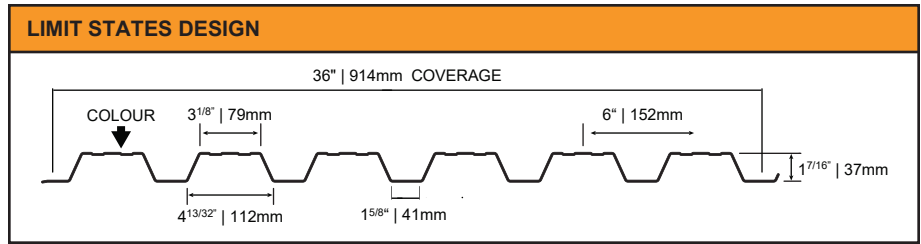


1. Based on ASTM A 653 structural steel.
2. Values in row "S" are based on strength.
3. Values in row "D" are based on deflection of 1/180th span.
4. Web crippling not included in strength calculation. See example.
5. Limit States Design principles were used in accordance with CSA Standard S136-16.



**SECTION PROPERTIES | Per Foot of Width**

| Base Steel Thickness (in.) | Weight [G90] (psf) | Yield Stress (ksi) | Section Modulus            |                            | Deflection Moment of Inertia (in <sup>4</sup> ) | Specified Web Crippling Data |              |                   |                   |
|----------------------------|--------------------|--------------------|----------------------------|----------------------------|---|------------------------------|--------------|-------------------|-------------------|
|                            |                    |                    | Midspan (in <sup>3</sup> ) | Support (in <sup>3</sup> ) |   | Pe1 End (lb)                 | Pe2 End (lb) | Pi1 Interior (lb) | Pi2 Interior (lb) |
| 0.0180                     | 1.04               | 33                 | 0.0847                     | 0.0884                     | 0.0754  | 62.1                         | 15.5         | 119               | 20.2              |
| 0.0180                     | 1.04               | 50                 | 0.0778                     | 0.0822                     | 0.0707  | 94.1                         | 23.5         | 180               | 30.5              |
| 0.0240                     | 1.36               | 33                 | 0.128                      | 0.130                      | 0.114   | 116                          | 29.1         | 222               | 37.7              |
| 0.0300                     | 1.69               | 33                 | 0.175                      | 0.176                      | 0.152   | 188                          | 47.1         | 359               | 61.0              |

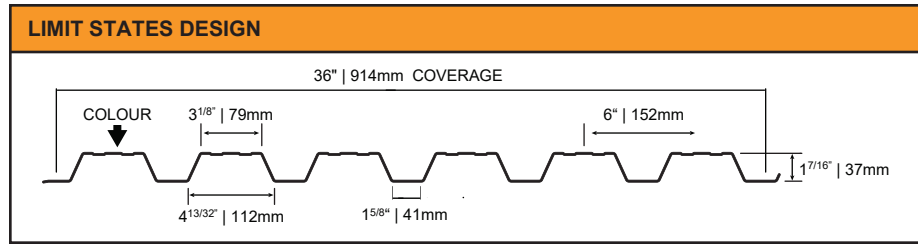
LLF = 1.40; IMPF = 0.75; NORMAL OCCUPANCY = 1.0

