

Bulletin

Roof Testing Laboratory (ISO 17025)



Roof System Dynamic Wind Uplift Resistance Results

File number:	MTS-262650
Test date:	2020-11-10
Publication date:	2021-03-26
Last revision date:	N/A
Reappraisal date:	2024-03-26



TWO PLIES OF MODIFIED BITUMEN MEMBRANE, SOPRASPHALTE M ADHERED (AARS) ADHESIVE APPLIED ROOFING SYSTEM

Tested Roofing System Summary

Surfacing:	SEBS modified asphalt / Full spread
Top sheet membrane:	Modified bitumen membrane / Fully adhered
Base sheet membrane:	Included to cover board
Cover board:	Board composed of a bitumen membrane over a polyisocyanurate board 3 x 8 ft x ½ in / Adhered
Insulation:	Polyisocyanurate foam insulation board 4 x 4 ft x 1½ in / Adhered
Vapour barrier:	Modified bitumen membrane / Fully adhered
Thermal barrier:	Moisture and fire-resistant gypsum board 4 x 4 ft x ¾ in / Adhered
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)

According to the scope of accreditation published on the SCC website
Accredited Laboratory No. 797





Products

TOP SHEET MEMBRANE				
TESTED PRODUCT: Membrane composed of SBS modified bitumen and a composite reinforcement, sanded on both sides.				
System	Application Method			
A	Fully adhered with SOPRASPHALTE M (35,7 lbs/100 ft ²), membrane surface received 48,0 lbs/100 ft ² of SOPRASPHALTE M (flood coat)			
ELIGIBLE PRODUCT(S)				
SOPREMA	COLPLY BASE 410	COLPLY BASE 410 FLEX	ELASTOPHENE SANDED	ELASTOPHENE 180 SANDED
	SOPRALENE 180 SANDED			

BASE SHEET MEMBRANE
TESTED PRODUCT: Included to cover board.

Roof Testing Laboratory (ISO 17025)



Roof System Dynamic Wind Uplift Resistance Results

MTS-262650

COVER BOARD				
TESTED PRODUCT: Base sheet panel composed of SBS modified bitumen membrane with of a non-woven polyester reinforcement, factory-laminated on a high density polyisocyanurate insulation support panel.				
System	Application Method		Fastening Rate	
A	Adhered		6 in o.c.	
ELIGIBLE THICKNESS(ES)				
1/2 in				
FASTENING METHOD				
DUOTACK adhesive				
FASTENING PATTERN				
ELIGIBLE PRODUCT(S)				
SOPREMA	2-1 SOPRASMART ISO HD	2-1 SOPRASMART BOARD	SOPRABOARD + SOPRALENE FLAM 180	SOPRABOARD + ELASTOPHENE FLAM 2.2
	SOPRABOARD + SOPRAPLY BASE 520	SOPRABOARD + SOPRAPLY BASE PLUS		

Roof Testing Laboratory (ISO 17025)



Roof System Dynamic Wind Uplift Resistance Results

MTS-262650

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		6 in o.c.	
ELIGIBLE THICKNESS(ES)				
1½ in minimum				
FASTENING METHOD				
DUOTACK adhesive				
FASTENING PATTERN				
<p>The diagram shows a square panel measuring 48 inches by 48 inches. Ten vertical fasteners are spaced evenly across the width. The spacing between fasteners is 6 inches, with 3 inches from the left and right edges.</p>				
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		



ADDITIONAL INSULATION	
TESTED PRODUCT: Optional (same thicknesses and same eligible products as top row).	

VAPOUR BARRIER			
TESTED PRODUCT: Membrane composed of SBS modified bitumen and a non-woven polyester reinforcement. Both sides are sanded.			
System	Fastening Method		Primer
A	Fully adhered with SOPRASPHALTE M (36,8 lbs/100 ft ²)		ELASTOCOL 500
ELIGIBLE PRODUCT(S)			
SOPREMA	ELASTOPHENE 180 SANDED		

Roof Testing Laboratory (ISO 17025)



Roof System Dynamic Wind Uplift Resistance Results

MTS-262650

THERMAL BARRIER				
TESTED PRODUCT: Fiber-reinforced, moisture and fire-resistant gypsum board.				
System	Application Method	Fastening Rate		
A	Adhered	6 in o.c.		
ELIGIBLE THICKNESS(ES)				
3/8 in minimum				
FASTENING METHOD				
DUOTACK adhesive				
FASTENING PATTERN(S)				
<p>The diagram shows a square panel measuring 48 inches by 48 inches. It features eight horizontal fasteners. The fasteners are spaced 6 inches on center (o.c.). There is a 3-inch gap from the top edge to the first fastener and a 3-inch gap from the last fastener to the bottom edge.</p>				
ELIGIBLE PRODUCT(S)				
CGC	Securock			



FASTENERS
TESTED PRODUCT(S): N/A

ADHESIVE			
TESTED PRODUCT: Flood coat, top sheet, vapour barrier : SEBS modified asphalt (SOPRASPHALTE M).			
TESTED PRODUCT: Cover board, insulation, thermal barrier : Low-rise, two-component, polyurethane adhesive (DUOTACK).			
System	Ribbon's spacing	Primer	
A	SOPRASPHALTE M : full spread	ELASTOCOL 500 (over thermal barrier)	
	DUOTACK : 6 in o.c.	N/A	
ELIGIBLE PRODUCT(S)			
SOPREMA	SOPRASPHALTE M		
SOPREMA	DUOTACK		



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). Tests could be performed on concrete deck or standard 4' x 8' x 5/8" 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:

It is EXP opinion that the application of the adhesive beads in an "S" or straight-line arrangement will not affect the results of this publication. The intention at the job site should be that the glue bead spacings be reasonably distributed on the substrate, in order to come as close as possible to the theoretical patterns when the boards are laid in. Comply with all additional manufacturer's requirements regarding the use of adhesives.

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 <https://www.nrc-cnrc.gc.ca>.

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.

The information in this roofing system report (the "Report") are based on the tests run by EXP of certain combination of materials in a specific and controlled condition to determine the resistance of different roofing systems to wind uplift forces (the "Test"). The results of the Test are subject to certain prerequisite conditions and assumptions made during the Test. In this regard, the Report is for the exclusive use of EXP client for whom the Report was prepared. The information contained in the Report must not be reproduced, used or relied upon in whole or in part without the written consent of EXP. Any third-party user assumes sole responsibility for the use it makes of the information in the Report including but not limited to any decision to purchase roofing material in reliance of the information found in the Report or on the Site. **Exp disclaims all warranties as to the accuracy, completeness or adequacy of the information in the Report or on the Site and accepts no responsibility for damages suffered by any third party arising out of decisions made or actions based on the Report.**

12. Version tracking table:

2021-03-26	First edition.

Prepared by:

EXP Services Inc.

Serge Rochon, P. Eng.
O.I.Q. N° : 114865
P.E.O. N° : 100023274
Provincial Manager – Building science and CSA laboratory

2021-03-26

Date