

HOW TO USE THE WHEATLAND WIND LOAD FENCE POST CALCULATOR EXPANDED METAL FENCE

2014

A few tips to help you use the wind load calculator:

1. Familiarize yourself with the American Society of Civil Engineers, ASCE 7-10, wind load exposure categories, B, C and D listed in Table 1.
2. Identify the ice exposure level for your project:
 - a. heavy ice storms
 - b. moderate icing
 - c. no icing
3. Refer to Table 3, Typical Line Post Dimensions, and select what you consider the proper diameter post for the design. Keep in mind the standard fixed post spacing for expanded metal panels is 7 ft. 9 in. (2,362 mm) or 9 ft. 9 in. (2,972 mm) Have available the expanded metal specification for your project.

Table 1. Wind Exposure Category

<p>Exposure B: Urban and suburban areas, wooded areas or other terrain with numerous closely spaced obstructions having the size of single-family dwelling or larger.</p>
<p>Exposure C: Open terrain with scattered obstructions having heights generally less than 30 feet (9.15M). Includes flat open country, grasslands and all water surfaces in hurricane prone regions.</p>
<p>Exposure D: Flat, unobstructed areas exposed to wind flowing over open water for a distance of 1 mile (1.61 km) outside hurricane prone regions. Includes smooth mud flats, salt flats, and unbroken ice.</p>

Table 2. Expanded Metal Mesh Configurations

Mesh Description	Diamond Dimensions	Galvanized Weight
.50 - 13R	0.500 x 1.20 in. 12.70 x 30.48 mm	1.73 lb/sf 8.45 kg/sq. m
.50 - 13R Modified	0.250 x 0.80 in. 6.35 x 20.32 mm	3.10 lb/sf 15.14 kg/sq.m
.75 - 9R	0.923 x 2.00 in. 23.44 x 50.80 mm	1.95 lb/sf 9.52 kg/sq. m
1.0 - 7R Modified	0.875 x 2.20 in. 22.23 x 55.88 mm	4.79 lb/sf 23.39 kg/sq. m

Table 3. Typical line post diameter using ASTM F1083 Schedule 40 Pipe

Mesh Height		Typical Post Outside Diameter	
6 ft	(1.8 m)	2.875 to 4.000 in.	(73.0 to 101.6 mm)
7 ft	(2.1 m)	2.875 to 4.000 in.	(73.0 to 101.6 mm)
8 to 9 ft	(2.4 to 2.7 m)	2.875 to 4.000 in.	(73.0 to 101.6 mm)
10 ft	(3.05 m)	4.000 to 6.625 in.	(101.6 to 168.3 mm)
11 ft	(3.4 m)	4.000 to 6.625 in.	(101.6 to 168.3 mm)
12 to 14 ft	(3.7 to 4.3 m)	4.000 to 6.625 in.	(101.6 to 168.3 mm)
15 to 17 ft	(4.6 to 5.2 m)	4.000 to 8.625 in.	(101.6 to 219.1 mm)
18 to 20 ft	(5.5 to 6.1 m)	4.000 to 8.625 in.	(101.6 to 219.1 mm)

To assist in the line post selection, Table 3 lists the typical post sizes based on a fence located in “Exposure B”, and in a region having no icing. The post sizes listed reflect a fence constructed using 0.75-9R mesh for the full range of wind loads from 90 to 170 MPH. **Keep in mind the post spacing for expanded mesh panels is 7 ft. 9 in. (2,362 mm) or 9 ft. 9 in. (2,971 mm)**

If the calculated post spacing is greater than the standard maximum select a smaller post diameter, if the spacing is less select a larger diameter.

The Wheatland Line Post Selection Guide is derived from the Chain Link Fence Manufacturers Institute’s, “Chain Link Fence Wind Load Guide for the Selection of Line Post and Line Post Spacing” WLG 2445. The CLFMI document follows the American Society of Civil Engineers, ASCE 7-10, Minimum Design Loads for Buildings and Other Structures.

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