Bulletin

Roof Testing Laboratory

Roof System Dynamic Wind Uplift Resistance Results

File Number:	SOPI-210663-06
Test Date:	2013-01-31
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Reappraisal Date:	2020-05-16

MOD-BIT SYSTEM SECUROCK-SOPRAROCK DD PLUS

(PARS) PARTIALLY ATTACHED (HYBRIDE) ROOFING SYSTEM

Roofing System Summary

Cap sheet membrane:	Modified bitumen membrane / Torch applied
Base sheet membrane:	Modified bitumen membrane / Torch applied
Cover board:	Mineral fiber board with bitumen saturated top surface 1220 x 1220 x 51 mm (4’ x 4’ x 2’’) / Adhered with Duotack
Insulation: (Top row)	Polyisocyanurate foam insulation board 1220 x 1220 x 38 mm (4’ x 4’ x 1½’’) / Adhered with Duotack
Insulation: (Bottom row)	Polystyrene insulation board 1220 x 1220 x 38 mm (4’ x 4’ x 1½’’) / Adhered with Duotack
Vapor barrier:	Modified bitumen membrane / Torch applied
Thermal barrier:	Moisture and fire resistant gypsum board 1220 x 2438 x 12,7 mm (4’ x 8’ x ½’’) / Mechanically fastened
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	-4.3 kPa (-90 psf)	-2.9 kPa (-60 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	Torch applied			
ELIGIBLE PRODUCT(S)				
Soprema	Sopralene Flam 250 GR	Sopralene Flam 180 GR	Soprastar Flam HD GR	Sopraply Traffic Cap 560
	Sopralene Flam 250 FR GR	Sopralene Flam 180 FR GR	Soprastar Flam HD FR GR	Sopraply Traffic Cap FR 561
	Sopralene Mammouth GR			

BASE SHEET MEMBRANE				
TESTED PRODUCT : Membrane composed of a non-woven polyester reinforcement and SBS modified bitumen				
System	**Application Method**		**Row spacing**	**Fasteners spacing**
A	Torch applied		N/A	N/A
ELIGIBLE PRODUCT(S)				
Soprema	Sopralene Flam 180	Sopralene Flam 250	Elastophene Flam	Sopraply Base 520

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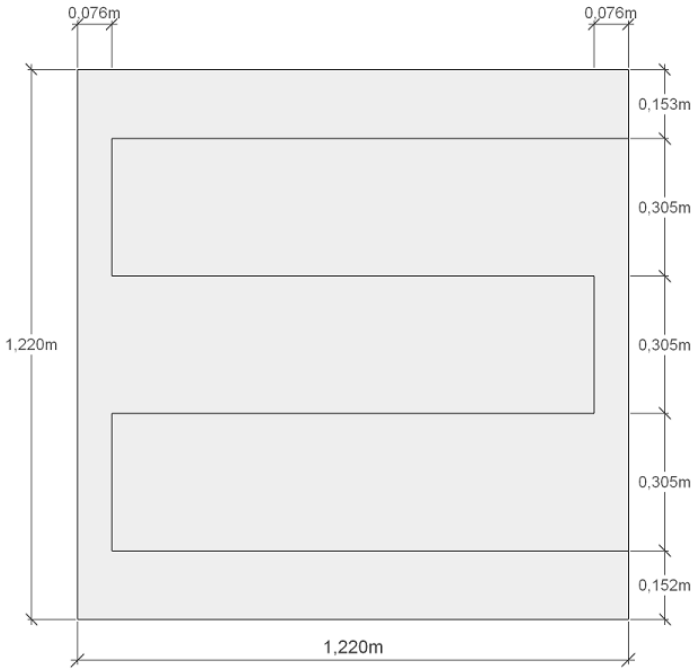
COVER BOARD		
TESTED PRODUCT : Mineral fiber (rock wool) insulation board with a rigid surface impregnated with a bitumen layer		
System	**Application Method**	**Fastening Rate**
A	Adhered with Duotack	Ribbons at 305 mm (12 in)
ELIGIBLE THICKNESS(ES)		
Between 51 to 102 mm (2 to 4 in)		
FASTENING METHOD		
Duotack adhesive		
FASTENING PATTERN		

