



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

Document Number:	PUB-DRUXXXXXX
Publication Date:	2014-07-07
Revised:	2015-07-22
Revaluation Date:	2018-07-22

Supplier:



## UltraPly™ TPO 12 fasteners mechanically attached System, Mechanically Attached Roof System (MARS)

### Roofing System Summary :

- membrane: TPO membrane or allowable products
- Cover board: Polyisocyanurate board or allowable products
- 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
<b>System A</b>	-5.7 kPa (-120 psf)	<b>-3.8 kPa (-80 psf)</b>

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](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 **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:

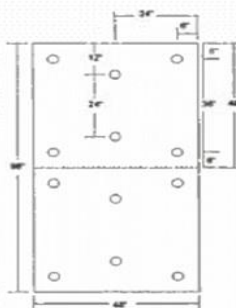
- Allowable product:	<b>Firestone</b>		
	UltraPly™ TPO	Platinum TPO	ReflexEON 60 mil
- Attachment mode:	Mechanically attached		
<b>Mechanically attached Pattern for System A result</b>	Row spacing	Fasteners spacing	
	<b>2892mm (114 in.) o.c.</b>	<b>305 mm (12 in.) o.c.</b>	
- Attachment type:	Fasteners #14 and plates, Pre-assembled Heavy Duty (W56TPO3107)		
- Pullout fastener resistance:	Minimal reference resistance base on test: <b>800 lbf or 372 Kg</b>		
- Attachment supplier:	<b>Firestone</b>		
<b>Mechanically attached Pattern for System B result</b>	Row spacing	Fasteners spacing	
	<b>2892mm (114 in.) o.c.</b>	<b>152 mm (6 in.) o.c.</b>	
- Attachment type:	Fasteners #14 and plates, Pre-assembled Heavy Duty (W56TPO3107)		
- Pullout fastener resistance:	Minimal reference resistance base on test: <b>800 lbf or 372 Kg</b>		
- Attachment supplier:	<b>Firestone</b>		

#### Cover board:

- Allowable product:	<b>Firestone</b>		
	ISOGard HD	HailGard	
	<b>CGC / USG</b>		
	Securock Gypsum Fiber Roof Board		
- Allowable thickness:	Between 3 mm (1/8 in.) to 15.9 mm (5/8 in.)		
<b>Adhered pattern for System A result</b>	Row spacing	Fasteners spacing	
	<b>Ribbons</b>	<b>152 mm (6 in.) o.c.</b>	
- Attachment type:	Fasteners #14 and plates, Pre-assembled HD (W56RAC4007)		
- Pullout fastener resistance:	Minimal reference resistance base on test: <b>749,4 lbf or 340 Kg</b>		
- Attachment supplier:	<b>Firestone</b>		

#### Insulation second row:

- Allowable products:	<b>Firestone</b>		
	ISO 95+	Resista	
- Allowable thickness:	Between 25 mm (1 in.) to 203 mm (8 in.)		
<b>Mechanically attached Pattern for System A result</b>	Row spacing	Fasteners spacing	
	<b>12 fasteners per 32 ft²</b>	<b>As fastener drawing pattern</b>	
- Attachment type:	Fasteners #14 and plates, Pre-assembled HD (W56RAC4007)		
- Pullout fastener resistance:	Minimal reference resistance base on test: <b>749,4 lbf or 340 Kg</b>		
- Attachment supplier:	<b>Firestone</b>		



Fastener Drawing Pattern



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### Insulation first row:

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

### Vapour Barrier:

- Allowable products:	<b>Firestone</b>		
	V-Force	Basegard SA	
	<b>Generic</b>		
	Polyethylene	Kraft paper	
- Attachment mode:	<b>Adhered or loose laid</b>		
- 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.

### **Optional Products Table:**

#### Thermal barrier:

- Allowable product:	<b>Georgia Pacific</b>		
	DensDeck	DensDeck Prime	
	<b>CGC / USG</b>		
	Securock	Gypsum Fiber Roof Board	
- Allowable thickness:	Between 6 mm (1/4 in.) to 15.9 mm (5/8 in.)		
- Attachment mode:	<b>Loose laid or adhered or mechanically attached</b>		