Bulletin

Roof Testing Laboratory

Roof System Dynamic Wind Uplift Resistance Results

File Number:	SOPI-204337-23-5100
	SOPI-210663-025100
Test Date:	2012-09-18 / 2013-02-02
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Reappraisal Date:	2020-05-23

SOPRASMART ISO HD 180 MODIFIED BITUMEN SYSTEM DUOTACK ADHERED

(AARS) ADHESIVE APPLIED ROOFING SYSTEM

Roofing System Summary

Cap sheet membrane:	Modified bitumen membrane, torched
Base sheet membrane:	N/A
Cover board:	Composite board: modified bitumen base sheet laminated over high-density rigid polyisocyanurate foam board, 991 mm x 2591 mm x 13 mm (39 in x 8½ ft x ½ in) adhered
Insulation:	Polyisocyanurate foam insulation board 1220 mm x 1220 mm x 38 mm (4 ft x 4 ft x 1½ in) adhered
Vapor barrier:	Self-adhered membrane
Thermal barrier:	Optional
Decking:	Metal deck

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

System Designation	Measured Value	Computed Value (To Include 1.5 Safety Factor)
A	-5,4 kPa (-112 psf)	-3,6 kPa (-75 psf)
B	-5,7 kPa (-120 psf)	-3,8 kPa (-80 psf)

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Products

CAP SHEET MEMBRANE				
TESTED PRODUCT: membrane composed of a non-woven polyester reinforcement and SBS modified bitumen				
System	**Application Method**			
A - B	Heat welded			
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	Sopraply Traffic Cap 560
	Sopraply Traffic Cap FR 561			

BASE SHEET MEMBRANE
TESTED PRODUCT : N/A

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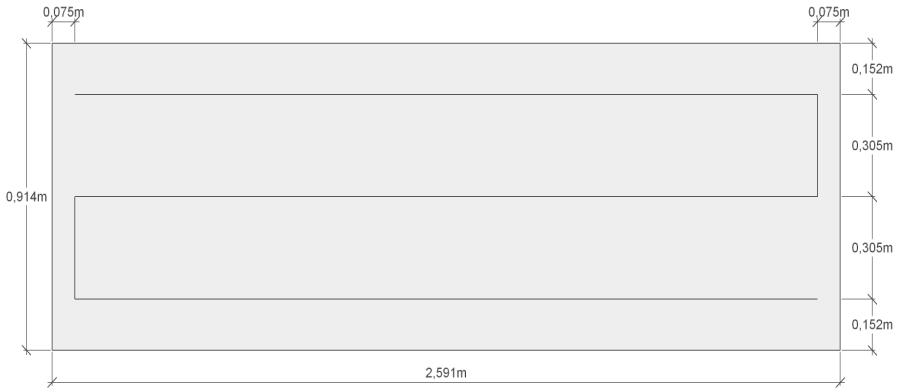
COVER BOARD		
TESTED PRODUCT: composite board: base sheet membrane laminated over high-density rigid polyisocyanurate board		
System	**Application Method**	**Fastening Rate**
A	Adhered	305 mm (12 in) o.c.
B	Adhered	152 mm (6 in) o.c.
ELIGIBLE THICKNESS(ES)		
13 mm (½ in)		
FASTENING METHOD		
Two-parts polyurethane adhesive (Duotack)		
FASTENING PATTERN		

System A



System B

ELIGIBLE PRODUCT(S)				
Soprema	Soprasmart ISO HD 180			

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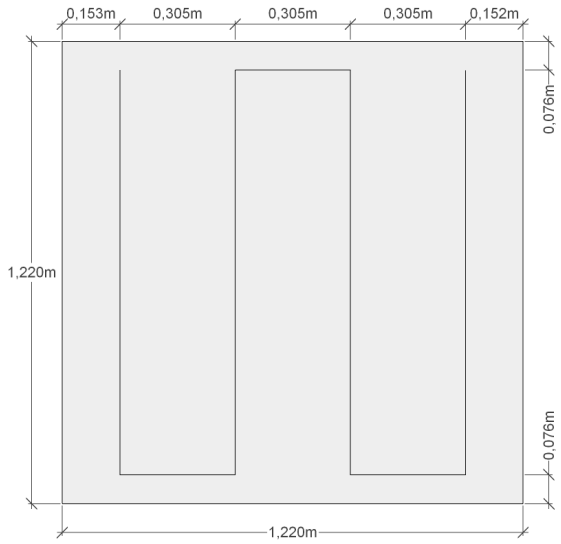
INSULATION (Top Row)		
TESTED PRODUCT: polyisocyanurate foam insulation board laminated between two facer		
System	**Application Method**	**Fastening Rate**
A	Adhered	305 mm (12 in) o.c.
B	Adhered	152 mm (6 in) o.c.
ELIGIBLE THICKNESS(ES)		
Between 38 à 102 mm (1½ à 4 in)		
FASTENING METHOD		
Two-parts polyurethane adhesive (Duotack)		
FASTENING PATTERN		

