



# Roof System Assessment Report of Wind Uplift Resistance

**Publication date:** December 12, 2011  
**Cancels and Replaces:**  
**LLS Document Number:** RAP-DRU208111  
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**Manufacturer:**

**CARLISLE SYNTEC**

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**Authorized membrane production sites:** Mountain Top, PA; Hillside, NJ - USA

**Roofing System Summary: PVC mechanically fastened**

- Membrane: Sure-Flex PVC or equivalent membrane
  - Insulation: Polyiso HP-H or equivalent product
  - Vapour barrier: 725 TR or equivalent product
  - Thermal barrier: Optional
  - Decking: Steel deck 22 gauge or equivalent
- Dynamic Uplift Resistance (DUR) as per CSA A123.21 standard: -2.3 kPa (-47 psf)

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- 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](http://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**.

**Values**

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

**Notice**

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



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## Roofing System's Specific Data:

### Membrane:

- Membrane: Sure-Flex PVC 1.3 mm (50 mil)
- Membrane description: White or colored PVC roofing membrane
- Equivalents: 1.5 or 2.1 mm (60 or 80 mil.) Sure-Flex; 1,3, 1,5 or 2,1 mm (50, 60 or 80 mil.) Sure-Flex PVC KEE; 2.7 , 2.9 or 3.4 mm (105,115 or 135 mil.) Sure-Flex KEE FRS Fleeceback
- Attachment method :

Spacing :		Dynamique Uplift Resistance (DUR) :	
Max. Row	Fasteners	Observed on test	With 1.5 factor
2 896 mm (114 in.)	305 mm (12 in.)	-3,4 kPa (-70 psf)	-2,3 kPa (-47 psf)

### 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 HD90
- 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:

- Insulation type: Polyiso HP-H (or approved equivalent)
- Supplier: Carlisle Syntec
- Insulation description: Composed of polyisocyanurate plastic foam inserted between two facers with a compressive strength of 138 kPa (20 psi) in accordance with the ASTM D 1621 standard.
- Attachment method: 1 fastener and plate per 0.372 m<sup>2</sup> (4ft<sup>2</sup>)
- Equivalents: EPS composite Board, Carlisle SecurShield or Securshield HD Composite, Hunter Panels H-Shield, Hunter Panels H-Shield-CG, H-Shield HD Composite
- Screw type: Carlisle fasteners or minimum no 12 roofing fasteners with an anticorrosion coating,
- Plate type: Carlisle insulation plates, 75 mm (3 in.) round or square, plastic or metal. Hexagonal plastic or metal roofing insulation plate.

### Vapour Barrier:

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



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## **Thermal Barrier (optional):**

- Type: Gypsum panel
- Supplier: Generic
- Description: Panel with gypsum core
- Thickness: 6 mm (1/4 in.) minimum
- Attachment method: Loosely laid, adhesively attached or mechanically attached
- Equivalents: DensDeck, DensDeck Prime, Securock

## **Decking:**

- Supplier: Generic
- Decking type: Galvanized or aluminum/zinc alloy coated steel in accordance with ASTM A653, ASTM A792, 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: Steel deck thickness of 18 to 22 gauges or other deck with pull-out resistance equivalent to the one specified below.
- Attachment method: The deck's fastening to the supporting structure must be strong enough to resist wind uplift loads (adjusted as per NBC requirements).
- Fastening uplift resistance (CSA S136.F04): 2.0 kN (450 pf)