

Bulletin

Roof Testing Laboratory



Roof System Dynamic Wind Uplift Resistance Results

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HOT APPLIED COLPLY MODIFIED BITUMEN SYSTEM (AARS) ADHESIVE APPLIED ROOFING SYSTEM

Roofing System Summary

Cap sheet membrane:	Modified bitumen membrane / Fully adhered with Soprasphalte M
Base sheet membrane:	Modified bitumen membrane / Fully adhered with Soprasphalte M
Cover board:	Semi-rigid board composed of a fortified asphaltic core 1220 x 1524 x 3,2 mm (4' x 5' x 1/8") / Fully adhered with Soprasphalte M
Insulation:	Polyisocyanurate foam insulation board 1220 x 1220 x 38 mm (4' x 4' x 1 1/2") / Fully adhered with Soprasphalte M
Vapor barrier:	Modified bitumen membrane / Fully adhered with Soprasphalte M
Thermal barrier:	Moisture and fire resistant gypsum board 1220 x 2438 x 12,7 mm (4' x 8' x 1/2") Adhered with Duotack
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	-4,5 kPa (-94 psf)	-3,0 kPa (-63 psf)

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Products

CAP SHEET MEMBRANE				
TESTED PRODUCT : Membrane composed of SBS modified bitumen and a composite reinforcement, the surface is protected by granules and the underside is sanded				
System	Application Method			
A	Fully adhered with Soprasphalte M			
ELIGIBLE PRODUCT(S)				
Soprema	Colply Traffic Cap-460	Colply Traffic Cap-FR-461	Sopralene 250 FR GR	Sopralene 250 GR
	Sopralene 180 FR GR			

BASE SHEET MEMBRANE				
TESTED PRODUCT : Membrane composed of SBS modified bitumen and a composite reinforcement, sanded on both sides				
System	Application Method	Row spacing	Fasteners spacing	
A	Fully adhered with Soprasphalte M	N/A	N/A	
ELIGIBLE PRODUCT(S)				
Soprema	Sopraply Base 410	Elastophene Sanded	Sopralene 250 Sanded	

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COVER BOARD				
TESTED PRODUCT : Semi-rigid board composed of a mineral-fortified asphaltic core between two asphalt-saturated fiberglass felts				
System	Application Method			Fastening Rate
A	Fully adhered with Soprasphalte M			N/A
ELIGIBLE THICKNESS(ES)				
Between 3,2 to 6,4 mm (1/8 to 1/4 in)				
ELIGIBLE PRODUCT(S)				
Soprema	Sopraboard			

INSULATION (Top Row)				
TESTED PRODUCT : Polyisocyanurate foam insulation board laminated on both sides with fiber reinforced felt				
System	Application Method			Fastening Rate
A	Fully adhered with Soprasphalte M			N/A
ELIGIBLE THICKNESS(ES)				
Between 38 to 102 mm (1 1/2 to 4 in)				
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 : N/A				

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



ADHESIVE				
TESTED PRODUCT : Soprasphalte M : SEBS-modified asphalt (membranes, cover board, insulation, vapor barrier)				
TESTED PRODUCT : Duotack : Low-rise, two-component, polyurethane adhesive (thermal barrier)				
System	Ribbon's spacing		Primer	
A	Soprasphalte M : full surface application		N/A	
	Duotack : 305 mm (12 in)		Elastocol 500 (on thermal barrier)	
ELIGIBLE PRODUCT(S)				
Soprema	Soprasphalte M			
Soprema	Duotack			

VAPOR BARRIER				
TESTED PRODUCT: Membrane composed of SBS modified bitumen and a nonwoven glass reinforcement, sanded on both sides				
System	Fastening Method		Primer	
A	Fully adhered with Soprasphalte M		Elastocol 500 (on thermal barrier)	
ELIGIBLE PRODUCT(S)				
Soprema	Elastophene Sanded	Sopralene 180 Sanded	Sopralene 250 Sanded	
ELIGIBLE PRODUCT(S) over thermal barrier				
Soprema	Elastophene Sanded	Sopralene 180 Sanded	Sopralene 250 Sanded	

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THERMAL BARRIER				
TESTED PRODUCT : Moisture and fire resistant gypsum board, covered with non-combustible fiberglass felt and non-asphaltic coating				
System	Application Method		Fastening Rate	
A	Adhered with Duotack		Ribbons at 305 mm (12 in)	
ELIGIBLE THICKNESS(ES)				
Between 13 to 19,5 mm (½ to ¾ in)				
FASTENING METHOD				
Duotack adhesive				
FASTENING PATTERN(S)				
<p>System A</p>				
ELIGIBLE PRODUCT(S)				
Georgia-Pacific	DensDeck Prime	DensDeck		
CGC / USG	Securock Gypsum Fiber Board			
Unifix	PermaBase Dek			

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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 a heat welded vapour barrier is suitable in the system herein described for application on concrete deck properly primed with Elastocol 500.

Tests could be conducted on 4 'x 8' x 5/8 "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.

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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:

2012-03-06	First edition
2015-05-20 (R1)	N/D
2017-05-15 (R2)	New presentation layout

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