be able to nominate the most economical sizes and layout upon receipt of the house plans.

**Typical sections of GAL140™**  
**Piers: 90 x 90 x 2.0mm**  
**Bearers: 150 x 50 x 2.0mm**  
**Joists: 100 x 50 x 1.6mm**

**\*The DuraGal Flooring System® requires independent engineering certification to determine compliance of site specific conditions with statutory requirements.**



## Purlins - C Sections



| Designation | Size<br>mm x mm x mm | Mass<br>kg/m |
|-------------|----------------------|--------------|
| C 10010     | 102 x 51 x 1.0       | 1.77         |
| C 10012     | 102 x 51 x 1.2       | 2.10         |
| C 10015     | 102 x 51 x 1.5       | 2.61         |
| C 10019     | 102 x 51 x 1.9       | 3.29         |
| C 15012     | 152 x 61 x 1.2       | 2.89         |
| C 15015     | 152 x 61 x 1.5       | 3.58         |
| C 15019     | 152 x 62 x 1.9       | 4.51         |
| C 15024     | 152 x 63 x 2.4       | 5.67         |

| Designation | Size<br>mm x mm x mm | Mass<br>kg/m |
|-------------|----------------------|--------------|
| C 20015     | 203 x 71 x 1.5       | 4.49         |
| C 20019     | 203 x 73 x 1.9       | 5.73         |
| C 20024     | 203 x 75 x 2.4       | 7.20         |
| C 25019     | 254 x 73 x 1.9       | 6.50         |
| C 25024     | 254 x 74 x 2.4       | 8.16         |
| C 30024     | 300 x 100 x 2.4      | 10.1         |
| C 30030     | 300 x 101 x 3.0      | 12.6         |
| C 35030     | 350 x 126 x 3.0      | 15.1         |

## Purlins - Z Sections



| Designation | Size<br>mm x mm x mm | Mass<br>kg/m |
|-------------|----------------------|--------------|
| Z 10010     | 102 x 53 x 1.0       | 1.77         |
| Z 10012     | 102 x 53 x 1.2       | 2.10         |
| Z 10015     | 102 x 53 x 1.5       | 2.61         |
| Z 10019     | 102 x 53 x 1.9       | 3.29         |
| Z 15012     | 152 x 66 x 1.2       | 2.89         |
| Z 15015     | 152 x 66 x 1.5       | 3.58         |
| Z 15019     | 152 x 66 x 1.9       | 4.51         |
| Z 15024     | 152 x 70 x 2.4       | 5.67         |

| Designation | Size<br>mm x mm x mm | Mass<br>kg/m |
|-------------|----------------------|--------------|
| Z 20015     | 203 x 77 x 1.5       | 4.49         |
| Z 20019     | 203 x 80 x 1.9       | 5.73         |
| Z 20024     | 203 x 82 x 2.4       | 7.20         |
| Z 25019     | 254 x 79 x 1.9       | 6.50         |
| Z 25024     | 254 x 79 x 2.4       | 8.16         |
| Z 30024     | 300 x 105 x 2.4      | 10.1         |
| Z 30030     | 300 x 107 x 3.0      | 12.6         |
| Z 35030     | 350 x 134 x 3.0      | 15.1         |

Note: Purlins are made from high tensile steel to be fastened rather than welded.

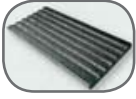
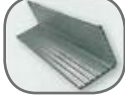
## DuraGal® Plus Lintels

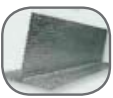
12m

| Size<br>mm x mm | Nominal<br>Thickness<br>mm | Mass<br>kg/m | Pack<br>Size<br>(Lns) |
|-----------------|----------------------------|--------------|-----------------------|
| 100 x 100       | 6.0                        | 8.92         | 16                    |
|                 | 8.0                        | 11.7         | 14                    |

| Size<br>mm x mm | Nominal<br>Thickness<br>mm | Mass<br>kg/m | Pack<br>Size<br>(Lns) |
|-----------------|----------------------------|--------------|-----------------------|
| 150 x 100       | 6.0                        | 11.3         | 16                    |
|                 | 8.0                        | 14.9         | 12                    |

# Lintels

| Max Clear Opening<br>(mm) | Flat                                                                              | Angle                                                                             |                        |                                                                                   |                          |                           |
|---------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------|-----------------------------------------------------------------------------------|--------------------------|---------------------------|
|                           | 85 x 8<br>Multi Rib                                                               | 100x100x6<br>Multi Rib                                                            | 150x100x6<br>Multi Rib | 100x75x10<br>Traditional                                                          | 150x90x10<br>Traditional | 150x100x10<br>Traditional |
| up to 600mm               | 800                                                                               |                                                                                   |                        |                                                                                   |                          |                           |
| 600 - 700                 | 900                                                                               | 900                                                                               |                        | 900                                                                               |                          |                           |
| 700 - 800                 | 1000                                                                              | 1200                                                                              |                        |                                                                                   |                          |                           |
| 800 - 900                 | 1100                                                                              | 1200                                                                              |                        | 1200                                                                              |                          |                           |
| 900 - 1000                | 1200                                                                              | 1200                                                                              |                        | 1200                                                                              |                          |                           |
| 1000 - 1100               |                                                                                   | 1500                                                                              |                        | 1500                                                                              |                          |                           |
| 1100 - 1200               |                                                                                   | 1500                                                                              |                        | 1500                                                                              |                          |                           |
| 1200 - 1500               |                                                                                   | 1800                                                                              | 1800                   | 1800                                                                              | 1800                     |                           |
| 1500 - 1800               |                                                                                   | 2100                                                                              | 2100                   | 2100                                                                              | 2100                     | 2100                      |
| 1800 - 2100               |                                                                                   | 2400                                                                              | 2400                   | 2400                                                                              | 2400                     | 2400                      |
| 2100 - 2400               |                                                                                   | 2700                                                                              | 2700                   | 2700                                                                              | 2700                     | 2700                      |
| 2400 - 2700               |                                                                                   |                                                                                   | 3000                   | 3000                                                                              | 3000                     | 3000                      |
| 2700 - 3000               |                                                                                   |                                                                                   | 3300                   |                                                                                   | 3300                     | 3300                      |
| 3000 - 3300               |                                                                                   |                                                                                   | 3600                   |                                                                                   | 3600                     | 3600                      |
| 3300 - 3600               |                                                                                   |                                                                                   | 4000                   |                                                                                   | 4000                     | 4000                      |
| 4000 - 4200               |  |  |                        |  | 4500                     | 4500                      |
| 4200 - 4500               |                                                                                   |                                                                                   |                        |                                                                                   | 5000                     | 5000                      |
| 4800 - 5100               |                                                                                   |                                                                                   |                        |                                                                                   | 5500                     | 5500                      |
| 5400 - 5700               |                                                                                   |                                                                                   |                        |                                                                                   | 6000                     | 6000                      |

| Max Clear<br>Opening (mm) | Rendabar                                                                            |                           | T-Bar                                                                               |                            |                               |                              |                              |
|---------------------------|-------------------------------------------------------------------------------------|---------------------------|-------------------------------------------------------------------------------------|----------------------------|-------------------------------|------------------------------|------------------------------|
|                           | 100 x 100 x 8<br>Rendabar                                                           | 150 x 100 x 8<br>Rendabar | 200 x 200 x 7<br>Multi Rib                                                          | 200 x 200 x 9<br>Multi Rib | 200 x 200 x 10<br>Traditional | 250/10x200/10<br>Traditional | 250/12x200/10<br>Traditional |
| up to 600mm               | 900                                                                                 |                           |                                                                                     |                            |                               |                              |                              |
| 600 - 700                 | 900                                                                                 |                           | 900                                                                                 |                            |                               |                              |                              |
| 700 - 800                 | 1200                                                                                |                           | 1200                                                                                |                            |                               |                              |                              |
| 800 - 900                 | 1200                                                                                |                           | 1200                                                                                |                            |                               |                              |                              |
| 900 - 1000                | 1200                                                                                |                           | 1200                                                                                |                            |                               |                              |                              |
| 1000 - 1100               | 1500                                                                                |                           | 1500                                                                                |                            |                               |                              |                              |
| 1100 - 1200               | 1500                                                                                |                           | 1500                                                                                |                            |                               |                              |                              |
| 1200 - 1500               | 1800                                                                                | 1800                      | 1800                                                                                |                            |                               |                              |                              |
| 1500 - 1800               | 2100                                                                                | 2100                      | 2100                                                                                |                            |                               |                              |                              |
| 1800 - 2100               | 2400                                                                                | 2400                      | 2400                                                                                |                            |                               |                              |                              |
| 2100 - 2400               |                                                                                     | 2700                      | 2700                                                                                |                            | 2700                          | 2800                         |                              |
| 2400 - 2700               |                                                                                     | 3000                      | 3000                                                                                |                            | 3000                          |                              |                              |
| 2700 - 3000               |                                                                                     | 3300                      | 3300                                                                                |                            | 3300                          |                              |                              |
| 3000 - 3300               |                                                                                     | 3600                      | 3600                                                                                | 3600                       |                               |                              |                              |
| 3300 - 3600               |                                                                                     | 4000                      | 3900                                                                                | 3900                       |                               |                              |                              |
| 3600 - 4000               |                                                                                     |                           |                                                                                     | 4200                       |                               |                              |                              |
| 4000 - 4200               |                                                                                     |                           |                                                                                     | 4500                       |                               |                              |                              |
| 4200 - 4500               |                                                                                     |                           |                                                                                     | 4800                       |                               |                              |                              |
| 4500 - 4800               |                                                                                     |                           |                                                                                     | 5100                       |                               | 5200                         | 5200                         |
| 4800 - 5100               |  |                           |  | 5400                       |                               | 5400                         | 5400                         |
| 5100 - 5400               |                                                                                     |                           |                                                                                     | 5700                       |                               | 5600                         |                              |
| 5400 - 5700               |                                                                                     |                           |                                                                                     | 6000                       |                               | 6000                         | 6000                         |
| 5700 - 6000               |                                                                                     |                           |                                                                                     | 6300                       |                               | 6300                         |                              |