**LOAD TABLE | Maximum Uniformly Distributed Specified Loads (psf).**

| Span Length (ft) |   | 1-Span Base Steel Thickness (in.) |        |        |        | 2-Span Base Steel Thickness (in.) |        |        |        | 3-Span Base Steel Thickness (in.) |        |        |        |
|------------------|---|-----------------------------------|--------|--------|--------|-----------------------------------|--------|--------|--------|-----------------------------------|--------|--------|--------|
|                  |   | 0.0180                            | 0.0180 | 0.0240 | 0.0300 | 0.0180                            | 0.0180 | 0.0240 | 0.0300 | 0.0180                            | 0.0180 | 0.0240 | 0.0300 |
| Y.S.* (ksi)      |   | 33                                | 50     | 33     | 33     | 33                                | 50     | 33     | 33     | 33                                | 50     | 33     | 33     |
| 4.0              | S | 75                                | 104    | 113    | 154    | 78                                | 110    | 115    | 155    | 98                                | 138    | 144    | 194    |
| 4.0              | D | 137                               | 128    | 207    | 276    | 329                               | 308    | 497    | 662    | 259                               | 243    | 391    | 521    |
| 4.5              | S | 59                                | 82     | 89     | 122    | 62                                | 87     | 91     | 123    | 77                                | 109    | 114    | 153    |
| 4.5              | D | 96                                | 90     | 145    | 194    | 231                               | 217    | 349    | 465    | 182                               | 171    | 275    | 366    |
| 5.0              | S | 48                                | 67     | 72     | 99     | 50                                | 70     | 74     | 99     | 63                                | 88     | 92     | 124    |
| 5.0              | D | 70                                | 66     | 106    | 141    | 168                               | 158    | 254    | 339    | 133                               | 124    | 200    | 267    |
| 5.5              | S | 40                                | 55     | 60     | 82     | 41                                | 58     | 61     | 82     | 52                                | 73     | 76     | 103    |
| 5.5              | D | 53                                | 49     | 80     | 106    | 126                               | 119    | 191    | 255    | 100                               | 93     | 151    | 200    |
| 6.0              | S | 33                                | 46     | 50     | 69     | 35                                | 49     | 51     | 69     | 43                                | 61     | 64     | 86     |
| 6.0              | D | 41                                | 38     | 61     | 82     | 97                                | 91     | 147    | 196    | 77                                | 72     | 116    | 154    |
| 6.5              | S | 28                                | 39     | 43     | 58     | 30                                | 42     | 44     | 59     | 37                                | 52     | 55     | 74     |
| 6.5              | D | 32                                | 30     | 48     | 64     | 77                                | 72     | 116    | 154    | 60                                | 57     | 91     | 121    |
| 7.0              | S | 24                                | 34     | 37     | 50     | 26                                | 36     | 38     | 51     | 32                                | 45     | 47     | 63     |
| 7.0              | D | 26                                | 24     | 39     | 51     | 61                                | 58     | 93     | 123    | 48                                | 45     | 73     | 97     |
| 7.5              | S | 21                                | 30     | 32     | 44     | 22                                | 31     | 33     | 44     | 28                                | 39     | 41     | 55     |
| 7.5              | D | 21                                | 19     | 31     | 42     | 50                                | 47     | 75     | 100    | 39                                | 37     | 59     | 79     |
| 8.0              | S | 19                                | 26     | 28     | 39     | 20                                | 28     | 29     | 39     | 24                                | 34     | 36     | 49     |
| 8.0              | D | 17                                | 16     | 26     | 34     | 41                                | 39     | 62     | 83     | 32                                | 30     | 49     | 65     |
| 8.5              | S | 17                                | 23     | 25     | 34     | 17                                | 24     | 26     | 34     | 22                                | 30     | 32     | 43     |
| 8.5              | D | 14                                | 13     | 22     | 29     | 34                                | 32     | 52     | 69     | 27                                | 25     | 41     | 54     |
| 9.0              | S | 15                                | 21     | 22     | 30     | 15                                | 22     | 23     | 31     | 19                                | 27     | 28     | 38     |
| 9.0              | D | 12                                | 11     | 18     | 24     | 29                                | 27     | 44     | 58     | 23                                | 21     | 34     | 46     |
| 9.5              | S | 13                                | 18     | 20     | 27     | 14                                | 20     | 20     | 28     | 17                                | 24     | 26     | 34     |
| 9.5              | D | 10                                | 10     | 15     | 21     | 25                                | 23     | 37     | 49     | 19                                | 18     | 29     | 39     |
| 10.0             | S | 12                                | 17     | 18     | 25     | 13                                | 18     | 18     | 25     | 16                                | 22     | 23     | 31     |
| 10.0             | D | 9                                 | 8      | 13     | 18     | 21                                | 20     | 32     | 42     | 17                                | 16     | 25     | 33     |

\*Y.S. = Yield Stress

1. Based on ASTM A 653M structural steel.
2. Values in row "S" are based on strength.
3. Values in row "D" are based on deflection of 1/180th span.
4. Web crippling not included in strength calculation. See example.
5. Limit States Design principles were used in accordance with CSA Standard S136-16.



**SECTION PROPERTIES | Per Metre of Width**

| Base Steel Thickness (mm) | Mass [Z275] (kg/m <sup>2</sup> ) | Yield Stress (MPa) | Section Modulus                             |   | Deflection Moment of Inertia (x10 <sup>6</sup> mm <sup>4</sup> ) | Specified Web Crippling Data |              |                   |                   |
|---------------------------|----------------------------------|--------------------|---|---|--|------------------------------|--------------|-------------------|-------------------|
|                           |                                  |                    | 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) |
| 0.457                     | 5.06                             | 230                | 4.54  | 4.74  | 0.103  | 0.916                        | 0.229        | 1.75              | 0.297             |
| 0.457                     | 5.06                             | 345                | 4.18  | 4.42  | 0.0965   | 1.37                         | 0.344        | 2.62              | 0.446             |
| 0.610                     | 6.66                             | 230                | 6.87  | 7.00  | 0.155  | 1.72                         | 0.429        | 3.27              | 0.556             |
| 0.762                     | 8.26                             | 230                | 9.37  | 9.43  | 0.207  | 2.78                         | 0.695        | 5.29              | 0.900             |

