

# DIAMOND SEAL

ROOF, WALL & LINER

## NARROW RIB

### SECTION PROPERTIES (Per Foot of Width)

#### IMPERIAL

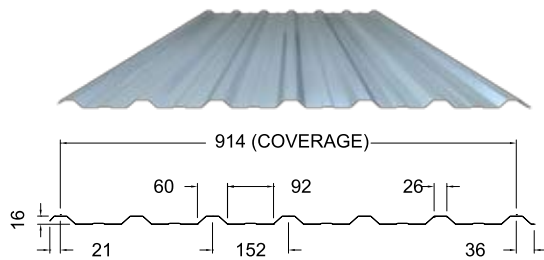
| THICKNESS |           | Yield Strength (ksi) | Coated Steel Thickness (AZ50) (in) | Coated Mass (psf) | Section Modulus            |                            | Deflection Moment of Inertia (in <sup>4</sup> ) | Specified Web Crippling Data |              |                   |                   |
|-----------|-----------|----------------------|------------------------------------|-------------------|----------------------------|----------------------------|-------------------------------------------------|------------------------------|--------------|-------------------|-------------------|
| 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) |
| 29        | 0.0135    | 80                   | 0.0151                             | 0.699             | 0.0174                     | 0.159                      | 0.0103                                          | 59.8                         | 15.0         | 111               | 18.9              |
| 28        | 0.0150    | 50                   | 0.0166                             | 0.769             | 0.0207                     | 0.0192                     | 0.0115                                          | 47.0                         | 11.8         | 88.0              | 14.9              |
| 26        | 0.0180    | 50                   | 0.0196                             | 0.907             | 0.0263                     | 0.0250                     | 0.0136                                          | 69.8                         | 17.4         | 130.0             | 22.1              |
| 24        | 0.0240    | 33                   | 0.0256                             | 1.185             | 0.0406                     | 0.0371                     | 0.0177                                          | 85.4                         | 21.3         | 159.              | 27.1              |

### MAXIMUM UNIFORMLY DISTRIBUTED SPECIFIED LOAD (psf)

| SPAN LENGTH (in) |   | 1 - SPAN                  |        |        |        | 2- SPAN                   |        |        |        | 3 - SPAN                  |        |        |        |
|------------------|---|---------------------------|--------|--------|--------|---------------------------|--------|--------|--------|---------------------------|--------|--------|--------|
|                  |   | BASE STEEL THICKNESS (in) |        |        |        | BASE STEEL THICKNESS (in) |        |        |        | BASE STEEL THICKNESS (in) |        |        |        |
|                  |   | 0.0135                    | 0.0150 | 0.0180 | 0.0240 | 0.0135                    | 0.0150 | 0.0180 | 0.0240 | 0.0135                    | 0.0150 | 0.0180 | 0.0240 |
| 16               | S | 233                       | 233    | 296    | 302    | 213                       | 216    | 282    | 276    | 266                       | 270    | 352    | 345    |
|                  | D | 378                       | 422    | 501    | 652    | 908                       | 1014   | 1202   | 1566   | 715                       | 798    | 947    | 1233   |
| 20               | S | 149                       | 149    | 189    | 193    | 136                       | 138    | 180    | 176    | 170                       | 173    | 225    | 221    |
|                  | D | 194                       | 216    | 257    | 334    | 465                       | 519    | 616    | 802    | 366                       | 409    | 485    | 631    |
| 24               | S | 104                       | 103    | 132    | 134    | 94                        | 96     | 125    | 123    | 118                       | 120    | 157    | 153    |
|                  | D | 112                       | 125    | 148    | 193    | 269                       | 300    | 356    | 464    | 212                       | 237    | 281    | 365    |
| 30               | S | 66                        | 66     | 84     | 86     | 60                        | 62     | 80     | 78     | 76                        | 77     | 100    | 98     |
|                  | D | 57                        | 64     | 76     | 99     | 138                       | 154    | 182    | 238    | 109                       | 121    | 144    | 187    |
| 36               | S | 46                        | 46     | 58     | 60     | 42                        | 43     | 56     | 54     | 52                        | 53     | 70     | 68     |
|                  | D | 33                        | 37     | 44     | 57     | 80                        | 89     | 106    | 137    | 63                        | 70     | 83     | 108    |
| 42               | S | 34                        | 34     | 43     | 44     | 31                        | 31     | 41     | 40     | 39                        | 39     | 51     | 50     |
|                  | D | 21                        | 23     | 28     | 36     | 50                        | 56     | 66     | 87     | 40                        | 44     | 52     | 68     |
| 48               | S | 26                        | 26     | 33     | 34     | 24                        | 24     | 31     | 31     | 30                        | 30     | 39     | 38     |
|                  | D | 14                        | 16     | 19     | 24     | 34                        | 38     | 45     | 58     | 26                        | 30     | 35     | 46     |
| 54               | S | 20                        | 20     | 26     | 26     | 19                        | 19     | 25     | 24     | 23                        | 24     | 31     | 30     |
|                  | D | 10                        | 11     | 13     | 17     | 24                        | 26     | 31     | 41     | 19                        | 21     | 25     | 32     |
| 60               | S | 17                        | 17     | 21     | 21     | 15                        | 15     | 20     | 20     | 19                        | 19     | 25     | 25     |
|                  | D | 7                         | 8      | 10     | 12     | 17                        | 19     | 23     | 30     | 14                        | 15     | 18     | 23     |
| 66               | S | 14                        | 14     | 17     | 18     | 12                        | 13     | 17     | 16     | 16                        | 16     | 21     | 20     |
|                  | D | 5                         | 6      | 7      | 9      | 13                        | 14     | 17     | 22     | 10                        | 11     | 13     | 18     |
| 72               | S | 12                        | 11     | 15     | 15     | 10                        | 11     | 14     | 14     | 13                        | 13     | 17     | 17     |
|                  | D | 4                         | 5      | 5      | 7      | 10                        | 11     | 13     | 17     | 8                         | 9      | 10     | 14     |

