

**RD-156**  
ROOF DECK

## SECTION PROPERTIES (Per Foot of Width)

### IMPERIAL

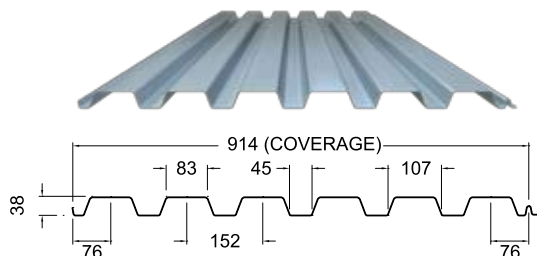
| THICKNESS |           | Yield Strength (ksi) | Coated Steel Thickness (G90) (in) | Coated Mass (psf) | Section Modulus            |                            | Deflection Moment of Inertia (in <sup>4</sup> ) | Specified Web Crippling Data |              |                   |                   |
|-----------|-----------|----------------------|-----------------------------------|-------------------|----------------------------|----------------------------|-------------------------------------------------|------------------------------|--------------|-------------------|-------------------|
| Gauge     | Base (in) |                      |                                   |                   | Midspan (in <sup>3</sup> ) | Support (in <sup>3</sup> ) |                                                 | Pe1 End (lb)                 | Pe2 End (lb) | Pi1 Interior (lb) | Pi2 Interior (lb) |
| 22        | 0.030     | 33                   | 0.0315                            | 1.697             | 0.190                      | 0.183                      | 0.164                                           | 175.2                        | 43.8         | 308               | 52.3              |
| 20        | 0.036     | 33                   | 0.0375                            | 2.025             | 0.230                      | 0.232                      | 0.202                                           | 295.7                        | 64.9         | 460               | 78.2              |
| 18        | 0.048     | 33                   | 0.0495                            | 2.682             | 0.310                      | 0.317                      | 0.276                                           | 480.5                        | 120.1        | 860               | 146.1             |
| 16        | 0.060     | 33                   | 0.0615                            | 3.338             | 0.386                      | 0.387                      | 0.342                                           | 771.4                        | 192.8        | 1388              | 236.0             |

