

# Bulletin

## Roof Testing Laboratory



## Roof System Dynamic Wind Uplift Resistance Results

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### MOD-BIT COLVENT SYSTEM (AARS) ADHESIVE APPLIED ROOFING SYSTEM

#### Roofing System Summary

Cap sheet membrane:	Modified bitumen membrane / Torch applied
Base sheet membrane:	Self-adhesive modified bitumen membrane
Cover board (system C):	Semi-rigid board composed of a fortified asphaltic core / Adhered
Insulation (top):	Polyisocyanurate foam insulation board / Adhered
Insulation (bottom):	Polyisocyanurate foam insulation board) / Adhered
Vapour barrier:	Self-adhesive 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, B, C	-4,5 kPa (-94 psf)	-3,0 kPa (-63 psf)

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### Products

CAP SHEET MEMBRANE				
<b>TESTED PRODUCT</b> : Membrane composed of SBS modified bitumen and a composite reinforcement.				
Systems	Application Method			
A, B, C	Torch applied			
ELIGIBLE PRODUCT(S)				
A,B	Sopraply Traffic Cap 650			
C	Colvent Traffic Cap 860			
	Colvent Traffic Cap FR 861	Sopraply Traffic Cap 560	Sopralene Flam 250 GR	Sopralene Mammoth GR
	Soprastar Flam HD GR	Sopralene Flam 180 FR GR	Sopralene Flam 250 FR GR	Soprastar Flam HD FR GR
	Sopralene Flam 180 GR			

BASE SHEET MEMBRANE			
<b>TESTED PRODUCT</b> : <u>Systems A and C</u> : Semi-self-adhesive (strips) membrane composed of SBS modified bitumen and reinforced with a glass mat. System B : Self-adhesive membrane composed of SBS modified bitumen and reinforced with a glass mat.			
Systems	Application Method	Row spacing	Fasteners spacing
A, B, C	Self-adhered	N/A	N/A
ELIGIBLE PRODUCT(S)			
Soprema	Colvent Base 830	Sopraflash Flam Stick	

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COVER BOARD				
TESTED PRODUCT : <u>System C</u> : Semi-rigid board composed of a mineral-fortified asphaltic core between two asphalt-saturated fiberglass felts.				
System	Application Method		Fastening Rate	
<b>A</b>	No cover board tested		N/A	
<b>B</b>	No cover board tested		N/A	
<b>C</b>	Adhered		Ribbons at 305 mm (12 in)	
ELIGIBLE THICKNESS(ES)				
3,2 to 6,4 mm (1/8 to 1/4 in)				
FASTENING METHOD				
Duotack adhesive				
FASTENING PATTERN				
<p><b>System C</b></p>				
ELIGIBLE PRODUCT(S)				
<b>Soprema</b>	Sopraboard			

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INSULATION (Top Row)		
<b>TESTED PRODUCT :</b> <u>Systems A and B</u> : Polyisocyanurate foam insulation board laminated on both sides with polymer-coated glass fibers facers. <u>System C</u> : Polyisocyanurate foam insulation board laminated on both sides with fiber reinforced organic Felt.		
System	Application Method	Fastening Rate
A	Adhered	Ribbons at 305 mm (12 in)
B	Adhered	Ribbons at 305 mm (12 in)
C	Adhered	Ribbons at 305 mm (12 in)
ELIGIBLE THICKNESS(ES)		
38 to 102 mm (1½ to 4 in)		
FASTENING METHOD		
Duotack adhesive		
FASTENING PATTERN		
<p><b>Systems A, B, C</b></p>		

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ELIGIBLE PRODUCT(S)				
<b>Soprema</b>	Sopra-ISO	Sopra-ISO Plus		
<b>Atlas Roofing Corp.</b>	ACFoam II	ACFoam III	ACFoam IV	
<b>Johns Manville</b>	ENRGY 3	ENRGY 3 CGF		
<b>Hunter Panels</b>	H-Shield	H-Shield CG		



INSULATION (Bottom Row)		
TESTED PRODUCT : Polyisocyanurate foam insulation board laminated on both sides with fiber reinforced organic felt.		
System	Application Method	Fastening Rate
A	Adhered	Ribbons at 305 mm (12 in)
B	Adhered	Ribbons at 305 mm (12 in)
C	None	N/A
ELIGIBLE THICKNESS(ES)		
38 to 102 mm (1½ to 4 in)		
FASTENING METHOD		
Duotack adhesive		
FASTENING PATTERN		
<p><b>Systems A and B</b></p>		

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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		

VAPOUR BARRIER				
<b>TESTED PRODUCT</b> : Self-adhesive membrane composed of a trilaminated woven polyethylene and SBS modified bitumen.				
System	Fastening Method		Primer	
A, B, C	Self-adhered		N/A	
ELIGIBLE PRODUCT(S)				
Soprema	Sopravap'R	Sopralene Stick Adhesive		
<b>Attachment method</b> : Self-adhered (Steel deck excepted, all substrates must be primed with Elastocol Stick or Elastocol Stick Zero.)				
Soprema	Elastophene SP 2.2	Sopralene SP 3.5		
<b>Attachment method</b> : Torch applied (All substrates must be primed with Elastocol 500.)				

THERMAL BARRIER				
<b>TESTED PRODUCT</b> : Optional				

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

ADHESIVE				
<b>TESTED PRODUCT</b> : Low-rise, two-component, polyurethane adhesive				
System	Ribbon's spacing		Primer	
A	305 mm (12 in)		N/A	
B	305 mm (12 in)		N/A	
C	305 mm (12 in)		Elastocol Stick (on cover board)	
ELIGIBLE PRODUCT(S)				
Soprema	Duotack			

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### General Notes

#### **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.

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).

#### **1. 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.

#### **2. 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).

#### **3. 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.

#### **4. Note on adhesive:**

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

#### **5. 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.

#### **6. 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).

#### **7. 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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### 8. 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.

### 9. Technical Advisories:

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

### 10. 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.

### 11. Version tracking table:

2012-02-01	First edition
2015-01-14	N/D
2017-12-14	New presentation layout, adding details of two systems
2018-11-06	Colvent Base 810 discontinued, replaced by Colvent Base 830

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Date