

UL PRODUCT CATEGORY

Roofing Systems, Uplift Resistance

See General Information for Roofing Systems, Uplift Resistance

WINDSMART LLC

R38880

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SUITE D

DES MOINES, IA 50312 USA

SINGLE-PLY MEMBRANE SYSTEMS

Certifications only apply to Roofing Systems composed of materials certified under Roofing Systems (TGFU) or Prepared Roof-covering Materials (TFWZ), unless otherwise noted, and assembled as described in the Roofing Systems (TGFU) or Prepared Roof-covering Materials (TFWZ) Certifications for the individual manufacturers. This includes, but is not limited to, the specification of adhesive application rates, and identification of membrane, adhesive and insulation combinations. Exceptions are the Pressure Equalizing Vent, Air Barrier and Air Seal.

"WindForce 365 Equalization Vent" are to be positioned in the wind uplift vortex intensity zones of the roof to transfer wind-generated vacuums to the air-sealed substrate, per the manufacturer's specifications.

For roofing systems to be installed (recover) over Existing Roof Systems, the minimum field withdrawal resistance of each type of fastener utilized in the recover roofing system is specified in the individual certifications as guidance to assist Authorities Having Jurisdiction in determining the suitability of a new construction as a recover system

1. Uplift Resistance: — 285 psf

Deck: — Steel, min. 22 MSG.

Air-Barrier Board: — ReWall "HalfBack", min. 1/2 in. thick, mechanically fastened with No. 15 screws and 3 in. metal insulation plates, at a minimum rate of 1 fastener and plate per 1.33 ft² (min. 24 per 4 ft. by 8 ft. board). Fasteners to penetrate steel deck by min. 3/4 in.

Air Barrier: — Vapor barrier, adhered or self-adhered, and/or Air-Barrier Board joints primed and sealed.

Air Seal: — Butyl rubber gasket, min. 3/4 in. wide, installed around perimeter of Air Barrier and perimeters of any internal penetrations.

Insulation (Optional): — Any UL Classified insulation, any combination, mechanically attached or with weighted cover board.

Membrane: — Any UL Classified single-ply membrane. Membrane fastened with No. 14 screws, spaced max 6 in. OC, installed with termination bars located over Air Seal. Fasteners to penetrate steel deck by min. 3/4 in. Membrane loose laid or adhered in field of roof.

Pressure Equalizing Vent: — "WindForce 365 Equalization Vent", spaced per the manufacturer's specifications, max 50 ft. OC along the perimeter.

2. **Uplift Resistance:** — See Note 1.

Existing Roof System: — Any existing UL Classified roof assembly over a steel deck, min. 22 MSG.

Air Seal: — Butyl rubber gasket, min. 3/4 in. wide, installed around perimeter of Air Barrier and perimeters of any internal penetrations.

Insulation (Optional): — Any UL Classified insulation, any combination, mechanically attached or with weighted cover board.

Membrane: — Any UL Classified single-ply membrane. Membrane fastened with No. 14 screws, spaced max 6 in. OC, installed with termination bars located over Air Seal. Fasteners to penetrate steel deck by min. 3/4 in. (see Note 2). Membrane loose laid or adhered in field of roof.

Pressure Equalizing Vent: — "WindForce 365 Equalization Vent", spaced per the manufacturer's specifications, max 50 ft. OC along the perimeter.

Note 1: The resulting Uplift Resistance is limited to the lesser of the Uplift Resistance of the Existing Roof System and 285 psf.

Note 2: The field withdrawal resistance testing of roof cover fasteners shall yield a minimum of 143 lbf.

3. **Uplift Resistance:** — 225 psf

Deck: — Steel, min. 22 MSG.

Air-Barrier Board: — ReWall "HalfBack", min. 1/2 in. thick, mechanically fastened with No. 15 screws and 3 in. metal insulation plates, at a minimum rate of 1 fastener and plate per 1.33 ft² (min. 24 per 4 ft. by 8 ft. board). Fasteners to penetrate steel deck by min. 3/4 in.

Air Barrier: — Vapor barrier, adhered or self-adhered, and/or Air-Barrier Board joints primed and sealed.

Air Seal: — Butyl rubber gasket, min. 3/4 in. wide, installed around perimeter of Air Barrier and perimeters of any internal penetrations.