## MAXIMUM UNIFORMLY DISTRIBUTED SPECIFIED LOAD (psf)

| SPAN LENGTH (ft) |   | 1 - SPAN                  |       |       |       | 2 - SPAN                  |       |       |       | 3 - SPAN                  |       |       |       |
|------------------|---|---------------------------|-------|-------|-------|---------------------------|-------|-------|-------|---------------------------|-------|-------|-------|
|                  |   | BASE STEEL THICKNESS (in) |       |       |       | BASE STEEL THICKNESS (in) |       |       |       | BASE STEEL THICKNESS (in) |       |       |       |
|                  |   | 0.030                     | 0.036 | 0.048 | 0.060 | 0.030                     | 0.036 | 0.048 | 0.060 | 0.030                     | 0.036 | 0.048 | 0.060 |
| 3.0              | S | 279                       | 338   | 454   | 565   | 269                       | 341   | 464   | 568   | 336                       | 426   | 580   | 710   |
|                  | D | 396                       | 490   | 669   | 828   | 951                       | 1177  | 1606  | 1987  | 749                       | 927   | 1265  | 1565  |
| 3.5              | S | 205                       | 248   | 334   | 415   | 197                       | 250   | 341   | 417   | 247                       | 313   | 426   | 521   |
|                  | D | 250                       | 309   | 422   | 521   | 599                       | 741   | 1012  | 1251  | 472                       | 584   | 797   | 985   |
| 4.0              | S | 157                       | 190   | 255   | 318   | 151                       | 192   | 261   | 319   | 189                       | 240   | 327   | 399   |
|                  | D | 167                       | 207   | 282   | 349   | 401                       | 497   | 678   | 838   | 316                       | 391   | 534   | 660   |
| 4.5              | S | 124                       | 150   | 202   | 251   | 119                       | 151   | 206   | 252   | 149                       | 189   | 258   | 315   |
|                  | D | 117                       | 145   | 198   | 245   | 282                       | 349   | 476   | 589   | 222                       | 275   | 375   | 464   |
| 5.0              | S | 100                       | 122   | 163   | 204   | 97                        | 123   | 167   | 204   | 121                       | 153   | 209   | 256   |
|                  | D | 86                        | 106   | 145   | 179   | 205                       | 254   | 347   | 429   | 162                       | 200   | 273   | 338   |
| 5.5              | S | 83                        | 101   | 135   | 168   | 80                        | 101   | 138   | 169   | 100                       | 127   | 173   | 211   |
|                  | D | 64                        | 80    | 109   | 134   | 154                       | 191   | 261   | 322   | 122                       | 150   | 205   | 254   |
| 6.0              | S | 70                        | 84    | 114   | 141   | 67                        | 85    | 116   | 142   | 84                        | 107   | 145   | 177   |
|                  | D | 50                        | 61    | 84    | 103   | 119                       | 147   | 201   | 248   | 94                        | 116   | 158   | 196   |
| 6.5              | S | 59                        | 72    | 97    | 120   | 57                        | 73    | 99    | 121   | 72                        | 91    | 124   | 151   |
|                  | D | 39                        | 48    | 66    | 81    | 94                        | 116   | 158   | 195   | 74                        | 91    | 124   | 154   |
| 7.0              | S | 51                        | 62    | 83    | 104   | 49                        | 63    | 85    | 104   | 62                        | 78    | 107   | 130   |
|                  | D | 31                        | 39    | 53    | 65    | 75                        | 93    | 126   | 156   | 59                        | 73    | 100   | 123   |
| 7.5              | S | 45                        | 54    | 73    | 90    | 43                        | 55    | 74    | 91    | 54                        | 68    | 93    | 114   |
|                  | D | 25                        | 31    | 43    | 53    | 61                        | 75    | 103   | 127   | 48                        | 59    | 81    | 100   |
| 8.0              | S | 39                        | 48    | 64    | 80    | 38                        | 48    | 65    | 80    | 47                        | 60    | 82    | 100   |
|                  | D | 21                        | 26    | 35    | 44    | 50                        | 62    | 85    | 105   | 39                        | 49    | 67    | 83    |
| 8.5              | S | 35                        | 42    | 57    | 70    | 33                        | 42    | 58    | 71    | 42                        | 53    | 72    | 88    |
|                  | D | 17                        | 22    | 29    | 36    | 42                        | 52    | 71    | 87    | 33                        | 41    | 56    | 69    |
| 9.0              | S | 31                        | 38    | 50    | 63    | 30                        | 38    | 52    | 63    | 37                        | 47    | 64    | 79    |
|                  | D | 15                        | 18    | 25    | 31    | 35                        | 44    | 59    | 74    | 28                        | 34    | 47    | 58    |
| 9.5              | S | 28                        | 34    | 45    | 56    | 27                        | 34    | 46    | 57    | 34                        | 42    | 58    | 71    |
|                  | D | 12                        | 15    | 21    | 26    | 30                        | 37    | 51    | 63    | 24                        | 29    | 40    | 49    |
| 10.0             | S | 25                        | 30    | 41    | 51    | 24                        | 31    | 42    | 51    | 30                        | 38    | 52    | 64    |
|                  | D | 11                        | 13    | 18    | 22    | 26                        | 32    | 43    | 54    | 20                        | 25    | 34    | 42    |
| 10.5             | S | 23                        | 28    | 37    | 46    | 22                        | 28    | 38    | 46    | 27                        | 35    | 47    | 58    |
|                  | D | 9                         | 11    | 16    | 19    | 22                        | 27    | 37    | 46    | 17                        | 22    | 30    | 36    |

1. Based on ASTM A 653 Structural steel.
2. Values in row "S" are based on strength.
3. Values in row "D" are based on deflection of 1/240th span.
4. Web crippling not included in strength calculations. Limit States Design principles were used in accordance with CSA Standard S136-01 Load table prepared by Dr. R.M.Schuster P.Eng University of Waterloo, Ontario, Canada.