## Mesh - Expanded Metal

| Reference Number     | Sheet Size<br>m x m | Nominal Opening<br>Size<br>mm x mm | Strand Width<br>mm | Mass<br>Ea/kg |
|----------------------|---------------------|------------------------------------|--------------------|---------------|
| GR50080/<br>(WK4514) | 2.0 x 1.20          | 45 x 135                           | 8.0                | 50.4          |
|                      | x 0.90              | x 135                              | 8.0                | 37.8          |
|                      | x 0.75              | x 135                              | 8.0                | 31.5          |
|                      | x 0.60              | x 135                              | 8.0                | 25.2          |
| GR50110/<br>(WK4519) | 2.3 x 1.20          | 45 x 135                           | 11.0               | 68.4          |
|                      | x 0.90              | x 135                              | 11.0               | 51.3          |
|                      | x 0.75              | x 135                              | 11.0               | 42.8          |
|                      | x 0.60              | x 135                              | 11.0               | 34.2          |
| GM50075/<br>(WK3022) | 3.0 x 1.20          | 30 x 75                            | 7.5                | 79.2          |
|                      | x 0.90              | x 75                               | 7.5                | 59.4          |
|                      | x 0.75              | x 75                               | 7.5                | 49.5          |
|                      | x 0.60              | x 75                               | 7.5                | 39.6          |
| GM50105/<br>(WK3008) | 2.3 x 1.20          | 30 x 75                            | 10.5               | 100.8         |
|                      | x 0.90              | x 75                               | 10.5               | 75.6          |
|                      | x 0.75              | x 75                               | 10.5               | 63.0          |
|                      | x 0.60              | x 75                               | 10.5               | 50.4          |

## Mesh - HANDI MESH®

| Reference Number | Sheet Size<br>m x m | Wire Spacing<br>mm x mm | Wire Diameter<br>mm | Weight<br>kg |
|------------------|---------------------|-------------------------|---------------------|--------------|
| G112AHS          | 2.0 x 1.2           | 25 x 25                 | 2.30                | 8            |
| G122AHS          | x 1.2               | 25 x 50                 | 2.30                | 6            |
| G234HS           | x 1.2               | 50 x 75                 | 3.50                | 8            |
| G224HS           | x 1.2               | 50 x 50                 | 3.50                | 10           |
| G444HS           | x 1.2               | 100 x 100               | 4.00                | 5            |

## Mesh - Trench

| Reference Number | Width<br>(metre) | Wire Spacing<br>mm x mm | Diameter<br>Long/Cross<br>mm/mm | Mass<br>kg |
|------------------|------------------|-------------------------|---------------------------------|------------|
| L8TM200          | 0.2              | 100 x 300               | 8/4                             | 6.8        |
| L8TM300          | 0.3              | x 300                   | 8/4                             | 9.2        |
| L8TM400          | 0.4              | x 300                   | 8/4                             | 11.6       |
| L8TM500          | 0.5              | x 300                   | 8/4                             | 13.9       |



## Mesh - Reinforcing

| Reference Number   | Sheet Size<br>m x m | Wire Spacing<br>mm x mm | Wire Diameter<br>mm | Weight<br>kg |
|--------------------|---------------------|-------------------------|---------------------|--------------|
| SL 81              | 6 x 2.4             | 100 x 100               | 7.60                | 105          |
| F 41               | x 2.4               | x 100                   | 4.00                | 29           |
| SL 102             | x 2.4               | 200 x 200               | 9.50                | 80           |
| SL 92              | x 2.4               | x 200                   | 8.60                | 66           |
| SL 82              | x 2.4               | x 200                   | 7.60                | 52           |
| SL 72              | x 2.4               | x 200                   | 6.75                | 41           |
| SL 62              | x 2.4               | x 200                   | 6.00                | 33           |
| SL 52 <sup>+</sup> | x 2.4               | x 200                   | 4.77                | 21           |
| SL 63*             | x 2.3               | 300 x 300               | 6.00                | 21           |
| SL 53**            | x 2.3               | x 300                   | 5.00                | 14           |

## Mesh - General Purpose

| Reference Number    | Sheet Size<br>m x m | Wire Spacing<br>mm x mm | Wire Diameter<br>mm | Weight<br>kg |
|---------------------|---------------------|-------------------------|---------------------|--------------|
| <b>Galv. Sheets</b> |                     |                         |                     |              |
| G112A               | 3 x 2.4             | 25 x 25                 | 2.50                | 23           |
| G113                | x 2.4               | x 25                    | 3.15                | 36           |
| G123                | x 2.4               | 50 x 25                 | 3.15                | 27           |
| G224                | x 2.4               | x 50                    | 4.00                | 29           |
| G225                | x 2.4               | x 50                    | 5.00                | 45           |
| G234                | x 2.4               | x 75                    | 4.00                | 24           |
| G235                | x 2.4               | x 75                    | 5.00                | 39           |
| <b>Galv. Rolls</b>  |                     |                         |                     |              |
| G232A9              | 30 x 0.9            | 50 x 75                 | 2.50                | 36           |
| G232A12             | x 1.2               | x 75                    | 2.50                | 48           |
| G232A18             | x 1.8               | x 75                    | 2.50                | 71           |
| G442A9              | x 0.9               | 100 x 100               | 2.50                | 22           |
| G442A12             | x 1.2               | x 100                   | 2.50                | 29           |
| G442A18             | x 1.8               | x 100                   | 2.50                | 42           |

## Deformed Bar



| Reference Number | Diameter<br>mm | Mass<br>kg/m | Metres per<br>Tonne | Reference Number | Diameter<br>mm | Mass<br>kg/m | Metres per<br>Tonne |
|------------------|----------------|--------------|---------------------|------------------|----------------|--------------|---------------------|
| N10S             | 10             | 0.63         | 1582                | N28S             | 28             | 4.95         | 202                 |
| N12S             | 12             | 0.91         | 1099                | N32S             | 32             | 6.47         | 155                 |
| N16S             | 16             | 1.62         | 617                 | N36S             | 36             | 8.91         | 122                 |
| N20S             | 20             | 2.53         | 395                 | N40S             | 40             | 10.11        | 99                  |
| N24S             | 24             | 3.64         | 275                 |                  |                |              |                     |

\*Only available in WA \*Smooth round wire

# Geometry & Mensuration

| Shape                                    | Area or Volume                | Formulae                                                                                                                                  | Results - Area or Volume                                                                                                                              |
|------------------------------------------|-------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| Rectangles<br>Squares<br>Cubes           | Area<br>Area<br>Volume        | Multiply length by width<br>Multiply length by width<br>Length x Width x Height                                                           | $A (m) \times B (m) = \text{Square metres}$<br>$A (m) \times B (m) = \text{Square metres}$<br>$A (m) \times B (m) \times H (m) = \text{Cubic metres}$ |
| Circles<br>Circles<br>Sector of a circle | Circumference<br>Area<br>Area | Multiply diameter by Pi (or 3.142858)<br>$\text{Pi} \times \text{Radius} \times \text{Radius}$ [or $R^2$ ]<br>Length of Arc x Half Radius | $D (m) \times \text{Pi} = \text{metres}$<br>$(R^2) \times \text{Pi} = \text{Square metres}$<br>$A (m) \times R/2 = \text{Square metres}$              |
| Triangles                                | Area                          | $\text{Base}/2 \times \text{Height}$                                                                                                      | $B/2 (m) \times H = \text{Square metres}$                                                                                                             |
| Ellipse                                  | Area                          | Long axis x Short axis x 0.7854                                                                                                           | $D1 (m) \times D2 (m) \times 0.7854 = \text{Square metres}$                                                                                           |
| Ellipse                                  | Volume                        | Long axis x Short axis x 0.7854 x Length                                                                                                  | $D1 (m) \times D2 (m) \times 0.7854 \times L = \text{Square metres}$                                                                                  |
| Cylinder<br>Cylinder                     | Area<br>Volume                | Circumference of base x Height<br>Area of base x Height                                                                                   | $D (m) \times \text{Pi} \times H (m) = \text{Square metres}$<br>$(R^2) \times \text{Pi} \times H (m) = \text{Cubic metres}$                           |
| Sphere<br>Sphere                         | Area<br>Volume                | Diameter x Diameter x Pi<br>Diameter x Diameter x Diameter x 0.5236                                                                       | $D (m) \times D (m) \times \text{Pi} = \text{Square metres}$<br>$D (m) \times D (m) \times D (m) \times 0.5236 = \text{Cubic metres}$                 |
| Pyramid                                  | Area                          | Perimeter of base x Slant Height/3                                                                                                        | $[A (m) + B (m) \times 2 \times \text{Slant height}]/3 = \text{Square metres}$                                                                        |
| Pyramid                                  | Volume                        | Area of base x Vertical Height/3                                                                                                          | $[A (m) + B (m) \times H (m)]/3 = \text{Cubic metres}$                                                                                                |

## Handy Tips

To calculate the mass of steel circular hollow sections (CHS) (as used in Australian Standards AS 1163)

Circular sections

Mass = (OD - wt) x wt x 0.0246615.

where: Mass = mass/metre kg/m  
OD = outside diameter mm  
wt = section thickness mm

To calculate the mass of steel plate sections

Mass = t x 7.850 x (L x W)

where: Mass = kg  
t = thickness of plate mm  
L = length of plate m  
W = width of plate m

To calculate the mass for Floor plate, add 2 kg/m<sup>2</sup>

To calculate the mass of flats, squares and rounds.

Flats: Width (mm) x Thickness (mm) x 0.00785 = kg/m

Squares: Size (mm<sup>2</sup>) x 0.00785 = kg/m

Rounds: Diameter (mm<sup>2</sup>) x 0.006165 = kg/m

To determine the length of conveyor belting

Measure in inches from the outside of the roll to the opposite side of the centre opening **S**. Count the number of layers or turns of belt **N**.

