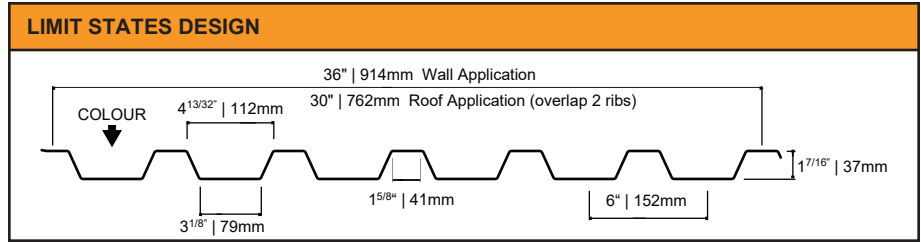


1. Based on ASTM A 653 structural steel.
2. Values in row "S" are based on strength.
3. Values in row "D" are based on deflection of 1/180th span.
4. Web crippling not included in strength calculation. See example.
5. Limit States Design principles were used in accordance with CSA Standard S136-16.



**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                 | 0.0884                     | 0.0847                     | 0.0923                                          | 58.0                         | 14.5         | 111               | 18.8              |
| 0.0180                     | 1.04               | 50                 | 0.0822                     | 0.0778                     | 0.0881                                          | 87.8                         | 22.0         | 168               | 28.5              |
| 0.0240                     | 1.36               | 33                 | 0.130                      | 0.128                      | 0.129                                           | 109                          | 27.2         | 207               | 35.2              |
| 0.0300                     | 1.69               | 33                 | 0.176                      | 0.175                      | 0.162                                           | 176                          | 44.0         | 335               | 56.9              |
|                            |                    |                    |                            |                            |                                                 |                              |              |                   |                   |
|                            |                    |                    |                            |                            |                                                 |                              |              |                   |                   |

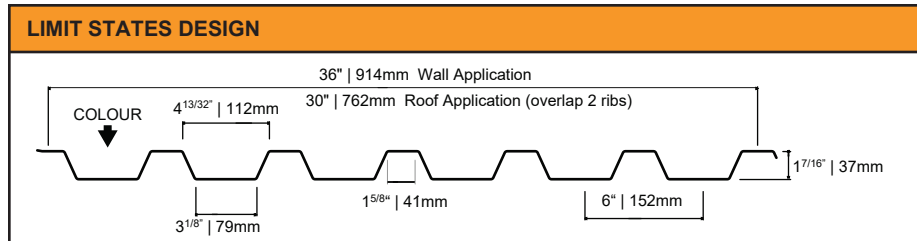
LLF = 1.50; IMPF = 0.90; NORMAL OCCUPANCY = 1.0