LLF = 1.40; IMPF = 0.75; NORMAL OCCUPANCY = 1.0

**LOAD TABLE | Maximum Uniformly Distributed Specified Loads (kPa).**

| Span Length (m) |   | 1-Span Base Steel Thickness (mm) |       |       |       | 2-Span Base Steel Thickness (mm) |       |       |       | 3-Span Base Steel Thickness (mm) |       |       |       |
|-----------------|---|----------------------------------|-------|-------|-------|----------------------------------|-------|-------|-------|----------------------------------|-------|-------|-------|
|                 |   | 0.457                            | 0.457 | 0.610 | 0.762 | 0.457                            | 0.457 | 0.610 | 0.762 | 0.457                            | 0.457 | 0.610 | 0.762 |
| YS* (MPa)       |   | 230                              | 345   | 230   | 230   | 230                              | 345   | 230   | 230   | 230                              | 345   | 230   | 230   |
| 1.0             | S | 5.37                             | 7.42  | 8.13  | 11.1  | 5.61                             | 7.84  | 8.28  | 11.2  | 7.01                             | 9.80  | 10.4  | 14.0  |
| 1.0             | D | 11.9                             | 11.2  | 17.9  | 23.9  | 28.5                             | 26.8  | 43.1  | 57.3  | 22.4                             | 21.1  | 33.9  | 45.2  |
| 1.2             | S | 3.73                             | 5.15  | 5.64  | 7.70  | 3.90                             | 5.45  | 5.75  | 7.75  | 4.87                             | 6.81  | 7.18  | 9.68  |
| 1.2             | D | 6.87                             | 6.45  | 10.4  | 13.8  | 16.5                             | 15.5  | 24.9  | 33.2  | 13.0                             | 12.2  | 19.6  | 26.1  |
| 1.4             | S | 2.74                             | 3.78  | 4.15  | 5.66  | 2.86                             | 4.00  | 4.22  | 5.69  | 3.58                             | 5.00  | 5.28  | 7.12  |
| 1.4             | D | 4.32                             | 4.06  | 6.54  | 8.71  | 10.4                             | 9.75  | 15.7  | 20.9  | 8.17                             | 7.68  | 12.4  | 16.5  |
| 1.6             | S | 2.10                             | 2.90  | 3.17  | 4.33  | 2.19                             | 3.06  | 3.23  | 4.36  | 2.74                             | 3.83  | 4.04  | 5.45  |
| 1.6             | D | 2.90                             | 2.72  | 4.38  | 5.83  | 6.95                             | 6.53  | 10.5  | 14.0  | 5.47                             | 5.14  | 8.28  | 11.0  |
| 1.8             | S | 1.66                             | 2.29  | 2.51  | 3.42  | 1.73                             | 2.42  | 2.55  | 3.44  | 2.16                             | 3.03  | 3.19  | 4.30  |
| 1.8             | D | 2.03                             | 1.91  | 3.08  | 4.10  | 4.88                             | 4.59  | 7.38  | 9.83  | 3.85                             | 3.61  | 5.81  | 7.74  |
| 2.0             | S | 1.34                             | 1.85  | 2.03  | 2.77  | 1.40                             | 1.96  | 2.07  | 2.79  | 1.75                             | 2.45  | 2.59  | 3.49  |
| 2.0             | D | 1.48                             | 1.39  | 2.24  | 2.99  | 3.56                             | 3.34  | 5.38  | 7.17  | 2.80                             | 2.63  | 4.24  | 5.64  |
| 2.2             | S | 1.11                             | 1.53  | 1.68  | 2.29  | 1.16                             | 1.62  | 1.71  | 2.31  | 1.45                             | 2.03  | 2.14  | 2.88  |
| 2.2             | D | 1.11                             | 1.05  | 1.68  | 2.24  | 2.67                             | 2.51  | 4.04  | 5.39  | 2.11                             | 1.98  | 3.18  | 4.24  |
| 2.4             | S | 0.93                             | 1.29  | 1.41  | 1.92  | 0.97                             | 1.36  | 1.44  | 1.94  | 1.22                             | 1.70  | 1.80  | 2.42  |
| 2.4             | D | 0.86                             | 0.81  | 1.30  | 1.73  | 2.06                             | 1.94  | 3.11  | 4.15  | 1.62                             | 1.52  | 2.45  | 3.27  |
| 2.6             | S | 0.79                             | 1.10  | 1.20  | 1.64  | 0.83                             | 1.16  | 1.22  | 1.65  | 1.04                             | 1.45  | 1.53  | 2.06  |
| 2.6             | D | 0.68                             | 0.63  | 1.02  | 1.36  | 1.62                             | 1.52  | 2.45  | 3.26  | 1.28                             | 1.20  | 1.93  | 2.57  |
| 2.8             | S | 0.69                             | 0.95  | 1.04  | 1.41  | 0.72                             | 1.00  | 1.06  | 1.42  | 0.89                             | 1.25  | 1.32  | 1.78  |
| 2.8             | D | 0.54                             | 0.51  | 0.82  | 1.09  | 1.30                             | 1.22  | 1.96  | 2.61  | 1.02                             | 0.96  | 1.54  | 2.06  |
| 3.0             | S | 0.60                             | 0.82  | 0.90  | 1.23  | 0.62                             | 0.87  | 0.92  | 1.24  | 0.78                             | 1.09  | 1.15  | 1.55  |
| 3.0             | D | 0.44                             | 0.41  | 0.66  | 0.88  | 1.05                             | 0.99  | 1.59  | 2.12  | 0.83                             | 0.78  | 1.26  | 1.67  |

\*Y.S. = Yield Stress