**C** is constant = 0.2618

$L = S \times N \times C = \text{Length in feet}/3.28 = \text{metres}$

eg. 26" x 61 x 0.2618 = 415.22' divide by 3.28 = 126.6m

| Property of Steel                | Symbol | Value                          |
|----------------------------------|--------|--------------------------------|
| Young's Modulus of Elasticity    | E      | 200 x 10 <sup>3</sup> MPa      |
| Shear Modulus of Elasticity      | G      | 80 x 10 <sup>3</sup> MPa       |
| Density                          | ρ      | 7850 kg/m <sup>3</sup>         |
| Poisson's Ratio                  | ν      | 0.25                           |
| Coefficient of Thermal Expansion | α      | 11.7 x 10 <sup>-6</sup> per °C |

## Gauge Conversions

### Conversion Factors

| mm    | Gauge | IMPERIAL |      |
|-------|-------|----------|------|
|       |       | Decimal  | inch |
| 0.40  | 26    |          |      |
| 0.60  | 24    |          |      |
| 0.80  | 22    | 0.032    | 1/32 |
| 1.00  | 20    |          |      |
| 1.20  | 18    | 0.047    | 3/64 |
| 1.40  | 17    | 0.055    |      |
| 1.60  | 16    | 0.063    | 1/16 |
| 1.80  | 15    | 0.071    |      |
| 2.00  | 14    | 0.080    | 5/64 |
| 2.30  | 13    | 0.092    | 3/32 |
| 2.50  | 12    | 0.098    |      |
| 2.80  | 11    | 0.110    |      |
| 3.00  | 10    | 1.125    | 1/8  |
| 3.50  | 9     | 0.138    |      |
| 4.00  | 8     | 0.160    | 5/32 |
| 5.00  | 6     | 0.197    | 3/16 |
| 6.00  | 4     | 0.236    |      |
| 6.30  | 3     | 0.250    | 1/4  |
| 8.00  | 2     | 0.315    | 5/16 |
| 9.00  | 1     | 0.354    |      |
| 10.00 | 0     | 0.394    | 3/8  |
| 12.70 |       | 0.500    | 1/2  |
| 16.00 |       | 0.625    | 5/8  |
| 19.00 |       | 0.750    | 3/4  |
| 22.00 |       | 0.875    | 7/8  |
| 25.40 |       | 1.000    | 1    |

## General Information: Pipe & RHS

### Colour Code: RHS

| COLOUR          | WALL THICKNESS |       |
|-----------------|----------------|-------|
|                 | mm             | inch  |
| Purple          | 1.6            | 0.063 |
| Chocolate Brown | 1.8            | 0.072 |
| Yellow          | 2.0            | 0.080 |
| Silver          | 2.3            | 0.091 |
| Pink            | 2.5            | 0.098 |
| Gold            | 2.8            | 0.110 |
| Dark blue       | 3.0            | 0.118 |
| Grey            | 3.5            | 0.138 |
| Green           | 4.0            | 0.160 |
| Orange          | 5.0            | 0.197 |
| White           | 6.0            | 0.236 |
| Pink            | 7.0            | 0.276 |
| Red             | 8.0            | 0.315 |
| Purple          | 9.0            | 0.354 |

### Colour Code: Pipe

| Colour     | Gauge       |
|------------|-------------|
| Green end  | Extra light |
| Yellow end | Light       |
| Blue band  | Medium      |
| Red band   | Heavy       |
| White band | Extra heavy |

# Telescoping RHS

| Female (Outer) |    |    | Nominal Clearance |      | Male (Inner) |    |
|----------------|----|----|-------------------|------|--------------|----|
| d              | b  | t  | Top               | Side | d            | b  |
| mm             | mm | mm | mm                | mm   | mm           | mm |

## SQUARE HOLLOW SECTIONS

| 15 | 15 | 1.8 | NO SECTION AVAILABLE |      |    |    |
|----|----|-----|----------------------|------|----|----|
| 20 | 20 | 1.6 | 1.8                  | 1.8  | 15 | 15 |
| 25 | 25 | 1.6 | 1.8                  | 1.8  | 20 | 20 |
| 25 | 25 | 2.0 | 1.0                  | 1.0  | 20 | 20 |
| 25 | 25 | 2.5 | 0.0                  | 0.0  | 20 | 20 |
| 30 | 30 | 1.6 | 1.8                  | 1.8  | 25 | 25 |
| 30 | 30 | 2.0 | 1.0                  | 1.0  | 25 | 25 |
| 35 | 35 | 1.6 | 1.8                  | 1.8  | 30 | 30 |
| 35 | 35 | 2.0 | 1.0                  | 1.0  | 30 | 30 |
| 35 | 35 | 2.5 | 0.0                  | 0.0  | 30 | 30 |
| 35 | 35 | 3.0 | 4.0                  | 4.0  | 25 | 25 |
| 40 | 40 | 1.6 | 1.8                  | 1.8  | 35 | 35 |
| 40 | 40 | 2.0 | 1.0                  | 1.0  | 35 | 35 |
| 40 | 40 | 2.5 | 0.0                  | 0.0  | 35 | 35 |
| 40 | 40 | 3.0 | 4.0                  | 4.0  | 30 | 30 |
| 40 | 40 | 4.0 | 2.0                  | 2.0  | 30 | 30 |
| 50 | 50 | 1.6 | 6.8                  | 6.8  | 40 | 40 |
| 50 | 50 | 2.0 | 6.0                  | 6.0  | 40 | 40 |
| 50 | 50 | 2.5 | 5.0                  | 5.0  | 40 | 40 |
| 50 | 50 | 3.0 | 4.0                  | 4.0  | 40 | 40 |
| 50 | 50 | 4.0 | 2.0                  | 2.0  | 40 | 40 |
| 50 | 50 | 5.0 | 0.0                  | 0.0  | 40 | 40 |
| 65 | 65 | 1.6 | 11.8                 | 11.8 | 50 | 50 |
| 65 | 65 | 2.0 | 11.0                 | 11.0 | 50 | 50 |
| 65 | 65 | 2.5 | 10.0                 | 10.0 | 50 | 50 |
| 65 | 65 | 3.0 | 9.0                  | 9.0  | 50 | 50 |
| 65 | 65 | 4.0 | 7.0                  | 7.0  | 50 | 50 |
| 65 | 65 | 5.0 | 5.0                  | 5.0  | 50 | 50 |
| 65 | 65 | 6.0 | 3.0                  | 3.0  | 50 | 50 |
| 75 | 75 | 2.0 | 6.0                  | 6.0  | 65 | 65 |
| 75 | 75 | 2.5 | 5.0                  | 5.0  | 65 | 65 |
| 75 | 75 | 3.0 | 4.0                  | 4.0  | 65 | 65 |
| 75 | 75 | 3.5 | 3.0                  | 3.0  | 65 | 65 |
| 75 | 75 | 4.0 | 2.0                  | 2.0  | 65 | 65 |
| 75 | 75 | 5.0 | 0.0                  | 0.0  | 65 | 65 |
| 75 | 75 | 6.0 | 13.0                 | 13.0 | 50 | 50 |

| Female (Outer) |    |    | Nominal Clearance |      | Male (Inner) |    |
|----------------|----|----|-------------------|------|--------------|----|
| d              | b  | t  | Top               | Side | d            | b  |
| mm             | mm | mm | mm                | mm   | mm           | mm |

|     |     |     |      |      |     |     |
|-----|-----|-----|------|------|-----|-----|
| 89  | 89  | 3.5 | 7.0  | 7.0  | 75  | 75  |
| 89  | 89  | 5.0 | 4.0  | 4.0  | 75  | 75  |
| 89  | 89  | 6.0 | 2.0  | 2.0  | 75  | 75  |
| 90  | 90  | 2.0 | 11.0 | 11.0 | 75  | 75  |
| 90  | 90  | 2.5 | 10.0 | 10.0 | 75  | 75  |
| 100 | 100 | 2.0 | 7.1  | 7.1  | 89  | 89  |
| 100 | 100 | 2.5 | 6.1  | 6.1  | 89  | 89  |
| 100 | 100 | 3.0 | 5.1  | 5.1  | 89  | 89  |
| 100 | 100 | 4.0 | 3.1  | 3.1  | 89  | 89  |
| 100 | 100 | 5.0 | 1.1  | 1.1  | 89  | 89  |
| 100 | 100 | 6.0 | 13.0 | 13.0 | 75  | 75  |
| 100 | 100 | 9.0 | 7.0  | 7.0  | 75  | 75  |
| 125 | 125 | 4.0 | 17.0 | 17.0 | 100 | 100 |
| 125 | 125 | 5.0 | 15.0 | 15.0 | 100 | 100 |
| 125 | 125 | 6.0 | 13.0 | 13.0 | 100 | 100 |
| 125 | 125 | 9.0 | 7.0  | 7.0  | 100 | 100 |
| 150 | 150 | 5.0 | 15.0 | 15.0 | 125 | 125 |
| 150 | 150 | 6.0 | 13.0 | 13.0 | 125 | 125 |
| 150 | 150 | 9.0 | 7.0  | 7.0  | 125 | 125 |
| 200 | 200 | 5.0 | 40.0 | 40.0 | 150 | 150 |
| 200 | 200 | 6.0 | 38.0 | 38.0 | 150 | 150 |
| 200 | 200 | 9.0 | 32.0 | 32.0 | 150 | 150 |
| 250 | 250 | 6.0 | 38.0 | 38.0 | 200 | 200 |
| 250 | 250 | 9.0 | 32.0 | 32.0 | 200 | 200 |