- Based on ASTM A 792M Structural steel.
- Values in row "S" are based on strength.
- Values in row "D" are based on deflection of 1/180th span.
- 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.





# DIAMOND SEAL

ROOF, WALL & LINER

## NARROW RIB

### SECTION PROPERTIES (Per Metre of Width)

#### METRIC

| THICKNESS |           | Yield Strength (MPa) | Coated Steel Thickness AZM150 (mm) | Coated Mass (kg/m <sup>2</sup> ) | Section Modulus                            |                                            | Deflection Moment of Inertia (10 <sup>6</sup> mm <sup>4</sup> ) | Specified Web Crippling Data |              |                   |                   |
|-----------|-----------|----------------------|------------------------------------|----------------------------------|--------------------------------------------|--------------------------------------------|-----------------------------------------------------------------|------------------------------|--------------|-------------------|-------------------|
| Gauge     | Base (mm) |                      |                                    |                                  | Midspan (10 <sup>3</sup> mm <sup>3</sup> ) | Support (10 <sup>3</sup> mm <sup>3</sup> ) |                                                                 | Pe1 End (kN)                 | Pe2 End (kN) | Pi1 Interior (kN) | Pi2 Interior (kN) |
| 29        | 0.343     | 550                  | 0.384                              | 3.413                            | 0.94                                       | 0.85                                       | 0.0129                                                          | 0.649                        | 0.162        | 1.207             | 0.205             |
| 28        | 0.381     | 345                  | .0422                              | 3.755                            | 1.11                                       | 1.03                                       | 0.0149                                                          | 0.687                        | 0.172        | 1.279             | 0.217             |
| 26        | 0.457     | 345                  | 0.498                              | 4.428                            | 1.41                                       | 1.35                                       | 0.0183                                                          | 1.019                        | 0.255        | 1.901             | 0.323             |
| 24        | 0.610     | 230                  | 0.650                              | 5.786                            | 2.18                                       | 1.99                                       | 0.0242                                                          | 1.259                        | 0.315        | 2.352             | 0.400             |