**STEELWAY**  
BUILDING SYSTEMS



**RD-156**  
ROOF DECK

### SECTION PROPERTIES (Per Metre of Width)

### METRIC

| THICKNESS |           | Yield Strength (MPa) | Coated Steel Thickness (Z275) (mm) | Coated Mass (kg/m <sup>2</sup> ) | Section Modulus                             |                                             | Deflection Moment of Inertia (x10 <sup>6</sup> mm <sup>4</sup> ) | Specified Web Crippling Data |              |                   |                   |
|-----------|-----------|----------------------|------------------------------------|----------------------------------|---------------------------------------------|---------------------------------------------|------------------------------------------------------------------|------------------------------|--------------|-------------------|-------------------|
| Gauge     | Base (mm) |                      |                                    |                                  | Midspan (x10 <sup>3</sup> mm <sup>3</sup> ) | Support (x10 <sup>3</sup> mm <sup>3</sup> ) |                                                                  | Pe1 End (kN)                 | Pe2 End (kN) | Pi1 Interior (kN) | Pi2 Interior (kN) |
| 22        | 0.762     | 230                  | 0.802                              | 8.3                              | 10.3                                        | 10.0                                        | 0.23                                                             | 2.584                        | 0.646        | 4.539             | 0.772             |
| 20        | 0.914     | 230                  | 0.954                              | 9.9                              | 12.4                                        | 12.6                                        | 0.29                                                             | 3.831                        | 0.958        | 6.784             | 1.153             |
| 18        | 1.219     | 230                  | 1.259                              | 13.1                             | 16.7                                        | 17.0                                        | 0.38                                                             | 7.089                        | 1.772        | 12.683            | 2.156             |
| 16        | 1.524     | 230                  | 1.564                              | 16.3                             | 20.8                                        | 20.8                                        | 0.47                                                             | 11.380                       | 2.845        | 20.484            | 3.482             |