## RECTANGULAR HOLLOW SECTIONS

|    |    |     |                      |     |    |    |
|----|----|-----|----------------------|-----|----|----|
| 50 | 20 | 1.6 | NO SECTION AVAILABLE |     |    |    |
| 50 | 20 | 2.0 |                      |     |    |    |
| 50 | 20 | 2.5 |                      |     |    |    |
| 50 | 20 | 3.0 |                      |     |    |    |
| 50 | 25 | 1.6 | NO SECTION AVAILABLE |     |    |    |
| 50 | 25 | 2.0 |                      |     |    |    |
| 50 | 25 | 2.5 |                      |     |    |    |
| 50 | 25 | 3.0 |                      |     |    |    |
| 65 | 35 | 2.0 | 11.0                 | 6.0 | 50 | 25 |
| 65 | 35 | 2.5 | 10.0                 | 5.0 | 50 | 25 |
| 65 | 35 | 3.0 | 9.0                  | 4.0 | 50 | 25 |
| 65 | 35 | 4.0 | 7.0                  | 2.0 | 50 | 25 |
| 75 | 25 | 1.6 | 21.8                 | 1.8 | 50 | 20 |
| 75 | 25 | 2.0 | 21.0                 | 1.0 | 50 | 20 |
| 75 | 25 | 2.5 | 20.0                 | 0.0 | 50 | 20 |

| Female (Outer) |    |    | Nominal Clearance |      | Male (Inner) |    |
|----------------|----|----|-------------------|------|--------------|----|
| d              | b  | t  | Top               | Side | d            | b  |
| mm             | mm | mm | mm                | mm   | mm           | mm |

|     |     |     |      |      |     |     |
|-----|-----|-----|------|------|-----|-----|
| 75  | 50  | 1.6 | 6.8  | 11.8 | 65  | 35  |
| 75  | 50  | 2.0 | 6.0  | 11.0 | 65  | 35  |
| 75  | 50  | 2.5 | 5.0  | 10.0 | 65  | 35  |
| 75  | 50  | 3.0 | 4.0  | 9.0  | 65  | 35  |
| 75  | 50  | 4.0 | 2.0  | 7.0  | 65  | 35  |
| 75  | 50  | 5.0 | 0.0  | 5.0  | 65  | 35  |
| 75  | 50  | 6.0 | 13.0 | 13.0 | 50  | 25  |
| 100 | 50  | 1.6 | 20.8 | 8.8  | 76  | 38  |
| 100 | 50  | 2.0 | 20.0 | 8.0  | 76  | 38  |
| 100 | 50  | 2.5 | 19.0 | 7.0  | 76  | 38  |
| 100 | 50  | 3.0 | 18.0 | 6.0  | 76  | 38  |
| 100 | 50  | 3.5 | 17.0 | 5.0  | 76  | 38  |
| 100 | 50  | 4.0 | 16.0 | 4.0  | 76  | 38  |
| 100 | 50  | 5.0 | 14.0 | 2.0  | 76  | 38  |
| 100 | 50  | 6.0 | 12.0 | 0.0  | 76  | 38  |
| 125 | 75  | 2.0 | 21.0 | 21.0 | 100 | 50  |
| 125 | 75  | 2.5 | 20.0 | 20.0 | 100 | 50  |
| 125 | 75  | 3.0 | 19.0 | 19.0 | 100 | 50  |
| 125 | 75  | 4.0 | 17.0 | 17.0 | 100 | 50  |
| 125 | 75  | 5.0 | 15.0 | 15.0 | 100 | 50  |
| 125 | 75  | 6.0 | 13.0 | 13.0 | 100 | 50  |
| 150 | 100 | 4.0 | 15.0 | 41.0 | 127 | 51  |
| 150 | 100 | 5.0 | 13.0 | 39.0 | 127 | 51  |
| 150 | 100 | 6.0 | 11.0 | 37.0 | 127 | 51  |
| 150 | 100 | 9.0 | 5.0  | 31.0 | 127 | 51  |
| 200 | 100 | 4.0 | 40.0 | 16.0 | 152 | 76  |
| 200 | 100 | 5.0 | 38.0 | 14.0 | 152 | 76  |
| 200 | 100 | 6.0 | 36.0 | 12.0 | 152 | 76  |
| 200 | 100 | 9.0 | 30.0 | 6.0  | 152 | 76  |
| 250 | 150 | 5.0 | 40.0 | 40.0 | 200 | 100 |
| 250 | 150 | 6.0 | 38.0 | 38.0 | 200 | 100 |
| 250 | 150 | 9.0 | 32.0 | 32.0 | 200 | 100 |

### NOTE

RHS is not a precision tube and all dimensions shown in the chart, although in accordance with the specifications, may vary marginally within the tolerance bands permitted.

Sizes shown in bold print are sizes that provide a clearance of less than 2.0mm. The internal weld bead and variation in corner radii between sections will need to be considered when closer fits are indicated. Where telescoping over some length is desired, additional allowance may be needed for straightness. For tight fits it is recommended that some form of testing be carried out prior to committing material.

### HOW TO USE THIS CHART

1. Select the appropriate table for the type of hollow section required. Select the size of female (or outside) member closest to your requirements for the left hand column.

2. Depending on the application select the clearance required between the two members. Members may need to slide freely inside each other, or be locked with a pin, spot welded or fixed with wedges. This means, in some cases, a

'sloppy' fit may be suitable, while for others the tightest fit possible may be more appropriate.

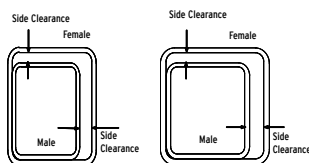
3. Having selected the most suitable clearance for your application, take the appropriate size of the male (inner) section from the right hand column, eg:

| Female Section (outer) | Clearance mm | Male Section (inner) |
|------------------------|--------------|----------------------|
| 75 x 75 x 3.0          | 4.0x4.0      | 65 x 65              |

Note that clearance is total available difference between member dimensions, not the gap on both sides.

4. Where two telescoping sections are being used, thickness should be similar and will be determined by normal structural requirements. If a third section is to be used, consideration of both clearance and thickness within the size list available may be required.

5. RHS has the obvious advantage that its shape prevents rotation of the sections. When pipe is used it may need to be fixed against twisting by welding or bolting.



6. Press Fit. For short pieces with no need for separation or sliding an interference fit can be achieved using the available ductility of the steel.

Note: Sizes where clearance is shown as 0.0 will generally require press fit.

# Telescoping CHS

| Female (Outer) Size |                                                        |                      |                                   | Male (inner) Size    |                      |                      |
|---------------------|--------------------------------------------------------|----------------------|-----------------------------------|----------------------|----------------------|----------------------|
| DN                  | Quality                                                | d <sub>o</sub><br>mm | t<br>mm                           | DN                   | d <sub>i</sub><br>mm | Min. Clearance<br>mm |
| 15                  | Light<br>Medium<br>Heavy                               | 21.3                 | x 2.0<br>2.6<br>2.3               | NO SECTION AVAILABLE |                      |                      |
| 20                  | Extra Light                                            | 26.9                 | x 2.0                             |                      |                      |                      |
| 25                  | Extra Light<br>Light<br>Medium<br>Heavy                | 33.7                 | x 2.0<br>2.6<br>3.2<br>4.0        | 15                   | 21.3                 | <b>0.4</b>           |
| 32                  | Extra Light<br>Light<br>Medium<br>Heavy                | 42.4                 | x 2.0<br>2.6<br>3.2<br>4.0        | 20                   | 26.9                 | <b>1.6</b>           |
| 40                  | Extra Light<br>Light<br>Medium<br>Heavy<br>Extra Heavy | 48.3                 | x 2.3<br>2.9<br>3.2<br>4.0<br>5.4 | 25                   | 26.9                 | <b>0.4</b>           |
| 50                  | Extra Light<br>Light<br>Medium<br>Heavy<br>Extra Heavy | 60.3                 | x 2.3<br>2.9<br>3.6<br>4.5<br>5.4 | 25                   | 21.3                 | <b>4.8</b>           |
|                     |                                                        |                      |                                   | 15                   | 21.3                 | <b>3.2</b>           |
|                     |                                                        |                      |                                   | 20                   | 26.9                 | <b>6.3</b>           |
|                     |                                                        |                      |                                   | 25                   | 33.7                 | <b>3.5</b>           |
|                     |                                                        |                      |                                   | 25                   | 33.7                 | <b>2.3</b>           |
|                     |                                                        |                      |                                   | 25                   | 33.7                 | <b>1.1</b>           |
|                     |                                                        |                      |                                   | 25                   | 33.7                 | <b>6.3</b>           |
|                     |                                                        |                      |                                   | 25                   | 33.7                 | <b>0.1</b>           |
|                     |                                                        |                      |                                   | 25                   | 33.7                 | <b>7.6</b>           |
|                     |                                                        |                      |                                   | 25                   | 33.7                 | <b>7.0</b>           |
|                     |                                                        |                      |                                   | 25                   | 33.7                 | <b>5.4</b>           |
|                     |                                                        |                      |                                   | 25                   | 33.7                 | <b>2.6</b>           |
|                     |                                                        |                      |                                   | 40                   | 48.3                 | <b>6.4</b>           |
|                     |                                                        |                      |                                   | 40                   | 48.3                 | <b>5.2</b>           |
|                     |                                                        |                      |                                   | 40                   | 48.3                 | <b>3.8</b>           |
|                     |                                                        |                      |                                   | 40                   | 48.3                 | <b>2.0</b>           |
|                     |                                                        |                      |                                   | 40                   | 48.3                 | <b>0.2</b>           |

