Bulletin

Roof Testing Laboratory

Roof System Dynamic Wind Uplift Resistance Results

File Numbers:	SOPI-020-059-011 SOPI-020-059-010
Test Dates:	2010-11-16 / 2010-11-05
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Reappraisal Date:	2020-05-23

MOD-BIT XPRESS ISO SYSTEM

(MARS) MECHANICALLY ATTACHED ROOFING SYSTEM

Roofing System Summary

Cap sheet membrane:	Modified bitumen membrane / Torch applied
Base sheet membrane:	N/A
Cover board:	N/A
Insulation:	Composite board consisting of a SBS modified bitumen membrane, a mineral wool board and a polyisocyanurate insulation board 914 x 4877 x 66 mm (3' x 16' x $2^{19}/_{32}$") / Mechanically fastened
Vapor barrier:	Self-adhering membrane
Thermal barrier:	Optional
Decking:	Steel deck

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

System Designation	Measured Value	Computed Value (To Include 1.5 Experimental Factor)
A	-2,7 kPa (-56 psf)	-1,8 kPa (-37 psf)
B	-3,6 kPa (-75 psf)	-2,4 kPa (-50 psf)

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Products

CAP SHEET MEMBRANE				
TESTED PRODUCT : Membrane composed of a non-woven polyester reinforcement and SBS modified bitumen				
Systems	**Application Method**			
A, B	Torch applied			
ELIGIBLE PRODUCT(S)				
Soprema	Sopralene Flam 250 GR	Sopralene Flam 180 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	

BASE SHEET MEMBRANE
TESTED PRODUCT : N/A

COVER BOARD
TESTED PRODUCT : N/A

INSULATION (Top Row)		
TESTED PRODUCT : Board composed of SBS modified bitumen with a non-woven polyester reinforced base sheet membrane, factory laminated to a mineral wool support board and adhered to a polyisocyanurate insulation board		
System	**Application Method**	**Fastening Rate**
A	Mechanically fastened	Row spacing : 457 mm (18 in) o.c. Fastener spacing : 610 mm (24 in) o.c.
B	Mechanically fastened	Row spacing : 457 mm (18 in) o.c. Fastener spacing : 457 mm (18 in) o.c.
Note : Fasteners must be staggered in the overlap and on the edge of the adjacent board, and must be covered with a reinforcement strip (see patterns below).		
ELIGIBLE THICKNESS(ES)		
Between 66 mm (2 19/32 in)		
FASTENING METHOD		
Screws and plates		

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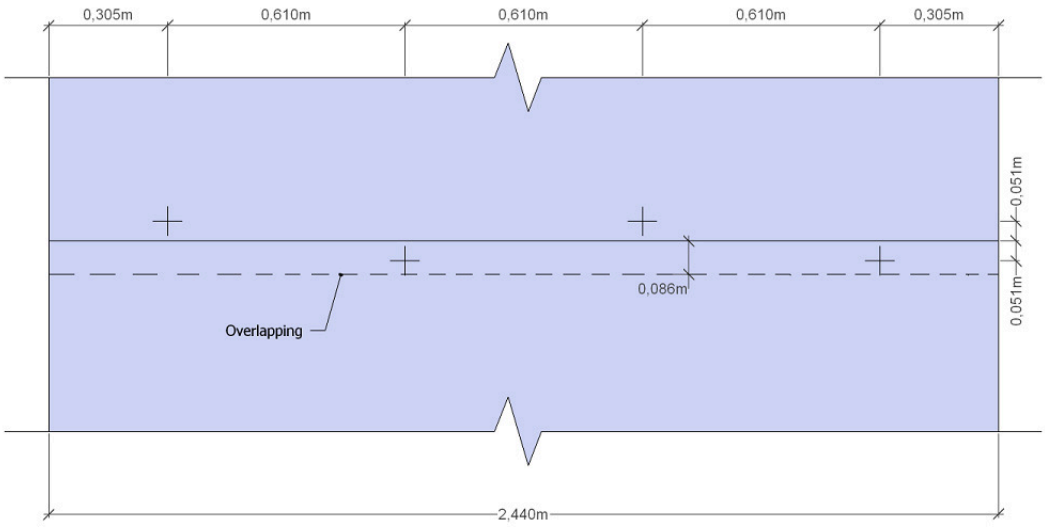
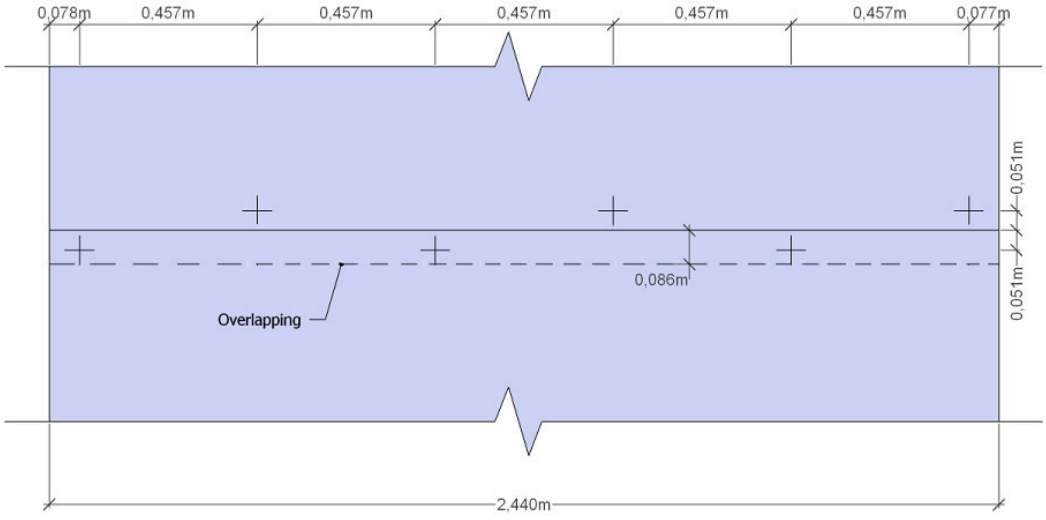
FASTENING PATTERN