System A



ELIGIBLE PRODUCT(S)				
Soprema	Soprarock DD Plus			

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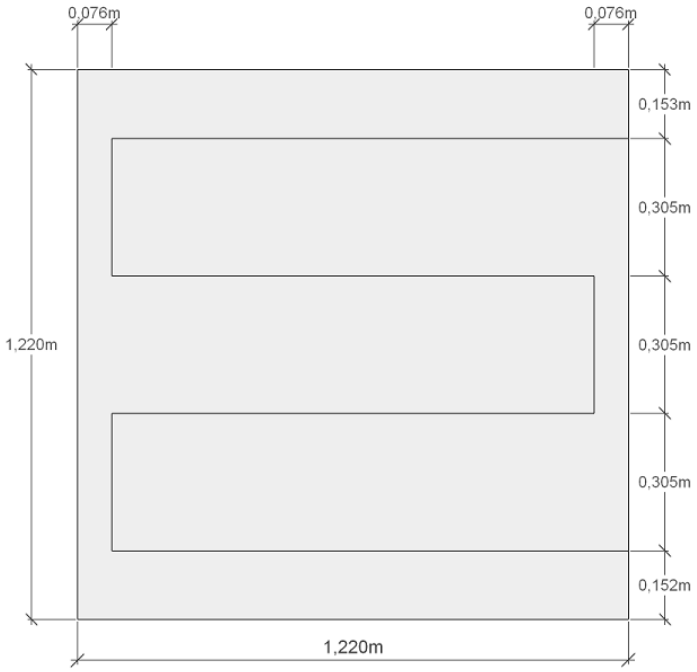
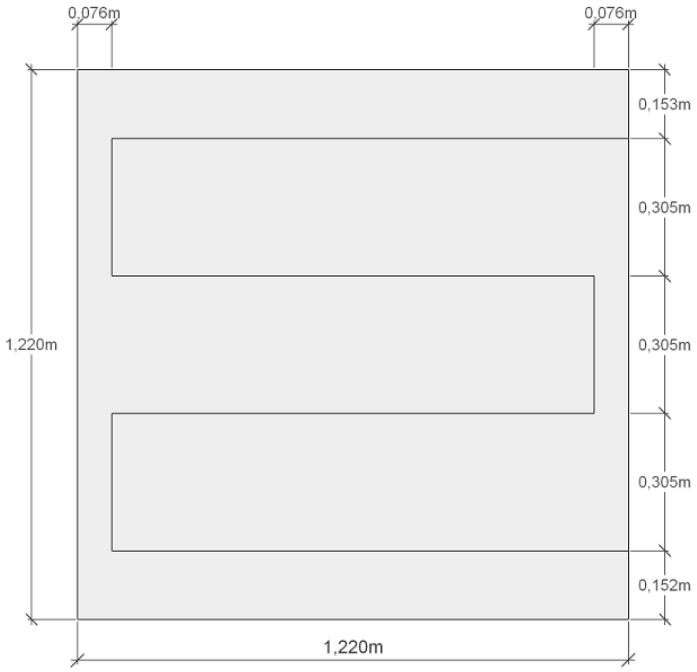
INSULATION (Top Row)				
TESTED PRODUCT : Polyisocyanurate foam insulation board laminated on both sides with fiber reinforced organic felt				
System	**Application Method**	**Fastening Rate**		
A	Adhered with Duotack	Ribbons at 305 mm (12 in)		
ELIGIBLE THICKNESS(ES)				
Between 38 to 102 mm (1½ to 4 in)				
FASTENING METHOD				
Duotack adhesive				
FASTENING PATTERN				
System A 				
ELIGIBLE PRODUCT(S)				
Soprema	Sopra-ISO	Sopra-ISO Plus		
Atlas Roofing Corp.	ACFoam II	ACFoam III	ACFoam IV	
Johns Manville	ENRGY 3	ENRGY 3 CGF		
Hunter Panels	H-Shield	H-Shield CG		

INSULATION (Bottom Row)		
TESTED PRODUCT : EPS polystyrene insulation board		
System	**Application Method**	**Fastening Rate**
A	Adhered with Duotack	Ribbons at 305 mm (12 in)
ELIGIBLE THICKNESS(ES)		
Between 38 to 012 mm (1½ to 4 in)		
FASTENING METHOD		
Duotack adhesive		
FASTENING PATTERN		

System A



ELIGIBLE PRODUCT(S)				
LegerLite Inc.	Legertoit Type II (EPS Polystyrene)			
Soprema	Sopra-ISO	Sopra-ISO Plus		
Atlas Roofing Corp.	ACFoam II	ACFoam III	ACFoam IV	
Johns Manville	ENRGY 3	ENRGY 3 CGF		
Hunter Panels	H-Shield	H-Shield CG		

