Roof System Assessment Report of Wind Uplift Resistance

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Manufacturer:

CARLISLE SYNTEC

Authorized Production Sites: Senatobia, MS and Tooele, UT, USA

Roofing Assembly Summary: Rhinobond TPO membrane system

- **Membrane:** Carlisle Sure-Weld TPO Membrane
- **Coverboard:** Optional
- **Insulation:** Carlisle Polyiso HP-H or equivalent
- **Vapour Barrier:** Carlisle CCW 725 TR or equivalent
- **Thermal Barrier:** Optional
- **Decking:** Steel deck, 22 gauge or equivalent
- **Tested Dynamic Uplift Resistance (DUR) as per CSA A123.21 standard:** -3.4 kPa (-70 psf)

Notes:

Equivalent products:
Only equivalent products included into the roofing system's report are admissible.

Optional components:
Components of the roofing system designated as optional may be included or excluded from the roofing system which will not change the published dynamic uplift resistance (DUR).

Safety factor:
As required by in the CSA A123.21 standard, the published dynamic uplift resistance (DUR) are reduced by a safety factor of 1.5.

Admissible wind uplift load calculation:
An online calculator is available at www.sigders.ca. The user will have to provide the following information:

- building location;
- building geometry;
- building exposure;
- building openings;
- building importance factor.

The calculator will display the allowable design load of the roof's field surface, edges and corners as well as the dimensions of the edge and corner zones.

Technical Advisories:
Assessment reports must be read in conjunction with technical advisories issued by Les Services **exp** Inc.

Values
For this document, the metric values are the standard and values in parentheses are for information only.

Notice
Les Services exp reserve their right to withdraw, without prior notice, the test report performed as per CSA A123.21 standard

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Roofing Assembly Details:

Membrane:

- **Membrane:** Sure-Weld TPO, 1.1 mm (45 mil) nominal thickness
- **Description:** White or colored reinforced Thermoplastic Polyolefin (TPO) roofing membrane
- **Equivalents:** 1.5 mm (60 mil) Sure-Weld, 1.8 or 2.1 mm (72 or 80 mil) Sure-Weld Extra, 1.1 or 1.5 mm (45 or 60 mil) Sure-Weld HS, 1.8 or 2.1 mm (72 or 80 mil) Sure-Weld HS Extra, 1.1 to 2.1 mm (45 to 80 mil) Spectro-Weld
- Attachment method:

Spacing:		Dynamic Uplift Resistance (DUR):	
Max. row	Fasteners	Observed on test	With 1.5 factor
610 mm (24 in.)	610 mm (24 in.)	-5.0 kPa (-105 psf)	-3.4 kPa (-70 psf)

- **Fasteners:** HP-X Fasteners (#15)
- **Plates:** Piranha Plates

Coverboard (optional):

- **Type:** Carlisle HP Recovery Board
- **Supplier:** Carlisle SynTec
- **Description:** Rigid overlayment board
- **Equivalents:** DensDeck, DensDeck Prime, Securock, oriented strand board (OSB), plywood,gypsum, Carlisle SecurShield HD or HD Plus and Hunter Panels H-Shield HD or HD 90
- **Thickness:** minimum 6 mm (1/4 inch)
- **Attachment method:** Fasteners and plates (see insulation section)

Note: When a coverboard is used, fasteners and plates normally used to attach the insulation are used to simultaneously attach the coverboard and insulation (see insulation section below).

Insulation:

- **Type:** Polyisocyanurate, Carlisle Polyiso HP-H
- **Supplier:** Carlisle SynTec
- **Description:** Polyisocyanurate foamed plastic between two facers with a compressive strength of 138 kPa (20 psi) in accordance with the ASTM D 1621 standard
- **Equivalents:** Carlisle SecurShield or Securshield HD Composite, Hunter Panels H-Shield, Hunter Panels H-Shield-CG, H-Shield HD Composite
- **Attachment method:** 1 fastener and plate per 0.372 m^2 (4 ft^2)
- **Fastener type:** HP-X Fasteners (#15)
- **Plate type:** Carlisle RhinoBond plates, 75 mm (3 inches) round plate specialized design for RhinoBond system.
  Metal plates must have an anticorrosion coating.

Vapour Barrier:

- **Vapour Barrier:** Carlisle CCW 725 TR
- **Supplier:** Carlisle SynTec
- **Equivalents:** Carlisle CCW 725, CCW 705 or minimum 0.15 mm (6 mil) thick polyethylene
- **Attachment method:** Self-adhered or loosely laid and sealed at the laps in the case of the polyethylene

Thermal Barrier (optional):

- **Type:** Gypsum board
- **Equivalents:** DensDeck, DensDeck Prime, Securock
- **Thickness:** 6 mm (1/4 inch), minimum
- **Attachment method:** Loosely laid, adhesively attached or mechanically attached

Decking:

- **Type:** Galvanized or aluminum / zinc alloy coated steel in accordance with ASTM A653, ASTM A792, ASTM, ASTM A1008 or CSSBI 10M Standards
- **Thickness:** 0.76 mm (0.03 in.) minimum, with a yield strength of 230 MPa (33 ksi) and a tensile strength of 310 MPa (45 ksi) commonly defined as being of a 22 gauge minimum thickness.
- **Equivalents**: Any decking material with a fastener pull-out resistance either equal to or greater than that referenced below
- **Attachment method:** Attachment must be sufficient to resist wind uplift loads determined per NBC requirements
- **Fastener Pull-Out resistance:** 2.0 kN (450 pf)

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