| Female (Outer) Size |                                                                          |                      |                                          | Male (inner) Size |                      |                      |
|---------------------|--------------------------------------------------------------------------|----------------------|------------------------------------------|-------------------|----------------------|----------------------|
| DN                  | Quality                                                                  | d <sub>o</sub><br>mm | t<br>mm                                  | DN                | d <sub>i</sub><br>mm | Min. Clearance<br>mm |
| 65                  | Extra Light<br>Galtube ® Plus<br>Light<br>Medium<br>Heavy<br>Extra Heavy | 76.1                 | x 2.3<br>2.6<br>3.2<br>3.6<br>4.5<br>5.9 | 50                | 60.3                 | 9.8                  |
|                     |                                                                          |                      |                                          | 50                | 60.3                 | 9.2                  |
|                     |                                                                          |                      |                                          | 50                | 60.3                 | 8.0                  |
|                     |                                                                          |                      |                                          | 50                | 60.3                 | 7.2                  |
|                     |                                                                          |                      |                                          | 50                | 60.3                 | 5.4                  |
|                     |                                                                          |                      |                                          | 50                | 60.3                 | 2.6                  |
| 80                  | Extra Light<br>Light<br>Medium<br>Heavy<br>Extra Heavy                   | 88.9                 | x 2.6<br>3.2<br>4.0<br>5.0<br>5.9        | 65                | 76.1                 | 6.0                  |
|                     |                                                                          |                      |                                          | 65                | 76.1                 | 4.8                  |
|                     |                                                                          |                      |                                          | 65                | 76.1                 | 3.2                  |
|                     |                                                                          |                      |                                          | 65                | 76.1                 | <b>1.2</b>           |
|                     |                                                                          |                      |                                          | 65                | 60.3                 | 15.3                 |
| 90                  | Extra Light<br>Light<br>Medium<br>Heavy                                  | 101.6                | x 2.6<br>3.2<br>4.0<br>5.0               | 80                | 88.9                 | 5.6                  |
|                     |                                                                          |                      |                                          | 80                | 88.9                 | 4.4                  |
|                     |                                                                          |                      |                                          | 80                | 88.9                 | 2.8                  |
|                     |                                                                          |                      |                                          | 80                | 88.9                 | <b>0.8</b>           |
| 100                 | Extra Light<br>Light<br>Medium<br>Heavy                                  | 114.3                | x 3.2<br>3.6<br>4.5<br>5.4               | 90                | 101.6                | 4.1                  |
|                     |                                                                          |                      |                                          | 90                | 101.6                | 3.3                  |
|                     |                                                                          |                      |                                          | 90                | 101.6                | <b>1.5</b>           |
|                     |                                                                          |                      |                                          | 90                | 88.9                 | 12.6                 |
| 125                 | Extra Light<br>Light<br>Medium<br>Heavy                                  | 139.7                | x 3.0<br>3.5<br>5.0<br>5.4               | 100               | 114.3                | 16.9                 |
|                     |                                                                          |                      |                                          | 100               | 114.3                | 15.9                 |
|                     |                                                                          |                      |                                          | 100               | 114.3                | 12.9                 |
|                     |                                                                          |                      |                                          | 100               | 114.3                | 12.1                 |
| 150                 | Light<br>Medium<br>Heavy                                                 | 165.1                | x 3.5<br>5.0<br>5.4                      | 125               | 139.7                | 15.4                 |
|                     |                                                                          |                      |                                          | 125               | 139.7                | 12.4                 |
|                     |                                                                          |                      |                                          | 125               | 139.7                | 11.6                 |

## NOTE

Clearance = (AST163 Min d<sub>i</sub> - d<sub>t</sub>) - (AST163 Max d<sub>i</sub>)

CHS is not a precision tube and all dimensions shown in the chart, although in accordance with the specifications, may vary marginally within the tolerance bands permitted.

Sizes shown in bold print are sizes that provide a clearance of less than 2.0mm. The internal weld bead will need to be considered when closer fits are indicated. Where telescoping over some length is desired, additional allowance may be needed for straightness. For tight fits it is recommended that some form of testing be carried out prior to committing material.

## HOW TO USE THIS CHART

1. Select the size of female (or outer) member closest to your requirements from the left hand column.
2. Depending on the application select the clearance required between the two members. Members may need to slide freely inside each other, or be locked with a pin,

spot welded or fixed with wedges. This means, in some cases, a 'sloppy' fit may be suitable, while for others the tightest fit possible may be more appropriate. (See Note 6 Press Fit).

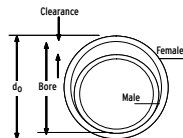
3. Having selected the most suitable clearance for your application, take the appropriate size of the male (inner) section from the centre column, eg:

| Female Section (outer) | Male Section (inner) | Clearance mm |
|------------------------|----------------------|--------------|
| 76.1x5.9               | 60.3                 | 2.6          |

Note that clearance is total available difference between member dimensions, not the gap on both sides.

4. Where two telescoping sections are being used, thickness should be similar and will be determined by normal structural requirements. If a third section is the be used, consideration of both clearance and thickness within the size list available may be required.

5. Pipe may need to be fixed against twisting by welding or bolting.



6. Press Fit. For short pieces with no need for separation or sliding an interference fit can be achieved using the available ductility of the steel.

## Australian Standards

|             |                                                                      |               |                                                             |
|-------------|----------------------------------------------------------------------|---------------|-------------------------------------------------------------|
| AS 1074     | Steel tube and tubular for ordinary service                          | AS/NZS 1163   | Structural steel hollow sections                            |
| AS/NZS 4600 | Cold formed steel structures                                         | AS/NZS 3679.1 | Structural steel - hot rolled bars & sections               |
| AS/NZS 1594 | Hot-rolled steel flat products                                       | AS/NZS 3679.2 | Structural steels - Welded I sections                       |
| AS 1397     | Steel sheet & strip- hot dipped zinc coated or aluminium/zinc coated | AS/NZS 3678   | Structural steel- Hot rolled plates, floor plates and slabs |
| AS 1442     | Carbon steels and carbon manganese steels-Hot rolled bars            | AS 1303       | Steel reinforcing wire for concrete                         |
| AS 1450     | Steel tubes for Mechanical Purposes                                  |               |                                                             |

## Mass Conversions kilos/pounds

| Kilogram kg | Pound lb | Pound lb | Kilogram kg |
|-------------|----------|----------|-------------|
| 1           | 2.205    | 1        | 0.4536      |
| 2           | 4.409    | 2        | 0.9072      |
| 3           | 6.614    | 3        | 1.361       |
| 4           | 8.818    | 4        | 1.814       |
| 5           | 11.02    | 5        | 2.268       |
| 6           | 13.23    | 6        | 2.722       |
| 7           | 15.43    | 7        | 3.175       |
| 8           | 17.64    | 8        | 3.629       |
| 9           | 19.84    | 9        | 4.082       |
| 10          | 22.05    | 10       | 4.536       |
| 50          | 110.2    | 50       | 22.68       |
| 100         | 220.5    | 100      | 45.36       |

## Mass Conversions tonnes/tons

| Tonnes | Tons   | Tons | Tonnes |
|--------|--------|------|--------|
| 1      | 0.9842 | 1    | 1.016  |
| 2      | 1.968  | 2    | 2.032  |
| 3      | 2.953  | 3    | 3.048  |
| 4      | 3.937  | 4    | 4.064  |
| 5      | 4.921  | 5    | 5.080  |
| 6      | 5.905  | 6    | 6.096  |
| 7      | 6.889  | 7    | 7.112  |
| 8      | 7.874  | 8    | 8.128  |
| 9      | 8.858  | 9    | 9.144  |
| 10     | 9.842  | 10   | 10.16  |
| 50     | 49.21  | 50   | 50.80  |
| 100    | 98.42  | 100  | 101.60 |

## Length Conversions cms/inches

| centimetres (cm) | inches (in) | inches (in) | centimetres (cm) |
|------------------|-------------|-------------|------------------|
| 1                | 0.3937      | 1           | 2.54             |
| 2                | 0.7874      | 2           | 5.08             |
| 3                | 1.1810      | 3           | 7.62             |
| 4                | 1.5750      | 4           | 10.16            |
| 5                | 1.9690      | 5           | 12.70            |
| 6                | 2.3620      | 6           | 15.24            |
| 7                | 2.7559      | 7           | 17.78            |
| 8                | 3.1500      | 8           | 20.32            |
| 9                | 3.5430      | 9           | 22.86            |
| 10               | 3.9370      | 10          | 25.40            |
| 50               | 19.690      | 50          | 127.0            |
| 100              | 39.370      | 100         | 254.0            |

## Length Conversions km/miles

| Kilometre (km) | Miles  | Miles | Kilometre (km) |
|----------------|--------|-------|----------------|
| 1              | 0.6214 | 1     | 1.609          |
| 2              | 1.243  | 2     | 3.219          |
| 3              | 1.864  | 3     | 4.828          |
| 4              | 2.485  | 4     | 6.437          |
| 5              | 3.107  | 5     | 8.047          |
| 6              | 3.728  | 6     | 9.656          |
| 7              | 4.350  | 7     | 11.27          |
| 8              | 4.971  | 8     | 12.87          |
| 9              | 5.592  | 9     | 14.48          |
| 10             | 6.214  | 10    | 16.09          |
| 50             | 31.07  | 50    | 80.47          |
| 100            | 62.14  | 100   | 160.90         |

## Pressure Conversion psi/MPa

| psi  | MPa      | MPa | psi   |
|------|----------|-----|-------|
| 1    | 0.006895 | 0.1 | 14.5  |
| 50   | 0.3447   | 0.2 | 29.01 |
| 100  | 0.6895   | 0.3 | 43.51 |
| 200  | 1.379    | 0.4 | 58.02 |
| 300  | 2.068    | 0.5 | 72.52 |
| 400  | 2.758    | 0.6 | 87.02 |
| 500  | 3.447    | 1.0 | 145.0 |
| 600  | 4.137    | 1.5 | 217.6 |
| 700  | 4.826    | 2.0 | 290.1 |
| 800  | 5.516    | 2.5 | 362.6 |
| 900  | 6.205    | 3.0 | 435.1 |
| 1000 | 6.895    | 3.5 | 507.6 |
| 1100 | 7.584    | 4.0 | 580.2 |
| 1200 | 8.274    | 4.5 | 652.7 |
| 1300 | 8.963    | 5.0 | 725.2 |
| 1400 | 9.653    | 5.5 | 797.7 |

## Pressure Conversion psi/MPa

| psi  | MPa   | MPa  | psi   |
|------|-------|------|-------|
| 1500 | 10.34 | 6.0  | 870.2 |
| 1600 | 11.03 | 6.5  | 942.7 |
| 1700 | 11.72 | 7.0  | 1015  |
| 1800 | 12.41 | 8.0  | 1160  |
| 1900 | 13.10 | 9.0  | 1305  |
| 2000 | 13.79 | 10.0 | 1450  |
| 2100 | 14.48 | 11.0 | 1595  |
| 2200 | 15.17 | 12.0 | 1740  |
| 2300 | 15.86 | 13.0 | 1885  |
| 2400 | 16.55 | 14.0 | 2031  |
| 2500 | 17.24 | 15.0 | 2176  |
| 2600 | 17.93 | 16.0 | 2321  |
| 2700 | 18.62 | 17.0 | 2466  |
| 2800 | 19.31 | 18.0 | 2611  |
| 2900 | 19.99 | 19.0 | 2756  |
| 3000 | 20.68 | 20.0 | 2901  |