### MAXIMUM UNIFORMLY DISTRIBUTED SPECIFIED LOAD (kPa)

| SPAN LENGTH (m) |   | 1 - SPAN                  |       |       |       | 2 - SPAN                  |       |       |       | 3 - SPAN                  |       |       |       |
|-----------------|---|---------------------------|-------|-------|-------|---------------------------|-------|-------|-------|---------------------------|-------|-------|-------|
|                 |   | BASE STEEL THICKNESS (mm) |       |       |       | BASE STEEL THICKNESS (mm) |       |       |       | BASE STEEL THICKNESS (mm) |       |       |       |
|                 |   | 0.762                     | 0.914 | 1.219 | 1.524 | 0.762                     | 0.914 | 1.219 | 1.524 | 0.762                     | 0.914 | 1.219 | 1.524 |
| 1.0             | S | 11.33                     | 13.72 | 18.42 | 22.93 | 10.99                     | 13.92 | 18.79 | 22.98 | 13.74                     | 17.40 | 23.49 | 28.72 |
|                 | D | 15.04                     | 18.54 | 24.81 | 30.32 | 36.11                     | 44.51 | 59.55 | 72.77 | 28.43                     | 35.05 | 46.89 | 57.31 |
| 1.2             | S | 7.86                      | 9.53  | 12.79 | 15.92 | 7.63                      | 9.67  | 13.05 | 15.96 | 9.54                      | 12.09 | 16.31 | 19.95 |
|                 | D | 8.71                      | 10.73 | 14.36 | 17.55 | 20.89                     | 25.76 | 34.46 | 42.11 | 16.45                     | 20.28 | 27.14 | 33.17 |
| 1.4             | S | 5.78                      | 7.00  | 9.40  | 11.70 | 5.61                      | 7.10  | 9.59  | 11.72 | 7.01                      | 8.88  | 11.99 | 14.65 |
|                 | D | 5.48                      | 6.76  | 9.04  | 11.05 | 13.16                     | 16.22 | 21.70 | 26.52 | 10.36                     | 12.77 | 17.09 | 20.89 |
| 1.6             | S | 4.42                      | 5.36  | 7.20  | 8.96  | 4.29                      | 5.44  | 7.34  | 8.98  | 5.37                      | 6.80  | 9.18  | 11.22 |
|                 | D | 3.67                      | 4.53  | 6.06  | 7.40  | 8.81                      | 10.87 | 14.54 | 17.77 | 6.94                      | 8.56  | 11.45 | 13.99 |
| 1.8             | S | 3.50                      | 4.23  | 5.69  | 7.08  | 3.39                      | 4.30  | 5.80  | 7.09  | 4.24                      | 5.37  | 7.25  | 8.86  |
|                 | D | 2.58                      | 3.18  | 4.25  | 5.20  | 6.19                      | 7.63  | 10.21 | 12.48 | 4.88                      | 6.01  | 8.04  | 9.83  |
| 2.0             | S | 2.83                      | 3.43  | 4.61  | 5.73  | 2.75                      | 3.48  | 4.70  | 5.74  | 3.43                      | 4.35  | 5.87  | 7.18  |
|                 | D | 1.88                      | 2.32  | 3.10  | 3.79  | 4.51                      | 5.56  | 7.44  | 9.10  | 3.55                      | 4.38  | 5.86  | 7.16  |
| 2.2             | S | 2.34                      | 2.83  | 3.81  | 4.74  | 2.27                      | 2.88  | 3.88  | 4.75  | 2.84                      | 3.60  | 4.85  | 5.93  |
|                 | D | 1.41                      | 1.74  | 2.33  | 2.85  | 3.39                      | 4.18  | 5.59  | 6.83  | 2.67                      | 3.29  | 4.40  | 5.38  |
| 2.4             | S | 1.97                      | 2.38  | 3.20  | 3.98  | 1.91                      | 2.42  | 3.26  | 3.99  | 2.39                      | 3.02  | 4.08  | 4.99  |
|                 | D | 1.09                      | 1.34  | 1.79  | 2.19  | 2.61                      | 3.22  | 4.31  | 5.26  | 2.06                      | 2.54  | 3.39  | 4.15  |
| 2.6             | S | 1.68                      | 2.03  | 2.73  | 3.39  | 1.63                      | 2.06  | 2.78  | 3.40  | 2.03                      | 2.57  | 3.48  | 4.25  |
|                 | D | 0.86                      | 1.06  | 1.41  | 1.73  | 2.05                      | 2.53  | 3.39  | 4.14  | 1.62                      | 1.99  | 2.67  | 3.26  |
| 2.8             | S | 1.44                      | 1.75  | 2.35  | 2.92  | 1.40                      | 1.78  | 2.40  | 2.93  | 1.75                      | 2.22  | 3.00  | 3.66  |
|                 | D | 0.69                      | 0.84  | 1.13  | 1.38  | 1.64                      | 2.03  | 2.71  | 3.32  | 1.30                      | 1.60  | 2.14  | 2.61  |
| 3.0             | S | 1.26                      | 1.52  | 2.05  | 2.55  | 1.22                      | 1.55  | 2.09  | 2.55  | 1.53                      | 1.93  | 2.61  | 3.19  |
|                 | D | 0.56                      | 0.69  | 0.92  | 1.12  | 1.34                      | 1.65  | 2.21  | 2.70  | 1.05                      | 1.30  | 1.60  | 2.14  |
| 3.2             | S | 1.11                      | 1.34  | 1.80  | 2.24  | 1.07                      | 1.36  | 1.84  | 2.24  | 1.34                      | 1.70  | 2.29  | 2.80  |
|                 | D | 0.46                      | 0.57  | 0.76  | 0.93  | 1.10                      | 1.36  | 1.82  | 2.22  | 0.87                      | 1.07  | 1.43  | 1.75  |
| 3.4             | S | 0.98                      | 1.19  | 1.59  | 1.98  | 0.95                      | 1.20  | 1.63  | 1.99  | 1.19                      | 1.51  | 2.03  | 2.48  |
|                 | D | 0.38                      | 0.47  | 0.63  | 0.77  | 0.92                      | 1.13  | 1.52  | 1.85  | 0.72                      | 0.89  | 1.19  | 1.46  |
| 3.6             | S | 0.87                      | 1.06  | 1.42  | 1.77  | 0.85                      | 1.07  | 1.45  | 1.77  | 1.06                      | 1.34  | 1.81  | 2.22  |
|                 | D | 0.32                      | 0.40  | 0.53  | 0.65  | 0.77                      | 0.95  | 1.28  | 1.56  | 0.61                      | 0.75  | 1.01  | 1.23  |
| 3.8             | S | 0.78                      | 0.95  | 1.28  | 1.59  | 0.76                      | 0.96  | 1.30  | 1.59  | 0.95                      | 1.21  | 1.63  | 1.99  |
|                 | D | 0.27                      | 0.34  | 0.45  | 0.55  | 0.66                      | 0.81  | 1.09  | 1.33  | 0.52                      | 0.64  | 0.85  | 1.04  |
| 4.0             | S | 0.71                      | 0.86  | 1.15  | 1.43  | 0.69                      | 0.87  | 1.17  | 1.44  | 0.86                      | 1.09  | 1.47  | 1.80  |
|                 | D | 0.24                      | 0.29  | 0.39  | 0.47  | 0.56                      | 0.70  | 0.93  | 1.14  | 0.44                      | 0.55  | 0.73  | 0.90  |

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3. Values in row "D" are based on deflection of 1/240th span.
4. Web crippling not included in strength calculations. Limit States Design principles were used in accordance with CSA Standard S136-01 Load table prepared by Dr. R.M.Schuster P.Eng University of Waterloo, Ontario, Canada.

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