

Bulletin

Roof Testing Laboratory (ISO 17025)

UL Third Party Test Data Program participant



Roof System Dynamic Wind Uplift Resistance Results

File number:	MTS-21009943
Test date:	2021-06-02
Reappraisal date:	2024-09-20



SOPRALENE FLAM 250 GR / SOPRALENE FLAM 180 OVER DENSDECK PRIME 1/4"

(PARS) PARTIALLY ATTACHED (HYBRID) ROOFING SYSTEM

Tested Roofing System Summary

Cap sheet membrane:	Modified bitumen membrane / Fused
Base sheet membrane:	Modified bitumen membrane / Fused
Cover board:	Moisture and fire-resistant gypsum board 4 x 4 ft x 1/4 in / Adhered
Insulation:	Polyisocyanurate foam insulation board 4 x 8 ft x 2 in / Mechanically fastened
Vapour barrier:	Self-adhesive membrane
Thermal barrier:	Optional
Decking:	Steel deck

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

System Designation	Measured testing value According to CSA A123.21:20	Result reduced by a factor of 1,5 According to CSA A123.21:14
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



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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	Fused			
ELIGIBLE PRODUCT(S)				
SOPREMA	SOPRALENE FLAM 250 GR	SOPRALENE FLAM 180 GR	SOPRALENE FLAM 180 FR GR	SOPRALENE FLAM 250 FR GR
	SOPRALENE MAMMOUTH GR	SOPRASTAR FLAM GR	SOPRASTAR FLAM FR GR	SOPRAPLY TRAFFIC CAP
	SOPRAPLY TRAFFIC CAP FR	SOPRAPLY TRAFFIC CAP PLUS	SOPRAPLY TRAFFIC CAP PLUS FR	
SOPREMA System with gravel surfacing	COLPLY BASE 410 FLEX	ELASTOPHENE SANDED	ELASTOPHENE 180 SANDED	SOPRALENE 180 SANDED
	COLPLY BASE 410			
Note: Follow the manufacturer's recommendations for the definition of the type of gravel / amount of gravel / adhesive rate in which to embed the gravel.				

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	Fused, substrate primed with ELASTOCOL 500	n/a	n/a
ELIGIBLE PRODUCT(S)			
SOPREMA	SOPRALENE FLAM 180	ELASTOPHENE FLAM 2.2	SOPRAPLY BASE 520
			SOPRAPLY BASE PLUS

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COVER BOARD				
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		Ribbons at 12 in o.c.	
ELIGIBLE THICKNESS(ES)				
¼ in minimum				
FASTENING METHOD				
DUOTACK adhesive				
FASTENING PATTERN				
<p>The diagram shows a 48" x 48" square. Four vertical ribbons are positioned at 6" from the left edge, and then at 12" intervals: 6" + 12" = 18", 18" + 12" = 30", and 30" + 12" = 42". There is a 6" gap from the 42" mark to the right edge.</p>				
ELIGIBLE PRODUCT(S)				
Georgia-Pacific	DensDeck Prime	DensDeck		
CGC	Securock			
Unifix	PermaBase Dek			

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INSULATION				
TESTED PRODUCT: Polyisocyanurate foam insulation board laminated on both sides with fiber reinforced organic felt.				
System	Application Method		Fastening Rate	
A	Mechanically fastened		12 fasteners / 4 x 8 ft board	
ELIGIBLE THICKNESS(ES)				
2 in minimum				
FASTENING METHOD				
Screws and plates				
FASTENING PATTERN				
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				
TESTED PRODUCT: Self-adhesive membrane composed of a trilaminated woven polyethylene and SBS modified bitumen.				
System	Fastening Method		Primer	
A	Self-adhered		n/a	
ELIGIBLE PRODUCT(S)				
SOPREMA	SOPRAVAP'R			
SOPREMA	SOPRAPLY STICK DUO			
	Note: thermal barrier required on steel deck.			
SOPREMA	SOPRALENE 180 SP 3.5	ELASTOPHENE SP 2.2		
	Note: thermal barrier required on steel deck or wood deck.			
SOPREMA	SOPRAVAP'R	SOPRALENE STICK	SOPRAPLY STICK DUO	
	Note: on wood deck primed according to the manufacturer's recommendations.			

THERMAL BARRIER				
TESTED PRODUCT : Optional.				
ELIGIBLE PRODUCT(S)				
Georgia-Pacific	DensDeck (½ in min.)	DensDeck Prime (½ in min.)		
CGC	Securock (½ in min.)			
Unifix	PermaBase Dek (½ in min.)			
Application method: loose laid, adhered or mechanically fastened, the fastening method and rate are under the responsibility of the designer.				



FASTENERS (see general note #3)		
TESTED PRODUCT(S): #12 roofing fasteners.		
System	Screws	Plates
A	#12 DP	3 in round metal plates
FASTENERS MEASURED PULL OUT RESISTANCE		
369 lbf (measured)		
ELIGIBLE PRODUCT(S)		
SOPREMA	Dekfast #12 DP	3 in round metal plates

ADHESIVE			
TESTED PRODUCT: Low-rise, two-component, polyurethane adhesive.			
System	Ribbon's spacing	Primer	
A	12 in o.c.	n/a	
ELIGIBLE PRODUCT(S)			
SOPREMA	DUOTACK		

DECKING					
PRODUCT: Steel deck.					
Grade	Thickness (in)	Yield strength (ksi)	Tensile strength	Span spacing (in)	Fasteners spacing (in)
230	0,03	33	45 ksi	54	6
Additional testing could be performed on concrete decks or standard 4' x 8' x 5/8" plywood decks to assess eligibility for possible equivalencies. On a building, the attachment of the decking to the supporting structure must be strong enough to resist wind uplift loads (as defined per NBCC requirements).					

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General Notes

1. Source:

This publication is based on a test conducted by **EXP Services inc.**

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:

Tests 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 (when applicable):

Tests 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. Liquid primers and adhesives:

Please observe the application rates specified by the manufacturers, as well as any additional requirements when applying liquid primers and adhesives.

7. 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.

8. 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).

9. Experimental factor:

In accordance with CSA A123.21 -14 standard, the published dynamic uplift resistance (DUR) includes a computed experimental factor of 1,5.

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10. 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, perimeters and corners, as per 2015 NBCC requirement, without experimental factor. It will also compute perimeters' and corner's zone dimensions.

11. Technical Advisories:

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

12. 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.**

13. Version tracking table:

2021-09-20	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

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Date