# Useful conversion factors Imperial to Metric (Approximate)

"SI" denotes the INTERNATIONAL SYSTEM of Metric Units adopted in Australia

| THIS TABLE MAY BE USED IN TWO WAYS:                                                                                                                                                                                                                                                                                                                   |                                                     |         |                   | MULTIPLY COLUMN "A" BY COLUMN "B" TO OBTAIN COLUMN "C"<br>ALTERNATIVELY<br>DIVIDE COLUMN "C" BY COLUMN "B" TO OBTAIN COLUMN "A"                                                                                                                                                                                                                 |                                                                                |           |                                                |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------|---------|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------|-----------|------------------------------------------------|
| REMARKS                                                                                                                                                                                                                                                                                                                                               | A<br>MULTIPLY                                       | B<br>BY | C<br>TO OBTAIN    | REMARKS                                                                                                                                                                                                                                                                                                                                         | A<br>MULTIPLY                                                                  | B<br>BY   | C<br>TO OBTAIN                                 |
| <b>AREA: Symbol m<sup>2</sup></b><br><br>The SI unit of AREA is the SQUARE METRE.                                                                                                                                                                                                                                                                     | Square inches                                       | 645.16  | mm <sup>2</sup>   | <b>POWER: Symbol W</b><br><br>The SI unit of POWER is the WATT.                                                                                                                                                                                                                                                                                 | Btu per hour (Btu/hr)                                                          | 0.2931    | W                                              |
|                                                                                                                                                                                                                                                                                                                                                       | Square feet                                         | 0.929   | m <sup>2</sup>    |                                                                                                                                                                                                                                                                                                                                                 | horsepower (hp)                                                                | 0.7457    | kW                                             |
|                                                                                                                                                                                                                                                                                                                                                       | Square yards                                        | 0.836   | m <sup>2</sup>    |                                                                                                                                                                                                                                                                                                                                                 | ton of refrigeration                                                           | 3.517     | kW                                             |
|                                                                                                                                                                                                                                                                                                                                                       | Acre                                                | 4047    | m <sup>2</sup>    |                                                                                                                                                                                                                                                                                                                                                 |                                                                                |           |                                                |
|                                                                                                                                                                                                                                                                                                                                                       | Hectare (ha)                                        | 10 000  | m <sup>2</sup>    |                                                                                                                                                                                                                                                                                                                                                 |                                                                                |           |                                                |
| <b>DENSITY: Symbol kg/m<sup>3</sup></b><br><br>The SI unit of DENSITY is the kilogram per cubic metre.                                                                                                                                                                                                                                                | lb/in <sup>3</sup>                                  | 27.68   | t/m <sup>3</sup>  | <b>PRESSURE: Symbol Pa</b><br><br>The SI unit of PRESSURE or stress is the NEWTON PER SQUARE METRE which has been given the name PASCAL.<br><br>1 N/m <sup>2</sup> = 1 Pa = 0.000145lb/in <sup>2</sup><br><br>A pascal is the pressure or stress which arises when a force of one newton is applied uniformly over an area of one square metre. | lb/in <sup>2</sup>                                                             | 6.895     | kPa                                            |
|                                                                                                                                                                                                                                                                                                                                                       | lb/ft <sup>3</sup>                                  | 16.02   | kg/m <sup>3</sup> |                                                                                                                                                                                                                                                                                                                                                 | kip/in <sup>2</sup> (1000 psi)                                                 | 6.895     | MPa                                            |
|                                                                                                                                                                                                                                                                                                                                                       | lb/yd <sup>3</sup>                                  | 0.5933  | kg/m <sup>3</sup> |                                                                                                                                                                                                                                                                                                                                                 | lb/ft <sup>2</sup>                                                             | 47.88     | Pa                                             |
| <b>ENERGY: Symbol J</b><br><br>The SI unit of ENERGY is the JOULE.<br><br>1 J = 1 N.m<br><br>A joule is the energy expended or the work done when a force of one newton moves the point of application a distance of one metre in the direction of that force.                                                                                        |                                                     |         |                   |                                                                                                                                                                                                                                                                                                                                                 | kgf/cm <sup>2</sup>                                                            | 98.07     | kPa                                            |
|                                                                                                                                                                                                                                                                                                                                                       |                                                     |         |                   |                                                                                                                                                                                                                                                                                                                                                 | bar                                                                            | 100       | kPa                                            |
|                                                                                                                                                                                                                                                                                                                                                       | <b>1. ELECTRICAL ENERGY</b><br>kilowatt hour (kW.h) | 3.6     | MJ                |                                                                                                                                                                                                                                                                                                                                                 | Vertical column (head) of water. (H <sub>2</sub> O at 20°C)<br>metres of water | 9.79      | kPa                                            |
|                                                                                                                                                                                                                                                                                                                                                       | <b>2. HEAT ENERGY</b><br>British thermal unit (Btu) | 1.055   | kJ                |                                                                                                                                                                                                                                                                                                                                                 | feet of water                                                                  | 2.984     | kPa                                            |
|                                                                                                                                                                                                                                                                                                                                                       | Btu/gal                                             | 0.2321  | kJ/L ††           |                                                                                                                                                                                                                                                                                                                                                 | torr (vacuum)                                                                  | 0.1333    | kPa                                            |
|                                                                                                                                                                                                                                                                                                                                                       | Btu/ft <sup>3</sup>                                 | 37.26   | kJ/m <sup>3</sup> |                                                                                                                                                                                                                                                                                                                                                 | 1mm Hg. (mercury)                                                              | 0.1333    | kPa                                            |
|                                                                                                                                                                                                                                                                                                                                                       |                                                     |         |                   |                                                                                                                                                                                                                                                                                                                                                 | 1in. Hg. (mercury)                                                             | 3.386     | kPa                                            |
|                                                                                                                                                                                                                                                                                                                                                       | <b>3. MECHANICAL ENERGY</b><br><u>foot poundal</u>  |         |                   |                                                                                                                                                                                                                                                                                                                                                 | atmosphere (atm)                                                               | 101.325   | kPa                                            |
|                                                                                                                                                                                                                                                                                                                                                       | ft.pdl                                              | .04214  | J                 |                                                                                                                                                                                                                                                                                                                                                 | microns                                                                        | 0.133     | Pa                                             |
|                                                                                                                                                                                                                                                                                                                                                       | <u>inch pound-force</u>                             |         |                   | <b>TORQUE: Symbol N.m (Moment of force)</b><br><br>The SI unit of TORQUE is the NEWTON METRE.<br>The newton metre is the work done when a force of one newton moves the point of application a distance of one metre in the direction of that force.<br>1 N.m = 1 J                                                                             | <u>poundal-foot</u>                                                            |           |                                                |
| <b>FORCE: Symbol N (NEWTON)</b><br>The SI unit of FORCE (kg.m/s <sup>2</sup> ) has been given the special name – NEWTON.<br><br>The newton is the force which when applied to a body having a mass of one kilogram, causes an acceleration of one metre per second in the direction of application of the force.                                      | <u>in. lbf</u>                                      | 0.1130  | J                 |                                                                                                                                                                                                                                                                                                                                                 | pdl.ft                                                                         | .04214    | N.m                                            |
|                                                                                                                                                                                                                                                                                                                                                       | <u>foot pound-force</u>                             | 1.356   | J                 |                                                                                                                                                                                                                                                                                                                                                 | <u>pound-force inch</u>                                                        | 0.1130    | N.m                                            |
|                                                                                                                                                                                                                                                                                                                                                       | ft.lbf                                              | 1.356   | J                 |                                                                                                                                                                                                                                                                                                                                                 | lbf.inch                                                                       | 1.152     | kgf.cm                                         |
|                                                                                                                                                                                                                                                                                                                                                       | <u>foot ton force</u>                               | 3.037   | kJ                |                                                                                                                                                                                                                                                                                                                                                 | <u>pound-force feet</u>                                                        |           |                                                |
|                                                                                                                                                                                                                                                                                                                                                       | ft.tonf                                             |         |                   |                                                                                                                                                                                                                                                                                                                                                 | lbf.ft                                                                         | 1.356     | N.m                                            |
|                                                                                                                                                                                                                                                                                                                                                       | <u>Metre kilogram</u>                               |         |                   |                                                                                                                                                                                                                                                                                                                                                 | lbf.ft                                                                         | 13.83     | kgf.cm                                         |
|                                                                                                                                                                                                                                                                                                                                                       | metre m.kgf                                         | 9.807   | J                 |                                                                                                                                                                                                                                                                                                                                                 | <u>ton-force feet</u>                                                          |           |                                                |
|                                                                                                                                                                                                                                                                                                                                                       |                                                     |         |                   |                                                                                                                                                                                                                                                                                                                                                 | tonf.ft                                                                        | 3.037     | kN.m                                           |
|                                                                                                                                                                                                                                                                                                                                                       |                                                     |         |                   |                                                                                                                                                                                                                                                                                                                                                 | <u>kilogram-force</u>                                                          |           |                                                |
|                                                                                                                                                                                                                                                                                                                                                       |                                                     |         |                   |                                                                                                                                                                                                                                                                                                                                                 | kgf.m                                                                          | 9.807     | N.m                                            |
| <b>FORCE PER UNIT LENGTH:</b><br>The SI unit is NEWTON PER METRE:<br><b>Symbol N/m</b>                                                                                                                                                                                                                                                                | Poundal (pdl)                                       | 0.1383  | N                 | <b>VELOCITY: Symbol m/s</b><br><br>The SI unit of VELOCITY is the METRE PER SECOND.                                                                                                                                                                                                                                                             | ft. per second (ft/s)                                                          | 0.3048    | m/s                                            |
|                                                                                                                                                                                                                                                                                                                                                       | Pound-force (lbf)                                   | 4.448   | N                 |                                                                                                                                                                                                                                                                                                                                                 | ft. per minute (ft/min)                                                        | 0.00508   | m/s                                            |
|                                                                                                                                                                                                                                                                                                                                                       | ton-force (tonf)                                    | 9.964   | kN                |                                                                                                                                                                                                                                                                                                                                                 | miles per hour                                                                 | 0.4470    | m/s                                            |
|                                                                                                                                                                                                                                                                                                                                                       | *kilogram-force (kgf)                               | 9.807   | N                 |                                                                                                                                                                                                                                                                                                                                                 | miles per hour                                                                 | 1.609     | km/h                                           |
|                                                                                                                                                                                                                                                                                                                                                       | *also known as kilopond (kp)                        |         |                   |                                                                                                                                                                                                                                                                                                                                                 |                                                                                |           |                                                |
|                                                                                                                                                                                                                                                                                                                                                       |                                                     |         |                   | <b>VOLUME: CAPACITY: Symbol m<sup>3</sup></b><br><br>The SI unit of VOLUME is the CUBIC METRE.                                                                                                                                                                                                                                                  | <b>DRY:</b><br>cubic inch (in <sup>3</sup> )                                   | 16387     | mm <sup>3</sup>                                |
|                                                                                                                                                                                                                                                                                                                                                       |                                                     |         |                   |                                                                                                                                                                                                                                                                                                                                                 | cubic foot (ft <sup>3</sup> )                                                  | 0.02832   | m <sup>3</sup>                                 |
|                                                                                                                                                                                                                                                                                                                                                       |                                                     |         |                   |                                                                                                                                                                                                                                                                                                                                                 | cubic yard (yd <sup>3</sup> )                                                  | 0.7646    | m <sup>3</sup>                                 |
|                                                                                                                                                                                                                                                                                                                                                       |                                                     |         |                   |                                                                                                                                                                                                                                                                                                                                                 | litre (L) ††                                                                   | 1 000 000 | mm <sup>3</sup>                                |
|                                                                                                                                                                                                                                                                                                                                                       |                                                     |         |                   |                                                                                                                                                                                                                                                                                                                                                 | litre (L) ††                                                                   | 0.001     | m <sup>3</sup>                                 |
| <b>LENGTH: Symbol m</b><br>The SI unit of LENGTH is the METRE.                                                                                                                                                                                                                                                                                        | pounds-force per inch (lbf/in)                      | 175.1   | N/m               |                                                                                                                                                                                                                                                                                                                                                 | gallons (Imp.)                                                                 | 0.004546  | m <sup>3</sup>                                 |
|                                                                                                                                                                                                                                                                                                                                                       | pounds-force per foot (lbf/ft)                      | 14.59   | N/m               | <b>IMPERIAL LIQUID</b><br>fluid ounce<br>pint (20 fl. oz)<br>quart (2 pints)<br>gallon (Imp.)<br>gallon (US)<br>litre (water 4°C)<br>Imp. gallons (water 20°C)                                                                                                                                                                                  |                                                                                |           |                                                |
|                                                                                                                                                                                                                                                                                                                                                       | ton-force per foot (ton/ft)                         | 32.69   | kN/m              |                                                                                                                                                                                                                                                                                                                                                 |                                                                                |           |                                                |
|                                                                                                                                                                                                                                                                                                                                                       |                                                     |         |                   |                                                                                                                                                                                                                                                                                                                                                 |                                                                                |           |                                                |
|                                                                                                                                                                                                                                                                                                                                                       |                                                     |         |                   |                                                                                                                                                                                                                                                                                                                                                 |                                                                                |           |                                                |
|                                                                                                                                                                                                                                                                                                                                                       |                                                     |         |                   |                                                                                                                                                                                                                                                                                                                                                 |                                                                                |           |                                                |
|                                                                                                                                                                                                                                                                                                                                                       |                                                     |         |                   |                                                                                                                                                                                                                                                                                                                                                 |                                                                                |           |                                                |
|                                                                                                                                                                                                                                                                                                                                                       |                                                     |         |                   |                                                                                                                                                                                                                                                                                                                                                 |                                                                                |           |                                                |
|                                                                                                                                                                                                                                                                                                                                                       |                                                     |         |                   |                                                                                                                                                                                                                                                                                                                                                 |                                                                                |           |                                                |
|                                                                                                                                                                                                                                                                                                                                                       |                                                     |         |                   |                                                                                                                                                                                                                                                                                                                                                 |                                                                                |           |                                                |
|                                                                                                                                                                                                                                                                                                                                                       |                                                     |         |                   |                                                                                                                                                                                                                                                                                                                                                 |                                                                                |           |                                                |
| <b>MASS: Symbol kg</b><br>The SI unit of MASS is the KILOGRAM.                                                                                                                                                                                                                                                                                        | inches                                              | 25.4    | millimetres (mm)  |                                                                                                                                                                                                                                                                                                                                                 |                                                                                |           |                                                |
|                                                                                                                                                                                                                                                                                                                                                       | feet                                                | 0.3048  | metres (m)        |                                                                                                                                                                                                                                                                                                                                                 |                                                                                |           |                                                |
|                                                                                                                                                                                                                                                                                                                                                       | yards                                               | 0.9144  | metres (m)        |                                                                                                                                                                                                                                                                                                                                                 |                                                                                |           |                                                |
|                                                                                                                                                                                                                                                                                                                                                       | chain                                               | 20.12   | metres (m)        |                                                                                                                                                                                                                                                                                                                                                 |                                                                                |           |                                                |
|                                                                                                                                                                                                                                                                                                                                                       | mile                                                | 1609    | metres (m)        |                                                                                                                                                                                                                                                                                                                                                 |                                                                                |           |                                                |
|                                                                                                                                                                                                                                                                                                                                                       | mile                                                | 1.609   | kilometres (km)   |                                                                                                                                                                                                                                                                                                                                                 |                                                                                |           |                                                |
|                                                                                                                                                                                                                                                                                                                                                       |                                                     |         |                   |                                                                                                                                                                                                                                                                                                                                                 |                                                                                |           |                                                |
|                                                                                                                                                                                                                                                                                                                                                       |                                                     |         |                   |                                                                                                                                                                                                                                                                                                                                                 |                                                                                |           |                                                |
|                                                                                                                                                                                                                                                                                                                                                       |                                                     |         |                   |                                                                                                                                                                                                                                                                                                                                                 |                                                                                |           |                                                |
|                                                                                                                                                                                                                                                                                                                                                       |                                                     |         |                   |                                                                                                                                                                                                                                                                                                                                                 |                                                                                |           |                                                |
| <b>TEMPERATURE</b><br><br>The SI unit of TEMPERATURE is the KELVIN - Symbol K. For most practical purposes of temperature measurement and most calculations involving temperatures, degrees Celsius, symbol °C will be used.<br><br>DEGREES FAHRENHEIT TO CELSIUS<br>(°F - 32) x 5/9 = °C<br><br>DEGREES CELSIUS TO FAHRENHEIT<br>(°C x 9/5) +32 = °F | ounce                                               | 28.35   | grams (g)         | <b>VOLUME: RATE OF FLOW Symbol m<sup>3</sup>/s</b><br><br>The SI unit of VOLUME RATE OF FLOW is the CUBIC METRE PER SECOND.                                                                                                                                                                                                                     | Imp. gal. per minute (gal/min)                                                 | .0000758  | m <sup>3</sup> /s                              |
|                                                                                                                                                                                                                                                                                                                                                       | pound                                               | 0.4536  | kilograms (kg)    |                                                                                                                                                                                                                                                                                                                                                 | Imp. gal. per minute                                                           | 0.272765  | m <sup>3</sup> /hr                             |
|                                                                                                                                                                                                                                                                                                                                                       | slug                                                | 14.59   | kg                |                                                                                                                                                                                                                                                                                                                                                 | Imp. gal. per minute                                                           | .0758     | litre per second (L/s)                         |
|                                                                                                                                                                                                                                                                                                                                                       | ton (2240 lb)                                       | 1016.05 | kg                |                                                                                                                                                                                                                                                                                                                                                 |                                                                                |           |                                                |
|                                                                                                                                                                                                                                                                                                                                                       | short ton (2000 lb)                                 | 907.2   | kg                |                                                                                                                                                                                                                                                                                                                                                 | cubic ft. per minute                                                           | .000472   | m <sup>3</sup> /s                              |
|                                                                                                                                                                                                                                                                                                                                                       | ton (2240 lb)                                       | 1.016   | tonne (t)         |                                                                                                                                                                                                                                                                                                                                                 | cubic ft. per minute                                                           | 0.472     | litre per second (L/s) 1 m <sup>3</sup> = 1 kL |
|                                                                                                                                                                                                                                                                                                                                                       | pounds per foot (lb/ft)                             | 1.488   | kg/m              | <b>SUNDRY ITEMS:</b>                                                                                                                                                                                                                                                                                                                            |                                                                                |           |                                                |
|                                                                                                                                                                                                                                                                                                                                                       | pounds per yard (lb/yd)                             | 0.4961  | kg/m              |                                                                                                                                                                                                                                                                                                                                                 | miles per gallon                                                               | 0.3540    | km per litre                                   |
|                                                                                                                                                                                                                                                                                                                                                       |                                                     |         |                   |                                                                                                                                                                                                                                                                                                                                                 | gallons per mile                                                               | 2.825     | litres per km                                  |