**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           | 73                                | 103    | 108    | 145    |  | 70                                | 97     | 106    | 144    |  | 87                                | 121    | 132    | 180    |  |
| 4.0              | D           | 140                               | 133    | 195    | 246    |  | 336                               | 320    | 468    | 590    |  | 264                               | 252    | 369    | 465    |  |
| 4.5              | S           | 58                                | 81     | 85     | 115    |  | 55                                | 77     | 84     | 114    |  | 69                                | 96     | 104    | 142    |  |
| 4.5              | D           | 98                                | 94     | 137    | 173    |  | 236                               | 225    | 329    | 414    |  | 186                               | 177    | 259    | 326    |  |
| 5.0              | S           | 47                                | 66     | 69     | 93     |  | 45                                | 62     | 68     | 92     |  | 56                                | 78     | 85     | 115    |  |
| 5.0              | D           | 72                                | 68     | 100    | 126    |  | 172                               | 164    | 240    | 302    |  | 135                               | 129    | 189    | 238    |  |
| 5.5              | S           | 39                                | 54     | 57     | 77     |  | 37                                | 51     | 56     | 76     |  | 46                                | 64     | 70     | 95     |  |
| 5.5              | D           | 54                                | 51     | 75     | 95     |  | 129                               | 123    | 180    | 227    |  | 102                               | 97     | 142    | 179    |  |
| 6.0              | S           | 32                                | 46     | 48     | 64     |  | 31                                | 43     | 47     | 64     |  | 39                                | 54     | 59     | 80     |  |
| 6.0              | D           | 41                                | 40     | 58     | 73     |  | 99                                | 95     | 139    | 175    |  | 78                                | 75     | 109    | 138    |  |
| 6.5              | S           | 28                                | 39     | 41     | 55     |  | 26                                | 37     | 40     | 55     |  | 33                                | 46     | 50     | 68     |  |
| 6.5              | D           | 33                                | 31     | 45     | 57     |  | 78                                | 75     | 109    | 137    |  | 62                                | 59     | 86     | 108    |  |
| 7.0              | S           | 24                                | 34     | 35     | 47     |  | 23                                | 32     | 35     | 47     |  | 29                                | 40     | 43     | 59     |  |
| 7.0              | D           | 26                                | 25     | 36     | 46     |  | 63                                | 60     | 87     | 110    |  | 49                                | 47     | 69     | 87     |  |
| 7.5              | S           | 21                                | 29     | 31     | 41     |  | 20                                | 28     | 30     | 41     |  | 25                                | 35     | 38     | 51     |  |
| 7.5              | D           | 21                                | 20     | 30     | 37     |  | 51                                | 49     | 71     | 90     |  | 40                                | 38     | 56     | 70     |  |
| 8.0              | S           | 18                                | 26     | 27     | 36     |  | 17                                | 24     | 26     | 36     |  | 22                                | 30     | 33     | 45     |  |
| 8.0              | D           | 17                                | 17     | 24     | 31     |  | 42                                | 40     | 59     | 74     |  | 33                                | 32     | 46     | 58     |  |
| 8.5              | S           | 16                                | 23     | 24     | 32     |  | 15                                | 22     | 23     | 32     |  | 19                                | 27     | 29     | 40     |  |
| 8.5              | D           | 15                                | 14     | 20     | 26     |  | 35                                | 33     | 49     | 61     |  | 28                                | 26     | 38     | 48     |  |
| 9.0              | S           | 14                                | 20     | 21     | 29     |  | 14                                | 19     | 21     | 28     |  | 17                                | 24     | 26     | 36     |  |
| 9.0              | D           | 12                                | 12     | 17     | 22     |  | 29                                | 28     | 41     | 52     |  | 23                                | 22     | 32     | 41     |  |
| 9.5              | S           | 13                                | 18     | 19     | 26     |  | 12                                | 17     | 19     | 26     |  | 15                                | 22     | 23     | 32     |  |
| 9.5              | D           | 10                                | 10     | 15     | 18     |  | 25                                | 24     | 35     | 44     |  | 20                                | 19     | 28     | 35     |  |
| 10.0             | S           | 12                                | 16     | 17     | 23     |  | 11                                | 16     | 17     | 23     |  | 14                                | 19     | 21     | 29     |  |
| 10.0             | D           | 9                                 | 9      | 12     | 16     |  | 21                                | 20     | 30     | 38     |  | 17                                | 16     | 24     | 30     |  |

