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

Document Number:	PUB-DRU292367
Publication Date:	2014-12-02
Revised:	2015-04-22
Revaluation Date:	2017-12-02

Supplier:

Single ply TPO membrane mechanically attached System, Mechanically Attached Roofing System (MARS)

Roofing System Summary :

- membrane: Membrane TPO or allowable products
- Insulation: Polyisocyanurate or allowable products
- Vapour barrier: Self-adhering membrane
- Thermal barrier: Optional
- Decking:

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

Description	Test observation reading	With SF of 1.5
System A	-5.4 kPa (-112 psf)	**-3.6 kPa (-75 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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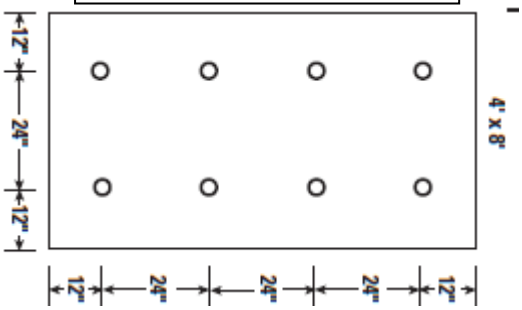
Roofing System's Specific Data:

Membrane:			
- Allowable products:	**Johns Manville**		
	JM-TPO-45 mil	JM-TPO- 60 mil	JM-TPO- 80 mil
Mechanically attached Pattern	Row spacing	Fasteners spacing	
for System A result	**3050 mm (10 ft)**	**305 mm (12 in) o.c.**	
- Attachment type: - Pullout fastener resistance: - Attachment supplier:	High Load #15 High Load plates 60 mm (2 3/8 in) 216 psi or 589 lbf or 2620 Newton **Johns Manville**		

Insulation :			
- Allowable products:	**Johns Manville**		
	ENRGY 3	ENRGY 3 AGF	ENRGY 3 CGF
	ENRGY 3 .E	ENRGY 3 FR	ENRGY Foil Faced
	Fesco Foam	Nailboard	Valutherm Roof Insulation
	Vented Nailboard		
- Allowable thickness:	Up to 203 mm (8 in)		
Mechanically attached Pattern	Row spacing	Fasteners spacing	
for System A result	**8 fasteners and plates per panel 32sq²**	**As Mechanically pattern drawing**	
- Attachment type: - Pullout fastener resistance: - Attachment supplier:	Ultrafast fasteners #12 60 mm (2 ¼ in) & Ultrafast square plates 76 mm (3 in) 151 psi or 413 lbf or 1837 Newton **Johns Manville**		

Mechanically pattern Drawing



Vapour Barrier:		
- Allowable product:	**Johns Manville**	
	JM Vapor barrier SA	
Adhered Attached Pattern	Adhesion mode	Adhesive spacing
For System A result	**Fully adhered**	**No spacing**
- Attachment type:	Self-adhering membrane	

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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:	**Georgia Pacific**		
	Dens deck	Dens deck Prime	
	CGC		
	Securock Gypsum Fiber Roof Board		
- Allowable thickness:	12.7 mm (1/2 in)		
- Attachment mode:	Loose laid, adhered or mechanically attached		