



Roof System Assessment Report of Wind Uplift Resistance (ISO 17025)

Document Number:	PUB-DRU168431
Publication Date:	2011-03-03
Revised:	2015-07-20
Revaluation Date:	2014-03-03

Supplier:



UltraPly™ TPO InvisiWeld mechanically attached System, Mechanically Attached Roof System (MARS)

Roofing System Summary :

- membrane: TPO membrane or allowable products
- Cover board: Optional
- Insulation: Polyisocyanurate or allowable products
- Vapour barrier: Membrane or allowable products
- Thermal barrier: Optional
- Decking: Steel Deck

- Dynamic Uplift Resistance (DUR) as per CSA A123.21:

Description	Test observation reading	With SF of 1.5
System A	-4.5 kPa (-94 psf)	-3.0 kPa (-63 psf)

Notes :

Allow 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 (SF 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 **exp** Services Inc.

Values

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

Notice

Exp Services inc. 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:

- Allowable product:	Firestone		
	UltraPly™ TPO	Platinum TPO	ReflexEON 60 mil
- Attachment mode:	Mechanically attached		
Mechanically attached Pattern for System A result	Row spacing	Fasteners spacing	
	610 mm (24 in.) o.c.	610 mm (24 in.) o.c.	
- Attachment type:	Fasteners #14 (W56RAC4234) and plates (W56TPOPL04)		
- Pullout fastener resistance:	Minimal reference resistance base on test: 697 lbf or 316.1 Kg		
- Attachment supplier:	Firestone		

Cover board (optional): See optional products table

Insulation:

- Allowable products:	Firestone		
	ISO 95+	Resista	
- Allowable thickness:	Between 25 mm (1 in.) to 203 mm (8 in.)		
- Attachment mode:	Loose laid or adhered or mechanically attached		

Vapour Barrier:

- Allowable products:	Firestone		
	V-Force	Basegard SA	
	Generic		
	Polyethylene	Kraft paper	
- Attachment mode:	Adhered or loose laid		
- Attachment type:	Self-adhering membrane or loose laid or adhered		

Thermal Barrier (optional): See optional products table

Decking:

- Type:	Galvanized construction steel or coated with an aluminum/zinc alloy or PVC in accordance with ASTM A653, ASTM A792, ASTM A1008 or CSSBI 10M Standards.
- Supplier:	Generic
- 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.
- 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):	2.09 kN (470 pf)
- Equivalence:	Steel deck thickness of 18 to 22 gauges or wood deck or concrete deck with pullout resistance equal or higher than the Fastening uplift resistance specified above.



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Optional Products Table:

Cover board:

- Allowable product:	Firestone		
	ISOGard HD	ISOGard HD Composite	HailGard
	CGC / USG		
	Securock Gypsum Fiber Roof Board		
	Georgia Pacific		
	Dens Deck	Dens Deck Primed	
- Allowable thickness:	Between 6 mm (¼ in.) to 15.9 mm (5/8 in.)		
- Attachment mode:	Loose laid or adhered or mechanically attached		

Thermal barrier:

- Allowable product:	Georgia Pacific		
	DensDeck	DensDeck Prime	
	CGC / USG		
	Securock Gypsum Fiber Roof Board		
- Allowable thickness:	Between 6 mm (¼ in.) to 15.9 mm (5/8 in.)		
- Attachment mode:	Loose laid or adhered or mechanically attached		