System A



System B



ELIGIBLE PRODUCT(S)

Soprema	Xpress ISO			

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INSULATION (Bottom Row)
TESTED PRODUCT : N/A

FASTENERS PULL OUT RESISTANCE		
TESTED PRODUCT(S) : Hardened carbon #14 fasteners with anticorrosion coating		
Systems	**Screws**	**Plates**
A, B	#14	Round of 51 mm (2 in)
FASTENERS MEASURED PULL OUT RESISTANCE		
201 kgf (442 lbf)		
ELIGIBLE PRODUCT(S)		
Soprema	Soprafix screws and plates	Round toothed metal plates

ADHESIVE
TESTED PRODUCT : N/A

VAPOR BARRIER				
TESTED PRODUCT : Self-adhesive membrane composed of a trilaminated woven polyethylene and SBS modified bitumen				
Systems	**Fastening Method**		**Primer**	
A, B	Torch applied		N/A	
ELIGIBLE PRODUCT(S)				
Soprema	Sopravap'R	Sopralène Stick HR 20	Sopralène Stick HR 40	
Fastening method : Adhered (admissible support board and wood or concrete deck must be primed with Elastocol Stick or Elastocol Stick Zero)				
Soprema	Sopralene 180 SP 3.5	Elastophene SP 2.2		
Fastening method : Torch applied (substrates must be primed with Elastocol 500)				
Soprema	Soprastop	Xpress Vap'R Board		
Fastening method : Loose laid, adhered or mechanically fastened				
ELIGIBLE PRODUCT(S) over thermal barrier : N/A				

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THERMAL BARRIER				
TESTED PRODUCT : Optional				
ALLOWABLE THICKNESS(ES)				
Between 6,4 to 19,5 mm (¼ to ⅝ in)				
ELIGIBLE PRODUCT(S)				
Georgia-Pacific	DensDeck	DensDeck Prime		
CGC / USG	Securock Gypsum Fiber Roof Board			
Unifix	PermaBase Dek			

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General Notes

1. **Decking:**

   Tests were performed over a standard roll formed steel deck profile, with a galvanized or aluminum / zinc alloy coating finished, as per ASTM A653, A792, A1008 or CSSBI 10M standards, bearing a thickness of 0.76 mm (0.03 inch) minimum (commonly defined as 22 gauge), corresponding to the ASTM A653M grade SS 230, having a yield point of 230 MPa (33 ksi) and a tensile strength of 310 MPa (45 Ksi). The tests could also be performed on concrete deck or standard 4′ x 8′ x ⅝″ plywood deck.

   The deck's fastening to the supporting structure must be strong enough to resist wind uplift loads (as defined per NBC requirements).

2. **Deck equivalency products:**

   18 to 22 gage steel deck. Wood or concrete deck which testing gave equivalent or superior uplift resistance than the value specified in the "Fasteners Pull Out Resistance" section.

3. **Fasteners Pull Out Resistance:**

   Testing were conducted in laboratory according to ANSI/SPRI FX-1 2011 standard, over a minimum of 10 test samples on a ***Com-Ten*** apparatus over steel deck (unless stated otherwise).

4. **Adhesive Pull Resistance:**

   Testing were conducted in laboratory over 3 test samples, according to ANSI/SPRI IA-1 2010 standard on a ***Com-Ten*** apparatus over steel deck (unless stated otherwise) or, according to ASTM D1623 standard over a universal press testing bench, for in-between materials.

5. **Note on adhesive:**

   Follow all guide lines or supplementary instructions from the manufacturer regarding adhesive application.

6. **Equivalent products:**

   Only the products listed in this report under eligible products are deemed acceptable as substitute to the tested products. Any other modifications must be requested in written, on **exp** application form, to be studied for approval.

7. **Optional components:**

   Any components of this roofing system listed as optional, may be removed from the roof design. Inclusion or exclusion of the said component having no effect on the published dynamic uplift resistance results. (DUR).

8. **Experimental factor:**

   In accordance with CSA A123.21 standard, the published dynamic uplift resistance (DUR) include a computed experimental factor of 1,5.

9. **Building Wind Load Calculation:**

   An online calculator is available at http://www.exp.com/fr/rooftesting.

   The calculator will compute, the Wind Load of any given building, for field, perimeter and corners, as per 2015 CNB requirement, without experimental factor. It will also compute perimeter's and corner's zone dimensions.

10. Technical Advisories:

This roof system assessment reports must be read in conjunction with any issued technical advisories from **exp**.

11. Notice :

Exp reserves the right to withdraw, without prior notice, any Bulletin of Roof System Dynamic Wind Uplift Resistance Results published and/or make any necessary corrections.

12. Version tracking table :

2012-01-12	First edition
2015-05-20 (R1)	N/D
2017-05-23 (R2)	New layout

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