### 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) |       |       |       |
|                 |   | 0.343                     | 0.381 | 0.457 | 0.610 | 0.343                     | 0.381 | 0.457 | 0.610 | 0.343                     | 0.381 | 0.457 | 0.610 |
| 0.4             | S | 11.53                     | 11.50 | 14.64 | 15.07 | 10.51                     | 10.70 | 13.93 | 13.76 | 13.14                     | 13.37 | 17.41 | 17.20 |
|                 | D | 17.45                     | 20.17 | 24.73 | 32.76 | 41.88                     | 48.40 | 59.35 | 78.63 | 32.98                     | 38.11 | 46.73 | 61.92 |
| 0.5             | S | 7.38                      | 7.36  | 9.37  | 9.64  | 6.73                      | 6.85  | 8.92  | 8.81  | 8.41                      | 8.56  | 11.14 | 11.01 |
|                 | D | 8.93                      | 10.33 | 12.66 | 16.77 | 21.44                     | 24.78 | 30.39 | 40.26 | 16.88                     | 19.51 | 23.93 | 31.70 |
| 0.6             | S | 5.12                      | 5.11  | 6.51  | 6.70  | 4.67                      | 4.75  | 6.19  | 6.12  | 5.84                      | 5.94  | 7.74  | 7.65  |
|                 | D | 5.17                      | 5.98  | 7.33  | 9.71  | 12.41                     | 14.34 | 17.58 | 23.30 | 9.77                      | 11.29 | 13.85 | 18.35 |
| 0.8             | S | 2.88                      | 2.88  | 3.66  | 3.77  | 2.63                      | 2.67  | 3.48  | 3.44  | 3.28                      | 3.34  | 4.35  | 4.30  |
|                 | D | 2.18                      | 2.52  | 3.09  | 4.10  | 5.23                      | 6.05  | 7.42  | 9.83  | 4.12                      | 4.76  | 5.84  | 7.74  |
| 1.0             | S | 1.84                      | 1.84  | 2.34  | 2.41  | 1.68                      | 1.71  | 2.23  | 2.20  | 2.10                      | 2.14  | 2.79  | 2.75  |
|                 | D | 1.12                      | 1.29  | 1.58  | 2.10  | 2.68                      | 3.10  | 3.80  | 5.03  | 2.11                      | 2.44  | 2.99  | 3.96  |
| 1.2             | S | 1.28                      | 1.28  | 1.63  | 1.67  | 1.17                      | 1.19  | 1.55  | 1.53  | 1.46                      | 1.49  | 1.93  | 1.91  |
|                 | D | 0.65                      | 0.75  | 0.92  | 1.21  | 1.55                      | 1.79  | 2.20  | 2.91  | 1.22                      | 1.41  | 1.73  | 2.29  |
| 1.4             | S | 0.94                      | 0.94  | 1.19  | 1.23  | 0.86                      | 0.87  | 1.14  | 1.12  | 1.07                      | 1.09  | 1.42  | 1.40  |
|                 | D | 0.41                      | 0.47  | 0.58  | 0.76  | 0.98                      | 1.13  | 1.38  | 1.83  | 0.77                      | 0.89  | 1.09  | 1.44  |
| 1.5             | S | 0.82                      | 0.82  | 1.04  | 1.07  | 0.75                      | 0.76  | 0.99  | 0.98  | 0.93                      | 0.95  | 1.24  | 1.22  |
|                 | D | 0.33                      | 0.38  | 0.47  | 0.62  | 0.79                      | 0.92  | 1.13  | 1.49  | 0.63                      | 0.72  | 0.89  | 1.17  |
| 1.6             | S | 0.72                      | 0.72  | 0.91  | 0.94  | 0.66                      | 0.67  | 0.87  | 0.86  | 0.82                      | 0.84  | 1.09  | 1.08  |
|                 | D | 0.27                      | 0.32  | 0.39  | 0.51  | 0.65                      | 0.76  | 0.93  | 1.23  | 0.52                      | 0.60  | 0.73  | 0.97  |
| 1.8             | S | 0.57                      | 0.57  | 0.72  | 0.74  | 0.52                      | 0.53  | 0.69  | 0.68  | 0.65                      | 0.66  | 0.86  | 0.85  |
|                 | D | 0.19                      | 0.22  | 0.27  | 0.36  | 0.46                      | 0.53  | 0.65  | 0.86  | 0.36                      | 0.42  | 0.51  | 0.68  |
| 2.0             | S | 0.46                      | 0.46  | 0.59  | 0.60  | 0.42                      | 0.43  | 0.56  | 0.55  | 0.53                      | 0.53  | 0.70  | 0.69  |
|                 | D | 0.14                      | 0.16  | 0.20  | 0.26  | 0.34                      | 0.39  | 0.47  | 0.63  | 0.26                      | 0.30  | 0.37  | 0.50  |

- Based on ASTM A 792M Structural steel.
- Values in row "S" are based on strength.
- Values in row "D" are based on deflection of 1/180th span.
- 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.

