

Bulletin

Roof Testing Laboratory (ISO 17025)



Roof System Dynamic Wind Uplift Resistance Results

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MODIFIED BITUMEN SYSTEM WITH FUSED PARADIENE (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 ½ in / Adhered
Insulation:	Polyisocyanurate foam insulation board 4 x 4 ft x 2 in / Adhered
Vapour barrier:	Modified bitumen membrane / Fused
Thermal barrier:	Moisture and fire-resistant gypsum board 4 x 4 ft x ½ in / Mechanically fastened
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	-2,7 kPa (-56 psf)	-1,8 kPa (-37 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 a lightweight random fibrous glass mat impregnated and coated with SBS modified bitumen and surfaced with ceramic granules.				
System	Application Method			
A	Fused			
ELIGIBLE PRODUCT(S)				
Siplast	Paradiene 30 TG	Paradiene 20 PR TG	Paradiene 40 FR TG	Parafor 50 TG
	Parafor 30 TG			

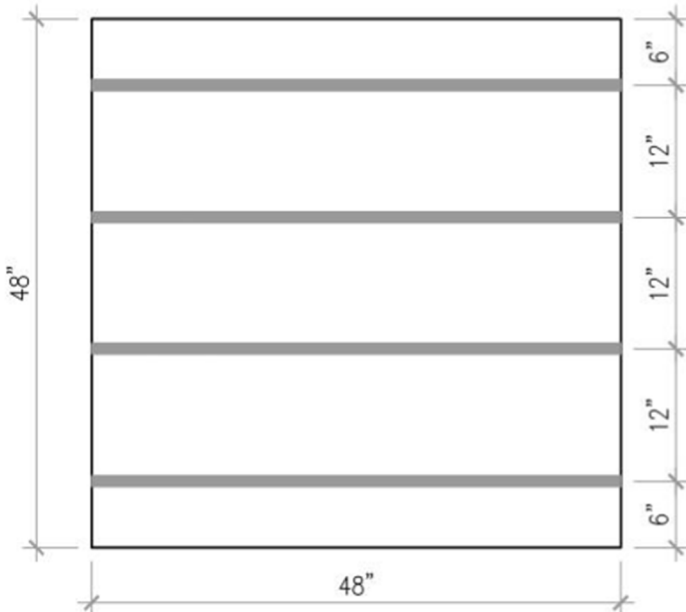
BASE SHEET MEMBRANE				
TESTED PRODUCT: Membrane composed of a lightweight random fibrous glass mat impregnated and coated with SBS modified bitumen.				
System	Application Method		Row spacing	Fasteners spacing
A	Fused		N/A	N/A
ELIGIBLE PRODUCT(S)				
Siplast	Paradiene 20 TG	Irex 40	Paradiene 20 HV TG	Paradiene 20 HV TS
	Paradiene 20 HV TS F	Paradiene 20 TG F	Paradiene TS	Paradiene 20 TS F
	Paradiene 20 EG TG	Paradiene 20 HT TG	Paradiene 20 HT TG F	Paradiene 20 HT TS
	Paradiene 20 HT TS F			

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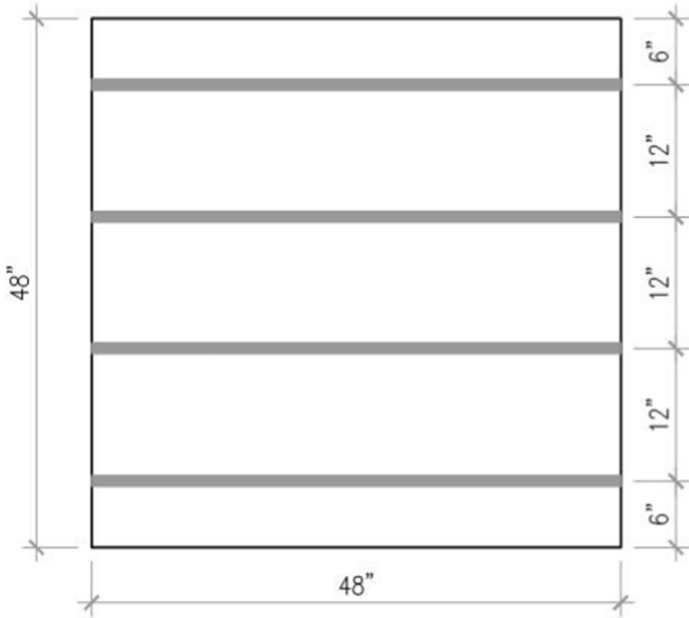
COVER BOARD				
TESTED PRODUCT: Moisture and fire-resistant gypsum board, covered with non-combustible fiberglass felt and non-asphaltic coating.				
System	Application Method		Fastening Rate	
A	Adhered		12 in o.c.	
ELIGIBLE THICKNESS(ES)				
½ in minimum				
FASTENING METHOD				
OlyBond 500 adhesive				
FASTENING PATTERN				
				