System A



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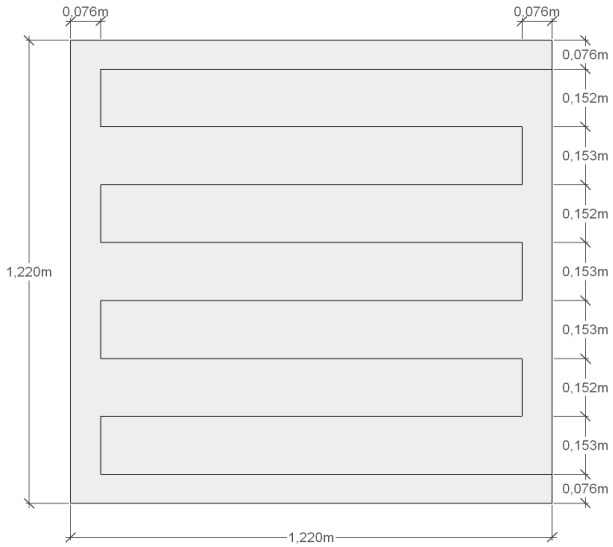
System B



ELIGIBLE PRODUCT(S)				
Soprema	Sopra-Iso	Sopra-Iso Plus		
Atlas Roofing Corp.	ACFoam II	ACFoam III	ACFoam IV	
Johns Manville	ERNGY 3	ERNGY 3 CGF		
Hunter Panels	H-Shield	H-Shield CG		

INSULATION (Bottom Row)
TESTED PRODUCT : N/A

FASTENERS PULL OUT RESISTANCE
TESTED PRODUCT(S) : N/A

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ADHESIVE				
TESTED PRODUCT : low-rise, two-components, polyurethane adhesive				
System	**Ribbon's spacing**		**Primer**	
A	305 mm (12 in) o.c.		N/A	
B	152 mm (6 in) o.c.		N/A	
ELIGIBLE PRODUCT(S)				
Soprema	Duotack			

VAPOR BARRIER				
TESTED PRODUCT : self-adhesive membrane composed of a trilaminated woven polyethylene and SBS modified bitumen				
System	**Fastening Method**		**Primer**	
A	Self-adhered		N/A	
B	Self-adhered		N/A	
ELIGIBLE PRODUCT(S)				
Soprema	Sopravap'r	Sopralene HD 20	Sopralene HD 40	
ELIGIBLE PRODUCT(S) over thermal barrier				
Soprema	Elastophene SP 2.2 mm	Sopralene 180 SP 3.5 mm		
When vapor retarder is apply over optional thermal barrier or on concrete deck, primer is required (optional over steel deck).				

THERMAL BARRIER
TESTED PRODUCT: Optional

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General Notes

1. **Decking:**

   The tests performed by **EXP** services inc. («**EXP**») 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).

   Equivalency; tests have demonstrated that the self-adhered vapour retarder in the system herein described is suitable for application over properly prepared concrete deck primed with Elastocol Stick or Elastocol Stick Zero.

   Equivalency; tests have demonstrated that the heat welded vapour barrier in the system herein described is suitable for application on concrete deck properly primed with Elastocol 500.

   Tests could be conducted on 4 'x 8' x ⅝ "standard plywood deck to assess eligibility for possible equivalencies.

   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. **Safety factor:**

   In accordance with CSA A123.21 standard, the published dynamic uplift resistance (DUR) include a computed safety 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 safety 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:

2017-05-23	Correction of product brand name *Soprasmart ISO HD 180*
2018-09-10	Correction of reevaluation date and products name

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Date