Insulation (Optional): — Any UL Classified insulation, any combination, mechanically attached or with weighted cover board.

Compression Board: — OSB sheathing or ReWall "HalfBack", min. 1/2 in. thick and min. 2 ft. wide, centered over Air Seal and fastened with No. 15 screws and 3 in. metal insulation plates, at a minimum rate of 1 fastener and plate per 1.33 ft² (min. 12 per 2 ft. by 8 ft. board). Fasteners to penetrate steel deck by min. 3/4 in.

Membrane: — Any UL Classified TPO or EPDM single-ply membrane. Membrane adhered to Compression Board with UL Classified bonding adhesive, at a rate per the membrane manufacturer's specifications. Membrane loose laid or adhered in field of roof.

Pressure Equalizing Vent: — "WindForce 365 Equalization Vent", spaced per the manufacturer's specifications, max 50 ft. OC along the perimeter.

4. Uplift Resistance: — See Note 1

Existing Roof System: — Any existing UL Classified roof assembly over a steel deck, min. 22 MSG.

Air Seal: — Butyl rubber gasket, min. 3/4 in. wide, installed around perimeter of Air Barrier and perimeters of any internal penetrations.

Insulation (Optional): — Any UL Classified insulation, any combination, mechanically attached or with weighted cover board.

Compression Board: — OSB sheathing or ReWall "HalfBack", min. 1/2 in. thick and min. 2 ft. wide, centered over Air Seal and fastened with No. 15 screws and 3 in. metal insulation plates, at a minimum rate of 1 fastener and plate per 1.33 ft² (min. 12 per 2 ft. by 8 ft. board). Fasteners to penetrate steel deck by min. 3/4 in. (see Note 2).

Membrane: — Any UL Classified TPO or EPDM single-ply membrane. Membrane adhered to Compression Board with UL Classified bonding adhesive, at a rate per the membrane manufacturer's specifications. Membrane loose laid or adhered in field of roof.

Pressure Equalizing Vent: — "WindForce 365 Equalization Vent", spaced per the manufacturer's specifications, max 50 ft. OC along the perimeter.

Note 1: The resulting Uplift Resistance is limited to the lesser of the Uplift Resistance of the Existing Roof System and 225 psf.

Note 2: The field withdrawal resistance testing of roof cover fasteners shall yield a minimum of 300 lbf.

5. Uplift Resistance: — 210 psf

Deck: — Min. 19/32 in. APA rated plywood.

Air Barrier: — Vapor barrier, adhered or self-adhered, and/or Deck joints primed and sealed.

Air Seal: — Butyl rubber gasket, min. 3/4 in. wide, installed around perimeter of Air Barrier and perimeters of any internal penetrations.

Insulation (Optional): — Any UL Classified insulation, any combination, mechanically attached or with weighted cover board.

Membrane: — Any UL Classified single-ply membrane. Membrane fastened with No. 14 screws, spaced max 6 in. OC, installed with termination bars located over Air Seal. Fasteners to penetrate plywood deck by min. 3/4 in. Membrane loose laid or adhered in field of roof.

Pressure Equalizing Vent: — "Equalization Vents", spaced per the manufacturer's specifications, max 50 ft. OC along the perimeter.

6. Uplift Resistance: — See Note 1

Existing Roof System: — Any existing UL Classified roof assembly over a min. 19/32 in. APA rated plywood deck.

Air Seal: — Butyl rubber gasket, min. 3/4 in. wide, installed around perimeter of Air Barrier and perimeters of any internal penetrations.

Insulation (Optional): — Any UL Classified insulation, any combination, mechanically attached or with weighted cover board.

Membrane: — Any UL Classified single-ply membrane. Membrane fastened with No. 14 screws, spaced max 6 in. OC, installed with termination bars located over Air Seal. Fasteners to penetrate plywood deck by min. 3/4 in. (see Note 2). Membrane loose laid or adhered in field of roof.

Pressure Equalizing Vent: — "WindForce 365 Equalization Vent", spaced per the manufacturer's specifications, max 50 ft. OC along the perimeter.

Note 1: The resulting Uplift Resistance is limited to the lesser of the Uplift Resistance of the Existing Roof System and 210 psf.