## TEMPERATURE

The SI unit of TEMPERATURE is the KELVIN - Symbol K. For most practical purposes of temperature measurement and most calculations involving temperatures, degrees Celsius, symbol °C will be used.

DEGREES FAHRENHEIT TO CELSIUS

DEGREES CELSIUS TO FAHRENHEIT

(°F - 32) x 5/9 = °C

(°C x 9/5) +32 = °F

# Glossary of Terms

**ABRASION RESISTANCE:** Resistance to frictional rubbing, as distinct from resistant to knocks and impacts.

**ANNEALING:** A process involving heating and cooling, applied usually to induce softening. The term is also used to cover treatment to:-

- Remove stresses
- Alter mechanical or physical properties
- Produce a definite microstructure
- Remove dissolved glass

**AUSTENITIC:** The largest category of stainless steel, accounting for about 70 per cent of all production. The austenitic class offers the most resistance to corrosion in the stainless group, owing to its substantial nickel content and higher levels of chromium. Austenitic stainless steels are hardened and strengthened through cold working instead of heat treatment.

**BEND TEST:** A test of ductility where a test piece must withstand, without fracture, bending through a specific angle around a specified diameter.

**CAMBER:** The deviation of a side edge of metal sheet or strip from a straight line.

**CHALKING:** A chalk-line formation on the surface of an organic coating caused by the breakdown of the surface layer of resin, releasing pigment particles and fillers normally bound by the resin. This normally occurs after long-term exposure to sunlight.

**COLD ROLLING:** Is the reduction of hot-rolled pickled steel strip to a specified thickness, using a series of stands of rolls. This distorts the grain structure of the steel and also a loss of ductility.