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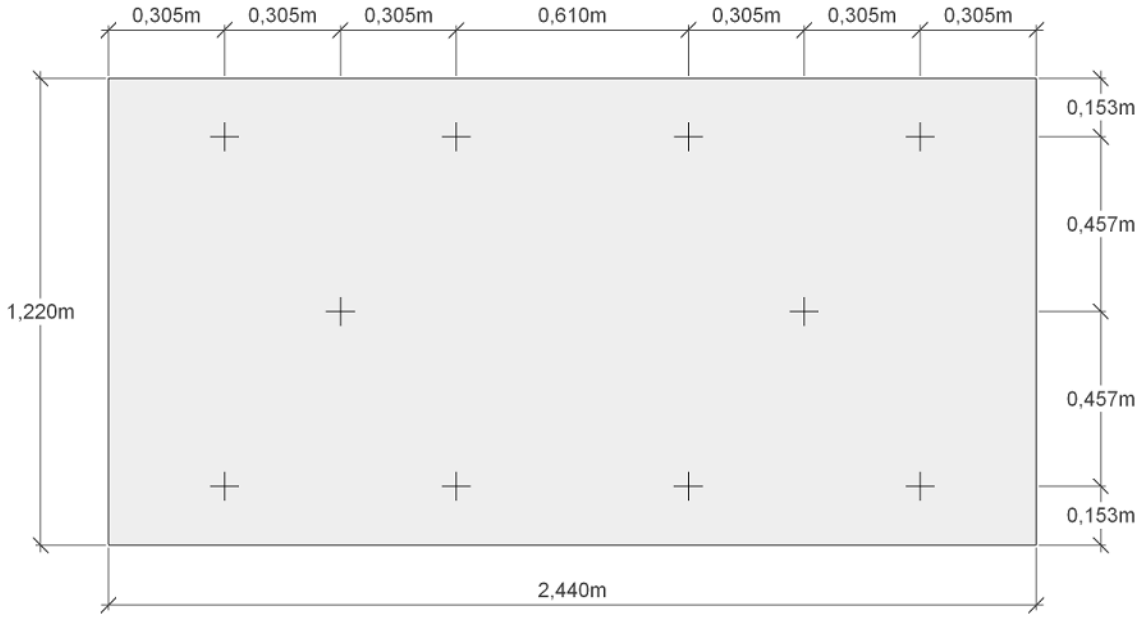
FASTENERS PULL OUT RESISTANCE		
TESTED PRODUCT(S) : Hardened carbon #14 fasteners with anticorrosion coating		
System	**Screws**	**Plates**
A	#14 x 51 mm (2 in)	Round plates of 73 mm (2⅞ in)
FASTENERS MEASURED PULL OUT RESISTANCE		
201 kgf (442 lbf)		
ELIGIBLE PRODUCT(S)		
Dekfast	#14 x 51 mm (2 in)	N/A
OMG	N/A	Round plates of 73 mm (2⅞ in)

ADHESIVE				
TESTED PRODUCT : Low-rise, two-component, polyurethane adhesive				
System	**Ribbon's spacing**		**Primer**	
A	305 mm (12 in)		N/A	
ELIGIBLE PRODUCT(S)				
Soprema	Duotack			

VAPOR BARRIER				
TESTED PRODUCT : Membrane composed of a non-woven polyester reinforcement and SBS modified bitumen				
System	**Fastening Method**		**Primer**	
A	Torch applied		Elastocol 500	
ELIGIBLE PRODUCT(S)				
Soprema	Sopralene 180 SP 3.5	Elastophene SP 2.2		
Attachment method : Torch applied (All substrates must be primed with Elastocol 500.)				
Soprema	Sopravap'R	Sopralene Stick		
Attachment method : Self-adhered (Steel deck excepted, all substrates must be primed with Elastocol Stick or Elastocol Stick Zero.)				

THERMAL BARRIER		
TESTED PRODUCT : Fiber-reinforced, moisture and fire resistant gypsum board		
System	**Application Method**	**Fastening Rate**
A	Mechanically fastened	10 fasteners / board 1220 x 2440 mm (4' x 8')
ELIGIBLE THICKNESS(ES)		
Between 13 to 15,9 mm (½ to ⅝ in.)		
FASTENING METHOD		
Screws and plates		
FASTENING PATTERN(S)		

System A



ELIGIBLE PRODUCT(S)				
CGC / USG	Securock Gypsum Fiber Board			
Unifix	PermaBase Dek			

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 heat welded vapor 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. **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:

2014-08-12	First edition
2015-04-28 (R1)	N/D
2017-05-15 (R2)	New presentation layout, adjustment of equivalent products

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