Note 2: The field withdrawal resistance testing of roof cover fasteners shall yield a minimum of 105 lbf.

7. Uplift Resistance: — 210 psf

Deck: — Min. 19/32 in. APA rated plywood.

Air Barrier: — Vapor barrier, adhered or self-adhered, and/or Deck joints primed and sealed.

Air Seal: — Butyl rubber gasket, min. 3/4 in. wide, installed around perimeter of Air Barrier and perimeters of any internal penetrations.

Insulation (Optional): — Any UL Classified insulation, any combination, mechanically attached or with weighted cover board.

Compression Board: — OSB sheathing or ReWall "HalfBack", min. 1/2 in. thick and min. 2 ft. wide, centered over Air Seal and fastened with No. 15 screws and 3 in. metal insulation plates, at a minimum rate of 1 fastener and plate per 1.33 ft² (min. 12 per 2 ft. by 8 ft. board). Fasteners to penetrate plywood deck by min. 3/4 in.

Membrane: — Any UL Classified TPO or EPDM single-ply membrane. Membrane adhered to Compression Board with UL Classified bonding adhesive, at a rate per the membrane manufacturer's specifications. Membrane loose laid or adhered in field of roof.

Pressure Equalizing Vent: — "WindForce 365 Equalization Vent", spaced per the manufacturer's specifications, max 50 ft. OC along the perimeter.

8. **Uplift Resistance:** — See Note 1

Existing Roof System: — Any existing UL Classified roof assembly over a min. 19/32 in. APA rated plywood deck.

Air Seal: — Butyl rubber gasket, min. 3/4 in. wide, installed around perimeter of Air Barrier and perimeters of any internal penetrations.

Insulation (Optional): — Any UL Classified insulation, any combination, mechanically attached or with weighted cover board.

Compression Board: — OSB sheathing or ReWall "HalfBack", min. 1/2 in. thick and min. 2 ft. wide, centered over Air Seal and fastened with No. 15 screws and 3 in. metal insulation plates, at a minimum rate of 1 fastener and plate per 1.33 ft² (min. 12 per 2 ft. by 8 ft. board). Fasteners to penetrate plywood deck by min. 3/4 in. (see Note 2).

Membrane: — Any UL Classified TPO or EPDM single-ply membrane. Membrane adhered to Compression Board with UL Classified bonding adhesive, at a rate per the membrane manufacturer's specifications. Membrane loose laid or adhered in field of roof.

Pressure Equalizing Vent: — "WindForce 365 Equalization Vent", spaced per the manufacturer's specifications, max 50 ft. OC along the perimeter.

Note 1: The resulting Uplift Resistance is limited to the lesser of the Uplift Resistance of the Existing Roof System and 210 psf.

Note 2: The field withdrawal resistance testing of roof cover fasteners shall yield a minimum of 280 lbf.

9. **Uplift Resistance:** — 495 psf

Deck: — Structural concrete (cast-in-place, or pre-cast). Pre-cast decks must be reviewed for suitability of fastener.

Air Barrier: — Deck-to-wall transitions and pre-cast joints primed and sealed.

Air Seal: — Butyl rubber gasket, min. 3/4 in. wide, installed around perimeter of Air Barrier and perimeters of any internal penetrations.

Insulation (Optional): — Any UL Classified insulation, any combination, mechanically attached or with weighted cover board.

Membrane: — Any UL Classified single-ply membrane. Membrane fastened with No. 14 screws, spaced max 6 in. OC, installed with termination bars located over Air Seal. Fasteners to penetrate concrete deck by min. 1 in. Membrane loose laid or adhered in field of roof.

Pressure Equalizing Vent: — "WindForce 365 Equalization Vent", spaced per the manufacturer's specifications, max 50 ft. OC along the perimeter.

10. **Uplift Resistance:** — See Note 1

Existing Roof System: — Any existing UL Classified roof assembly over structural concrete. Pre-cast decks must be reviewed for suitability of fastener.

Air Seal: — Butyl rubber gasket, min. 3/4 in. wide, installed around perimeter of Air Barrier and perimeters of any internal penetrations.

Insulation (Optional): — Any UL Classified insulation, any combination, mechanically attached or with weighted cover board.

