



Thermoplastic Single Ply and Multi-Ply Roofing Systems

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FLEX TPO PLUS MEMBRANE **ENHANCED WIND UPLIFT FASTENING** **REQUIREMENTS**

The following is general information regarding Flex TPO Plus Roof System design requirements for areas in which wind speed velocities may occur in excess of 55 miles per hour. A wind uplift pressure design professional accredited in the specific area should calculate the wind uplift pressure resistance required for the project. The wind uplift pressure resistance values can then be matched to existing approved Flex Roof Assemblies. Contact Flex Technical Services for additional information regarding approved assemblies.

A. Approved Decks

Mechanically Fastened Roof Systems

- 1) Approved Decks (wind speeds to 72 mph)
 - a) 22 gauge steel
 - b) Structural concrete (3000 psi)
 - c) Wood Plank (1 ½" min.)
 - d) CDX Plywood (5/8"min.)
 - e) OSB (7/16"min)
 - f.) Lightweight Insulating concrete over steel deck
 - g.) Gypsum
 - h.) Cementitious Wood Fiber

- 2) Approved Decks (wind speeds to 80 mph)
 - a) 22 gauge steel
 - b) Structural concrete (3000 psi)
 - c) Wood Plank (1 ½" min.)
 - d) CDX Plywood (15/32"min.)

- 3) Approved Decks (wind speeds to 100 mph)
 - a) 22 gauge steel
 - b) Structural concrete (3000 psi)

- c) Wood Plank (1 ½" min.)

Adhered Roof Systems

- 1) Approved Decks (wind speeds to 72 mph)
 - a) 22 gauge steel
 - b) Structural concrete (3000 psi)
 - c) Wood Plank (1 ½" min.)
 - d) CDX Plywood (5/8"min.)
 - e) OSB (7/16"min)
 - f) Lightweight Insulating concrete over steel deck
 - g) Gypsum
 - h) Cementitious Wood Fiber

- 2) Approved Decks (wind speeds to 80 mph)
 - a) 22 gauge steel
 - b) Structural concrete (3000 psi)
 - c) Wood Plank (1 ½" min.)
 - d) CDX Plywood (5/8"min.)
 - e) OSB (7/16"min)
 - f) Lightweight Insulating concrete over steel deck

- 3) Approved Decks (wind speeds to 90 mph)
 - a) 22 gauge steel
 - b) Structural concrete (3000 psi)
 - c) Wood Plank (1 ½" min.)
 - d) CDX Plywood (15/32"min.)
 - e) Lightweight Insulating concrete over steel deck

- 4) Approved Decks (wind speeds to 120 mph)
 - a) 22 gauge steel
 - b) Structural concrete (3000 psi)
 - c) Wood Plank (1 ½" min.)
 - d) CDX Plywood (15/32"min.)
 - e) Lightweight Insulating concrete over concrete deck

B. Fastening Criteria

Mechanically Fastened Roof Systems

- 1) Wind Speeds to 72 mph.
All decks minimum of 2 perimeter sheets. 8' wide or 10' wide field sheets
Fasteners 12" o.c.

- 2) Wind Speeds to 80 mph.

Structural concrete decks Minimum of 4 perimeter sheets. 8' wide or 10' wide field sheets. Fasteners 12" o.c.

Steel and Wood Decks Minimum of 3 perimeter sheets. 8' wide or 10' wide field sheets. Fasteners 12" o.c.

3) Wind Speeds to 90 mph

Structural concrete decks, Steel and approved Wood Decks. Minimum of 3 perimeter sheets. 8' wide sheets fastened 12" o.c., 10' wide sheets fastened 6" o.c.

4) Wind Speeds to 100 mph

60 mil minimum membrane thickness.

Structural concrete decks, Steel and approved Wood Decks, Minimum of 2 perimeter sheets fastened 6" o.c. 8' wide sheets fastened 12" o.c. 10' wide sheets fastened 6" o.c.

Adhered Roof Systems

1) Wind Speeds to 80 mph.

a) Polyisocyanurate Insulation Board (20 psi Min 1 1/2" thick) 11 fasteners per 4'x8' Board

b) 1/4" Dens Deck Prime 12 fasteners per 4'x8' Board

2) Wind Speeds to 90 mph.

a) Polyisocyanurate Insulation Board (25 psi Min 1 1/2" thick) 16 fasteners per 4'x8' Board.

b) 1/2" Dens Deck Prime 12 fasteners per 4'x8' Board

3) Wind Speeds to 100 mph

a) 7/16" OSB over Flex ISO board. 17 Fasteners per 4'x8' Board

b) 5/8" DensDeck Prime. 16 fasteners per 4'x8' Board

4) Wind Speeds to 120 mph

a) 7/16" OSB over Flex ISO board. 17 Fasteners per 4'x8' Board

b) 5/8" DensDeck Prime. 24 fasteners per 4'x8' Board

Note: Fastener to be Flex Standard Insulation fastener with 3" metal insulation plate.

Fastener density listed above is for field of roof area. Fastener density must be increased a minimum of 60% in the roof corner areas and 40% in the roof perimeter area.