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

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Supplier:

Mod-Bit Soprasmart 180 mechanically attached System, Mechanically Attached Roof System (MARS)

Roofing System Summary :

- Cap sheet membrane: Modified Bituminous Membrane or allowable products
- Composite board: Factory laminated panel
- 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	-3.6 kPa (-75 psf)	**-2.4 kPa (-50 psf)**
System B	-5.0 kPa (-105 psf)	**-3.4 kPa (-70 psf)**
System C	-7.8 kPa (-162 psf)	**-5.2 kPa (-108 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:

Cap Sheet Membrane:

- Allowable products:	**Soprema**		
	Sopralene Flam 180 GR	Sopralene Flam 250 GR	Soprastar Flam HD GR
	Sopralene Flam 180 FR GR	Sopralene Flam 250 FR GR	Soprastar Flam HD FR GR
	Sopralene Mammouth GR	Soprafix Traffic Cap 660	Soprafix Traffic Cap FR 661
	Sopraply Traffic Cap 560	Sopraply Traffic Cap FR 561	
- **Attachment mode:**	**Heat welded**		

Composite board:

- Allowable products:	**Soprema**		
	Soprasmart-ISO HD 180	Soprasmart Board 180	
- Allowable thickness:	Between 3.2 mm (1/8 in.) and 12.7 mm (½ in.)		
Mechanically attached Pattern	Row spacing	Fasteners spacing	
for System A result	**610 mm (24 in.) o.c. (as per SOP23)**	**609 mm (24 in.) o.c.**	
- Attachment type:	Fasteners #14 with #3 deep recesses Phillips head composed of hardened carbon steel and covered with an anticorrosion coating. 20 gauges round barbed plate of 50 mm (2 in.), with Galvalume finish		
- Pullout fastener resistance:	Minimal reference resistance base on test: **442** lbf or **200,4** Kg		
- Attachment supplier:	**Soprema**		
Mechanically attached Pattern	Row spacing	Fasteners spacing	
for System B result	**610 mm (24 in.) o.c. (as per SOP23)**	**457 mm (18 in.) o.c.**	
- Attachment type:	Fasteners #14 with #3 deep recesses Phillips head composed of hardened carbon steel and covered with an anticorrosion coating. 20 gauges round barbed plate of 50 mm (2 in.), with Galvalume finish		
- Pullout fastener resistance:	Minimal reference resistance base on test: **442** lbf or **200,4** Kg		
- Attachment supplier:	**Soprema**		
Mechanically attached Pattern	Row spacing	Fasteners spacing	
for System C result	**610 mm (24 in.) o.c.(as per SOP23)**	**305 mm (12 in.) o.c.**	
- Attachment type:	Fasteners #14 with #3 deep recesses Phillips head composed of hardened carbon steel and covered with an anticorrosion coating. 20 gauges round barbed plate of 50 mm (2 in.), with Galvalume finish		
- Pullout fastener resistance:	Minimal reference resistance base on test: **442** lbf or **200,4** Kg		
- Attachment supplier:	**Soprema**		

Insulation:

- Allowable products:	**Soprema**		
	Sopra-Iso	Sopra-Iso +	SopraRock DD
	SopraRock DD Plus	SopraRock MD	SopraRock MD Plus
	Atlas Roofing Corp.		
	ACFoam II	ACFoam III	ACFoam IV
	Johns Manville		
	ENRGY 3	ENRGY 3 CGF	
	Hunter Panels		
	H-Shield	H-Shield CG	
- Allowable thickness:	Between 25 mm (1 in.) to 203 mm (8 in.)		
- **Attachment mode:**	**Loose laid or adhered or mechanically attached**		

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Vapour Barrier:

- Allowable products:	**Soprema**	
	Sopravap'R	Sopralene Stick Adhesive
- **Attachment mode:**	**Adhered (Primer required on allowable thermal barrier, wood deck and concrete deck with Elastocol stick or Elastocol Stick Zero)**	
- Attachment type:	Self-adhering membrane	

Or Vapour Barrier optional:

- Allowable products:	**Soprema**	
	Sopralene 180 SP 3.5 mm	Elastophene SP 2.2 mm
- **Attachment method:**	**Heat welded (Required a primer on allowable thermal barrier or concrete deck with Elastocol 500)**	

Or Vapour Barrier optional:

- Allowable products:	**Soprema**	
	Xpress Vap'R board	Soprastop
- **Attachment mode:**	**Loose laid or adhered or mechanically attached**	

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 gauges 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**		
	DensDeck	DensDeck Prime	
	CGC / USG		
	Securock Gypsum Fiber Roof Board		
	Unifix		
	PermaBase Dek		
- Allowable thickness:	Between 6 mm (¼ in.) to 19.5 mm (5/8 in.)		
- **Attachment mode:**	**Loose laid or adhered or mechanically attached**		