\*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/m²) | Yield Stress (MPa) | Section Modulus    |                    | Deflection Moment of Inertia (x10⁶ mm⁴) | Specified Web Crippling Data |              |                   |                   |
|                                                 |                     |                    | Midspan (x10³ mm³) | Support (x10³ mm³) |                                         | Pe1 End (kN)                 | Pe2 End (kN) | Pi1 Interior (kN) | Pi2 Interior (kN) |
| 0.457                                           | 5.06                | 230                | 4.74               | 4.54               | 0.126                                   | 0.855                        | 0.214        | 1.63              | 0.277             |
| 0.457                                           | 5.06                | 345                | 4.42               | 4.18               | 0.120                                   | 1.28                         | 0.321        | 2.45              | 0.416             |
| 0.610                                           | 6.66                | 230                | 7.00               | 6.87               | 0.176                                   | 1.60                         | 0.401        | 3.06              | 0.519             |
| 0.762                                           | 8.26                | 230                | 9.43               | 9.37               | 0.222                                   | 2.60                         | 0.649        | 4.94              | 0.840             |
| LLF = 1.50; IMPF = 0.90; 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 | 5.24                             | 7.32  | 7.72  | 10.4  | 5.01                             | 6.92  | 7.59  | 10.4  | 6.27                             | 8.65  | 9.48  | 12.9  |  |  |
| 1.0                                                               | D | 12.1                             | 11.6  | 16.9  | 21.3  | 29.1                             | 27.8  | 40.6  | 51.2  | 22.9                             | 21.9  | 32.0  | 40.3  |  |  |
| 1.2                                                               | S | 3.64                             | 5.08  | 5.36  | 7.23  | 3.48                             | 4.81  | 5.27  | 7.19  | 4.35                             | 6.01  | 6.58  | 8.98  |  |  |
| 1.2                                                               | D | 7.02                             | 6.70  | 9.79  | 12.3  | 16.8                             | 16.1  | 23.5  | 29.6  | 13.3                             | 12.7  | 18.5  | 23.3  |  |  |
| 1.4                                                               | S | 2.67                             | 3.73  | 3.94  | 5.31  | 2.56                             | 3.53  | 3.87  | 5.28  | 3.20                             | 4.41  | 4.84  | 6.60  |  |  |
| 1.4                                                               | D | 4.42                             | 4.22  | 6.16  | 7.77  | 10.6                             | 10.1  | 14.8  | 18.7  | 8.35                             | 7.97  | 11.7  | 14.7  |  |  |
| 1.6                                                               | S | 2.05                             | 2.86  | 3.02  | 4.07  | 1.96                             | 2.70  | 2.96  | 4.04  | 2.45                             | 3.38  | 3.70  | 5.05  |  |  |
| 1.6                                                               | D | 2.96                             | 2.83  | 4.13  | 5.21  | 7.10                             | 6.78  | 9.91  | 12.5  | 5.59                             | 5.34  | 7.80  | 9.84  |  |  |
| 1.8                                                               | S | 1.62                             | 2.26  | 2.38  | 3.21  | 1.55                             | 2.14  | 2.34  | 3.19  | 1.93                             | 2.67  | 2.93  | 3.99  |  |  |
| 1.8                                                               | D | 2.08                             | 1.98  | 2.90  | 3.66  | 4.99                             | 4.76  | 6.96  | 8.80  | 3.93                             | 3.75  | 5.48  | 6.91  |  |  |
| 2.0                                                               | S | 1.31                             | 1.83  | 1.93  | 2.60  | 1.25                             | 1.73  | 1.90  | 2.59  | 1.57                             | 2.16  | 2.37  | 3.23  |  |  |
| 2.0                                                               | D | 1.52                             | 1.45  | 2.11  | 2.67  | 3.64                             | 3.47  | 5.07  | 6.40  | 2.86                             | 2.73  | 4.00  | 5.04  |  |  |
| 2.2                                                               | S | 1.08                             | 1.51  | 1.60  | 2.15  | 1.04                             | 1.43  | 1.57  | 2.14  | 1.30                             | 1.79  | 1.96  | 2.67  |  |  |
| 2.2                                                               | D | 1.14                             | 1.09  | 1.59  | 2.00  | 2.73                             | 2.61  | 3.81  | 4.81  | 2.15                             | 2.05  | 3.00  | 3.79  |  |  |
| 2.4                                                               | S | 0.91                             | 1.27  | 1.34  | 1.81  | 0.87                             | 1.20  | 1.32  | 1.80  | 1.09                             | 1.50  | 1.65  | 2.25  |  |  |
| 2.4                                                               | D | 0.88                             | 0.84  | 1.22  | 1.54  | 2.10                             | 2.01  | 2.94  | 3.70  | 1.66                             | 1.58  | 2.31  | 2.92  |  |  |
| 2.6                                                               | S | 0.77                             | 1.08  | 1.14  | 1.54  | 0.74                             | 1.02  | 1.12  | 1.53  | 0.93                             | 1.28  | 1.40  | 1.91  |  |  |
| 2.6                                                               | D | 0.69                             | 0.66  | 0.96  | 1.21  | 1.66                             | 1.58  | 2.31  | 2.91  | 1.30                             | 1.24  | 1.82  | 2.29  |  |  |
| 2.8                                                               | S | 0.67                             | 0.93  | 0.99  | 1.33  | 0.64                             | 0.88  | 0.97  | 1.32  | 0.80                             | 1.10  | 1.21  | 1.65  |  |  |
| 2.8                                                               | D | 0.55                             | 0.53  | 0.77  | 0.97  | 1.33                             | 1.27  | 1.85  | 2.33  | 1.04                             | 1.00  | 1.46  | 1.84  |  |  |
| 3.0                                                               | S | 0.58                             | 0.81  | 0.86  | 1.16  | 0.56                             | 0.77  | 0.84  | 1.15  | 0.70                             | 0.96  | 1.05  | 1.44  |  |  |
| 3.0                                                               | D | 0.45                             | 0.43  | 0.63  | 0.79  | 1.08                             | 1.03  | 1.50  | 1.90  | 0.85                             | 0.81  | 1.18  | 1.49  |  |  |
|                                                                   |   |                                  |       |       |       |                                  |       |       |       |                                  |       |       |       |  |  |
|                                                                   |   |                                  |       |       |       |                                  |       |       |       |                                  |       |       |       |  |  |

\*Y.S. = Yield Stress