

HOW TO USE THE WHEATLAND WIND LOAD FENCE POST CALCULATOR WELDED WIRE MESH FENCE

2014

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 the project:
 - a. heavy ice storms, b. moderate icing, c. no icing
3. Refer to Table 3, Typical Line Post Dimension, and select what you consider the proper post diameter for the design. Keep in mind the welded wire mesh listed is manufactured in panels and post spacing is fixed at 7' 0".
4. Have available the welded wire mesh specifications for the project, the mesh configuration, wire gauge and the height of the fence, see Table 2. Fences containing windscreens are considered solid panels, select "solid panel" in the mesh size drop down window. The ice exposure coefficient automatically defaults to no icing for solid panels.

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. Welded wire mesh configurations

Mesh size inches (mm) Center to center	Description	Finished Wire Diameter Inches (mm)
2 x 2 (50 x 50 mm)	6 ga. Galv. After	0.200 (5.08 mm)
2 x 2 (50 x 50 mm)	6 ga. Galv. + PVC	0.220 (5.59 mm)
2 x 2 (50 x 50 mm)	8 ga. Galv. After	0.170 (4.31 mm)
2 x 2 (50 x 50 mm)	8 ga. Galv. + PVC	0.190 (4.82 mm)
2 x 2 (50 x 50 mm)	10.5 ga. Galv. After	0.136 (3.45 mm)
2 x 2 (50 x 50 mm)	10.5 ga. Galv. + PVC	0.156 (3.96 mm)
1/2 x 3 (13 x 76 mm)	8 ga. Galv. After	0.170 (4.31 mm)
1/2 x 3 (13 x 76 mm)	8 ga. Galv. + PVC	0.190 (4.82 mm)
1/2 x 3 (13 x 76 mm)	10.5 ga. Galv. After	0.136 (3.45 mm)
1/2 x 3 (13 x 76 mm)	10.5 ga. Galv. + PVC	0.156 (3.96 mm)

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

Fence Height	Typical Post Outside Diameter
4 ft (1.2 m)	1.900 to 2.375 in. (48.3 to 60.3 mm)
5 ft (1.5 m)	1.900 to 2.375 in. (48.3 to 60.3 mm)
6 ft (1.8 m)	1.900 to 2.875 in. (48.3 to 73.0 mm)
7 ft (2.1 m)	2.375 to 2.875 in. (60.3 to 73.0 mm)
8 to 9 ft (2.4 to 2.7 m)	2.375 to 4.000 in. (60.3 to 101.6 mm)
10 ft (3.05 m)	2.375 to 4.000 in. (60.3 to 101.6 mm)
11 ft (3.4 m)	2.875 to 4.000 in. (73.0 to 101.6 mm)
12 to 14 ft (3.7 to 4.3 m)	2.875 to 6.625 in. (73.0 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 selection of the line post, review Table 3 listing typical post sizes based on a fence having 2" 8 gauge mesh located in "Exposure B", and in a region having no icing. The post sizes listed reflect wind loads from 90 to 170 MPH. Post spacing varies with panel size from 6 ft (1.8 m) to 10 ft (3.05 m)

If the calculated post spacing is greater than the standard maximum spacing for the panel size 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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