Membrane: — Any UL Classified single-ply membrane. Membrane fastened with No. 14 screws, spaced max 6 in. OC, installed with termination bars located over Air Seal. Fasteners to penetrate concrete deck by min. 1 in. (see Note 2). Membrane loose laid or adhered in field of roof.

Pressure Equalizing Vent: — "WindForce 365 Equalization Vent", spaced per the manufacturer's specifications, max 50 ft. OC along the perimeter.

Note 1: The resulting Uplift Resistance is limited to the lesser of the Uplift Resistance of the Existing Roof System and 495 psf.

Note 2: The field withdrawal resistance testing of roof cover fasteners shall yield a minimum of 248 lbf.

11. Uplift Resistance: — 225 psf

Deck: — Structural concrete (cast-in-place, or pre-cast). Pre-cast decks must be reviewed for suitability of fastener.

Air Barrier: — Deck-to-wall transitions and pre-cast joints primed and sealed.

Air Seal: — Butyl rubber gasket, min. 3/4 in. wide, installed around perimeter of Air Barrier and perimeters of any internal penetrations.

Insulation (Optional): — Any UL Classified insulation, any combination, mechanically attached or with weighted cover board.

Compression Board: — OSB sheathing or ReWall "HalfBack", min. 1/2 in. thick and min. 2 ft. wide, centered over Air Seal and fastened with No. 15 screws and 3 in. metal insulation plates, at a minimum rate of 1 fastener and plate per 1.33 ft² (min. 12 per 2 ft. by 8 ft. board). Fasteners to penetrate concrete deck by min. 1 in.

Membrane: — Any UL Classified TPO or EPDM single-ply membrane. Membrane adhered to Compression Board with UL Classified bonding adhesive, at a rate per the membrane manufacturer's specifications. Membrane loose laid or adhered in field of roof.

Pressure Equalizing Vent: — "WindForce 365 Equalization Vent", spaced per the manufacturer's specifications, max 50 ft. OC along the perimeter.

12. Uplift Resistance: — See Note 1

Existing Roof System: — Any existing UL Classified roof assembly over structural concrete. Pre-cast decks must be reviewed for suitability of fastener.

Air Seal: — Butyl rubber gasket, min. 3/4 in. wide, installed around perimeter of Air Barrier and perimeters of any internal penetrations.

Insulation (Optional): — Any UL Classified insulation, any combination, mechanically attached or with weighted cover board.

Compression Board: — OSB sheathing or ReWall "HalfBack", min. 1/2 in. thick and min. 2 ft. wide, centered over Air Seal and fastened with No. 15 screws and 3 in. metal insulation plates, at a minimum rate of 1 fastener and plate per 1.33 ft² (min. 12 per 2 ft. by 8 ft. board). Fasteners to penetrate concrete deck by min. 1 in. (see Note 2).

Membrane: — Any UL Classified TPO or EPDM single-ply membrane. Membrane adhered to Compression Board with UL Classified bonding adhesive, at a rate per the membrane manufacturer's specifications. Membrane loose laid or adhered in field of roof.

Pressure Equalizing Vent: — "WindForce 365 Equalization Vent", spaced per the manufacturer's specifications, max 50 ft. OC along the perimeter.

Note 1: The resulting Uplift Resistance is limited to the lesser of the Uplift Resistance of the Existing Roof System and 225 psf.

Note 2: The field withdrawal resistance testing of roof cover fasteners shall yield a minimum of 300 lbf.

13. Uplift Resistance: — 195 psf

Deck: — Steel, min. 22 MSG. roof.

Air Barrier: — Vapor barrier adhered or self-adhered.

Air Seal: — — Butyl rubber gasket, min. 3/4 in. to 1.5 in., installed around perimeter of Air Barrier and perimeters of any internal penetrations.

Insulation (Optional): — Any UL Classified insulation, any combination, mechanically attached or with weighted cover board.

Membrane: — — Any UL Classified single-ply membrane roofing system. Membrane perimeter fastened with No. 15 screws, spaced maximum 6 inches OC, installed with termination bars located over Air Seal. Fasteners to penetrate steel deck by min. 3/4 in. Membrane loose laid or adhered in field of roof.

Pressure Equalizing Vent: — "WindForce 365 Equalization Vent", spaced per the manufacturer's specifications, max 50 ft. OC along the perimeter.

Last Updated on 2022-09-07

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