

Bulletin

Roof Testing Laboratory (ISO 17025)



Roof System Dynamic Wind Uplift Resistance Results

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SIPLAST MODIFIED BITUMEN MEMBRANE OVER TOPROCK DD PLUS INSULATION

(PARS) PARTIALLY ATTACHED (HYBRIDE) ROOFING SYSTEM

Tested Roofing System Summary

Cap sheet membrane:	Modified bitumen membrane / Fused
Base sheet membrane:	Modified bitumen membrane / Fused
Cover board:	N/A
Insulation top row:	Bitumen coated stone wool insulation board (4 x 4 ft x 2 in) / Adhered
Insulation bottom row:	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 Value	Computed Value (To Include 1.5 Experimental Factor)
A	-5,5 kPa (-115 psf)	-3,7 kPa (-77 psf)

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





Products

CAP SHEET MEMBRANE				
TESTED PRODUCT: Membrane composed of lightweight random fibrous glass mat and SBS modified bitumen.				
System	Application Method			
A	Fused			
ELIGIBLE PRODUCT(S)				
SIPLAST	Paradiene 30 FR TG	Paradiene 30 HT FR TG	Paradiene 40 FR TG	Parafor 30 TG
	Parafor 50 LT	Parafor 50 TG	Veral AL	

BASE SHEET MEMBRANE				
TESTED PRODUCT: Membrane composed of lightweight random fibrous glass mat and SBS modified bitumen.				
System	Application Method		Row spacing	Fasteners spacing
A	Fused		N/A	N/A
ELIGIBLE PRODUCT(S)				
SIPLAST	Paradiene 20 TG	Paradiene 20 EG TG	Paradiene 20 HT TG	Paradiene 20 HT TG F
	Paradiene 20 HT TS	Paradiene 20 HT TS F	Paradiene 20 HV TG	Paradiene 20 HV TS
	Paradiene 20 HV TS F	Paradiene 20 TG F	Paradiene 20 TS	Paradiene 20 TS F

COVER BOARD	
TESTED PRODUCT: Included to top row insulation	

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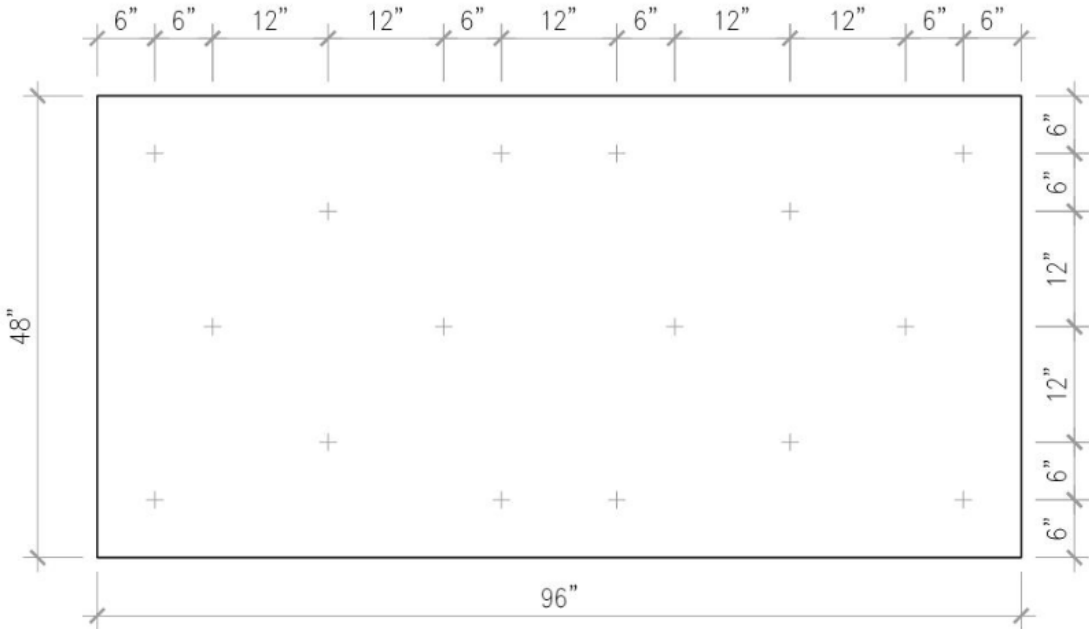
INSULATION (Top Row)				
TESTED PRODUCT: Dual density, bitumen coated stone wool rigid insulation board. (ASTM C726)				
System	Application Method		Fastening Rate	
A	Adhered		4 in (102 mm) o.c. beads	
ELIGIBLE THICKNESS(ES)				
2 in (51 mm) minimum				
FASTENING METHOD				
Parafast Insulation Adhesive				
FASTENING PATTERN				
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ELIGIBLE PRODUCT(S)				
ROCKWOOL	Toprock DD Plus			
GEORGIA-PACIFIC	DensDeck Prime			
CGC	Securock			
IKO	Protectoboard			

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INSULATION (Bottom Row)				
TESTED PRODUCT: Polyisocyanurate foam insulation board laminated on both sides with fiber reinforced organic felt. (ASTM C1289, Type II, Class 1, Grade 2 (3) / CAN/ULC-S704 Type 2 (3), Class 3)				
System	Application Method		Fastening Rate	
A	Mechanically fastened		1 fastener per 2 ft²	
ELIGIBLE THICKNESS(ES)				
2 in (51 mm) minimum				
FASTENING METHOD				
Parafast PA				
FASTENING PATTERN				
				
ELIGIBLE PRODUCT(S)				
ATLAS	ACFoam II	ACFoam III		
SIPLAST	Paratherm	Paratherm CG		
IKO	IKOTerm II	IKOTerm III		
GAF	EnergyGuard	EnergyGuard Ultra		

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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)				
FIRESTONE	V-Force			
SIPLAST	Paradiene 20 SA	Paradiene 20 HT SA	Paradiene 20 EG SA	Paradiene 20 HV SA
HENRY	Vapor Bloc			

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		
TESTED PRODUCT(S): #12 roofing fasteners.		
System	Screws	Plates
A	#12 insulation screws	Round metal 3 in (76 mm) plates
FASTENERS MEASURED PULL OUT RESISTANCE		
1822 N (410 lbf)		
ELIGIBLE PRODUCT(S)		
SIPLAST	Parafast PA fastener	

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ADHESIVE				
TESTED PRODUCT: Quick curing, two components, bead applied, polyurethane foam adhesive.				
System	Ribbon's spacing		Primer	
A	4 in (100 mm) o.c.		N/A	
ELIGIBLE PRODUCT(S)				
SIPLAST	Parafast Insulation Adhesive	Parastick Adhesive	Parafast C Adhesive	Parafast T Adhesive



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.

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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:

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