ELIGIBLE PRODUCT(S)				
Georgia-Pacific	DensDeck Prime			
CGC	Securock			

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INSULATION (Top Row)				
TESTED PRODUCT: Rigid roof insulation board composed of a closed cell polyisocyanurate foam core bonded on each side to fiber-reinforced organic felt facer. (ASTM C1289 Type II, Class 1, Grade 2)				
System	Application Method		Fastening Rate	
A	Adhered		12 in	
ELIGIBLE THICKNESS(ES)				
2 in minimum				
FASTENING METHOD				
OlyBond 500 adhesive				
FASTENING PATTERN				
				
ELIGIBLE PRODUCT(S)				
Siplast	Paratherm W	Paratherm	Paratherm CG	
GAF	EnergyGuard	EnergyGuard Ultra		
Atlas Roofing Corp.	ACFoam-II	ACFoam-III		
IKO	IKOTerm II	IKOTerm III		



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

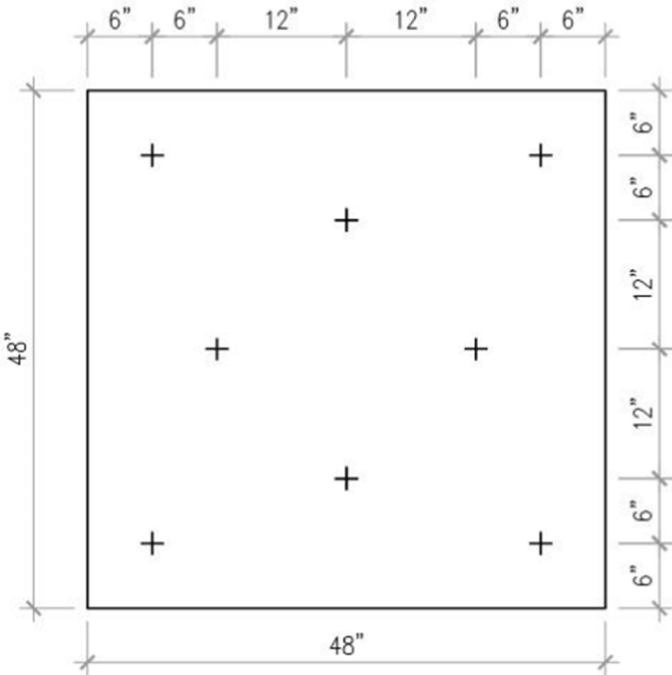
VAPOUR BARRIER				
TESTED PRODUCT: Membrane composed of a lightweight random fibrous glass mat impregnated and coated with SBS modified bitumen.				
System	Fastening Method		Primer	
A	Fused		N/A	
ELIGIBLE PRODUCT(S)				
Siplast	Paradiene 20 TG	Irex 40	Paradiene 20 HV TG	Paradiene 20 HV TS
	Paradiene 20 HV TS F	Paradiene 20 TG F	Paradiene 20 TS	Paradiene 20 TS F
	Paradiene 20 EG TG	Paradiene 20 HT TG	Paradiene 20 HT TG F	Paradiene 20 HT TS
	Paradiene 20 HT TS F			

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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	Mechanically fastened		8 fasteners / 4 x 4 ft board	
ELIGIBLE THICKNESS(ES)				
½ in minimum				
FASTENING METHOD				
Screws and plates				
FASTENING PATTERN(S)				
				
ELIGIBLE PRODUCT(S)				
Georgia-Pacific	DensDeck Prime			
CGC	Securock			



FASTENERS (see general note #3)		
TESTED PRODUCT(S): #12 roofing fasteners.		
System	Screws	Plates
A	#12 Standard Roofgrip	Parafast metal plates (3 in)
FASTENERS MEASURED PULL OUT RESISTANCE		
483 lbf (measured)		
ELIGIBLE PRODUCT(S)		
Siplast	#12 Standard Roofgrip	Parafast metal plates (3 in)

ADHESIVE				
TESTED PRODUCT: Two-component, low-rise polyurethane foam adhesive.				
System	Ribbon’s spacing		Primer	
A	12 in		N/A	
ELIGIBLE PRODUCT(S)				
GAF	OlyBond 500			



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:

2021-03-10	First edition.

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Date