**COLD WORKING:** Changing the structure and shape of steel by applying stress at low temperature.

**DUCTILITY:** The ability of a metal to deform from a flat condition into a complex shape without fracture.

**ELASTICITY:** That property of a material which causes it to resume its original form after removal of a load.

**ELECTRIC RESISTANCE WELDED (ERW) PIPE:** Pipe made from strips of hot-rolled steel which are passed through forming rolls and welded.

**FINISH:** Finish refers to the degree of smoothness or lustre of the sheet.

**FLATNESS:** The flatness of sheet metal may be defined as the absence of any waviness or buckle.

**GALVANISING:** The process of applying a coating of zinc to a surface of iron or steel to provide a corrosion resistant surface. Zinc coating may be applied by hot-dipping or electroplating.

**GLOSS:** The degree to which a painted surface possesses the property of reflecting light in a mirror like manner. COLORBOND® steel surfaces are produced in 10 per cent, 25 per cent and 80 per cent gloss.

**HEAT TREATMENT:** An operation or combination of operations involving the heating or cooling of a metal or alloy in a solid state for the purpose of obtaining desired conditions or properties.

**KILLED STEEL:** A steel with de-oxidants such as aluminium or silicon added before casting molten steel to remove oxygen and so prevent evolution of carbon monoxide and chemical segregation during cooling.

**LOCK SEAMING:** The closing of a tight seam of lock-formed edges of sheet metal. Snap lock-seam.

**LUSTRE:** Lustre finish is a smooth finish for electroplating achieved by using special prepared rolls. Some surface preparation by the plater may be necessary.



## Glossary of Terms continued

**MATT:** Cold-rolled products are available with either a matt or lustre finish. The matt finish is produced by rolling with mechanically roughened rolls.

**MECHANICAL PROPERTIES:** Properties relating to the behaviour of materials under load in conventional mechanical tests. Such as elastic moduli, tensile strength, elongation, hardness.

**NORMALISING:** Heated steel to, and if necessary holding at, a suitable temperature above the transformation range, followed by cooling in a still atmosphere to ambient temperature in order to produce a medium-to fine pearlite microstructure.

**PICKLING:** Removal of oxide films from metal by immersion in an acid. The process is applied to scale removal from metal prior to operations such as cold rolling, wire drawing and electroplating. Absorption of hydrogen may occur in pickling causing embrittlement of hard steels and necessitating low temperature annealing for its removal.

**PRESSING:** Is a metal working process in which a flat blank, constrained between two surfaces, is forced by a punch to take a required shape.

**PRIMER:** The first coat of a painting system applied to an unpainted surface. It normally has very good adhesion and corrosion inhibitive properties.

**ROLLING DIRECTION:** The direction in which strip has been rolled. Longitudinal or Transverse.

**SCALE:** Layers of iron oxide formed on the surface of hot steel when oxygen in the air combines with iron from the steel.

**SKIN-PASSING:** A light cold rolling operation (about 1-2 per cent of cold works) which removes the yield point in steel which otherwise causes coil break, fluting or stretcher strain in subsequent operations.

**SPANGLE:** Grain or crystal of zinc, or zinc/aluminium as appearing on hot-dipped metallic coated steel.

**STRESS RELIEVING:** Heating a metal to, and holding it at, some temperature generally below recrystallisation range, followed by uniform cooling, for the purpose of removing internal stresses.

**STRETCHER LEVELLED:** As applied to sheets, indicates a standard of flatness. Originating from an early method of gripping the ends of sheet and stretching it to remove buckles.

**STRIP:** A continuously rolled flat product of any width and thickness, supplied rolled up into a coil form.

**TEMPER:** To modify hardness of metals. Adjustment of hardness of heat treated article by controlled heating after quenching. Increase of hardness by cold rolling. The degree of cold rolling is variable depending on the required hardness and is more than that of skin-passing.

**TENSILE TEST:** A standard sample of material is placed between two jaws and drawn apart in a tensile testing machine until fracture. The ultimate tensile strength is the load divided by the cross section area of the sample.

**WASH COAT:** The coating applied to the back or exposed side of the painted strip.

**YIELD POINT / YIELD STRENGTH:** Defined in engineering and materials science as the stress at which a material begins to deform plastically. Prior to yield point, the material will deform elastically and will return to its original shape when the applied stress is removed. Once the yield point is passed some fraction of the deformation will be permanent and non-reversible.

## Important Details

My local OneSteel Steel & Tube outlet details

Ph: \_\_\_\_\_ Fax: \_\_\_\_\_ Email: \_\_\_\_\_

My local OneSteel Steel & Tube Account representatives

Sales

Ph: \_\_\_\_\_ Fax: \_\_\_\_\_ Email: \_\_\_\_\_

Credit

Ph: \_\_\_\_\_ Fax: \_\_\_\_\_ Email: \_\_\_\_\_

My OneSteel Steel & Tube Account Number

A/c N: \_\_\_\_\_

My Industry Memberships

\_\_\_\_\_  
\_\_\_\_\_

## Safety Reminder

### SAFETY AT WORK

OneSteel believes that a strong focus on safety in all workplaces is essential.

**“The most important reason for making your workplace safe, is not at work at all.”<sup>1</sup>**

The most treasured moments of our lives happen outside of work, which is why it is so important to go home safely. An incident at work affects more than just the injured person. OneSteel encourages you to take a moment before commencing any task to consider your safety and the safety of others.

### SAFETY AT OUR SITES

OneSteel does not compromise on safety, and we believe that all injuries, occupational illnesses and incidents are preventable. Achieving zero incidents is possible in all OneSteel businesses by maintaining a strong focus on the health and safety of all employees, contractors and customers. OneSteel’s “Goal Zero” target aims to ensure employees can go home in the same condition that they came to work.

OneSteel has implemented stringent safety policies and procedures that enable us to strive for our safety goal. **We appreciate your compliance with our safety policies when you visit our sites.**

1. Safety message reproduced from QLD Government’s Workplace Health & Safety Initiative 2008 “Homecomings”.





# STEP UP, WITH STEEL

## **COST SAVINGS AND REDUCED CONSTRUCTION TIME - TWO OF THE REASONS WHY STEEL USE HAS RISEN SUBSTANTIALLY**

OneSteel offers several services **free of charge** to assist building owners, developers, builders, architects, engineers and fabricators with the development of economical steel framing solutions for multi-storey building projects. These services include:

### **Preliminary Steel Design**

Our design team has been successfully used by major builders and engineers to assist with the conceptual design of medium and high rise steel framed buildings throughout Australia. This service assists with the preliminary design phase. Full design & documentation is still undertaken by the respective Consulting Engineer appointed to the project.

### **Advice on Fire Protection Requirements for Structural Steelwork**

Using OneSteel's fire engineers at CESARE, Victoria University, we are able to provide a review of the deemed-to-satisfy requirements for fire protection of the building frame as well as advice on an alternative solution as allowed under the Building Code of Australia that may reduce or eliminate the need for passive fire protection on some or all elements of the steel frame. The purpose of this advice would be to provide assistance to the project Fire Engineer in the preparation of their Fire Engineering Assessment Report.

For more information regarding these and other services, contact your local OneSteel Steel & Tube representative, who will discuss your project with OneSteel Manufacturing's Business Development Managers.

**onesteel**

# ...find this guide useful? see what else we can offer you!



## Product & Services Brochures

Find out about who OneSteel Steel & Tube are and what we can do for you with our Business Overview and our National Processing Solutions brochures.



## Connect: OneSteel Steel & Tube's Customer Newsletter.

Our bi-annual customer newsletter gives you a unique insight into the types of businesses we partner nationally and the initiatives that are occurring within our network of OneSteel Steel & Tube sites.



## Quarterly Market Updates

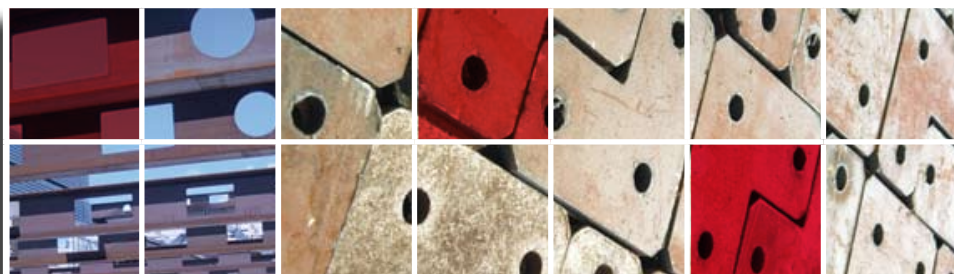
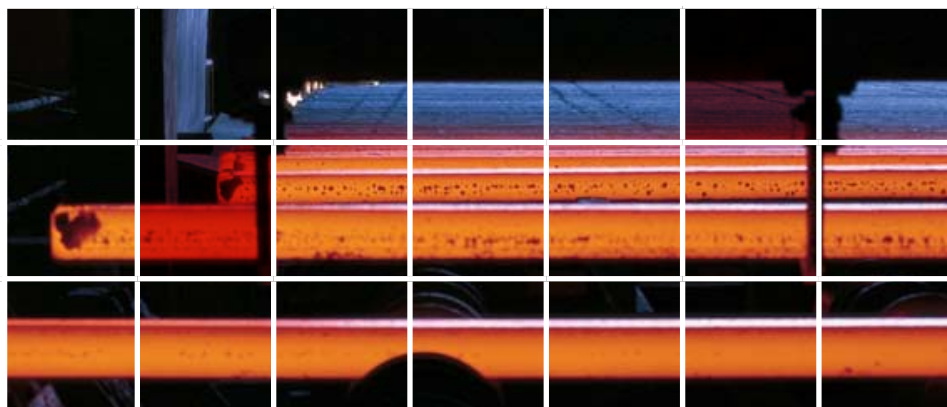
Want to keep up to date with information about the Australian steel market and the global steel industry? We can email you our quarterly Market Updates, so you can continue to be informed.



## Get invited to Customer Events and receive News and Service Information

We like to regularly update all of our customers with new product information and invitations to upcoming customer and industry events. So if you don't want to be the last person to find out, sign up to receive our Customer Events, News and Service information today.

As a leader in national steel distribution, OneSteel Steel & Tube offer a comprehensive range of steel products, processing solutions and project management expertise, whatever your industry.



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