

Bulletin

Roof Testing Laboratory (ISO 17025)

UL Third Party Test Data Program participant



Roof System Dynamic Wind Uplift Resistance Results

File number:	DRS-22020218
Test date:	2022-08-24
Reappraisal date:	2026-03-22



MECHANICALLY ATTACHED LEXCAN TPO 60 MIL, 10 FT MAX., MEMBRANE

(MARS) MECHANICALLY ATTACHED ROOFING SYSTEM

Tested Roofing System Summary

Cap sheet membrane:	Single ply TPO membrane / Mechanically fastened
Base sheet membrane:	n/a
Cover board:	Optional
Insulation (top):	Polyisocyanurate foam insulation board 4 x 4 ft x 1½ in / Mechanically fastened
Additional insulation (bottom):	Polystyrene insulation board 4 x 4 ft x 1½ in / Loose laid
Vapour barrier:	Plastic sheeting / Loose laid
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	-3,4 kPa (-70 psf)	-2,3 kPa (-47 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: Two-ply membrane composed of thermoplastic polyolefin and reinforced with polyester.				
System	Application Method			
A	Mechanically fastened at 12 in o.c. in overlaps. Maximum distance between laps 114 in o.c.			
ELIGIBLE PRODUCT(S)				
LEXCOR	TPO Lexcan 60 mil	Hi-Tuff TPO membrane 1.5 mm (60 mil)	Hi-Tuff TPO XTRA membrane 2.0 mm (80 mil)	Hi-Tuff TPO HS membrane 1.5 mm (60 mil)
	Hi-Tuff TPO XTRA HS membrane 1.8 mm (72 mil)	Hi-Tuff TPO XTRA HS membrane 1.8 mm (80 mil)		

BASE SHEET MEMBRANE
TESTED PRODUCT: n/a

COVER BOARD				
TESTED PRODUCT: Optional.				
ELIGIBLE PRODUCT(S)				
Georgia-Pacific	DensDeck	DensDeck Prime		
USG	Securock Gypsum Board			
National Gypsum	DEXcell	DEXcell FA	DEXcell Cement Board	
LEXSUCO	Lexboard ½ po	Lexboard ¼ po		
Generic	Oriented Strand Board (OSB)	Plywood	Gypsum Board	

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INSULATION (top row)				
TESTED PRODUCT: Closed cell polyisocyanurate foam board, laminated on both sides to a black felt covering (no asphalt) reinforced with fiberglass.				
System	Application Method		Fastening Rate	
A	Mechanically fastened		4 fasteners / 4 x 4 ft board	
ELIGIBLE THICKNESS(ES)				
1½ in minimum				
FASTENING METHOD				
Screws and plates				
FASTENING PATTERN				
<p style="text-align: center;"> 12" 12" 48" 6" 6" 48" </p>				
ELIGIBLE PRODUCT(S)				
LEXCOR	Isolex	Isolex II		
IKO	IKOTherm	IKOTherm II		
Atlas Roofing Corp.	ACFoam II	ACFoam III		
Johns Manville	ENRGY 3	ENRGY 3 CGF		

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ADDITIONAL INSULATION (additional layers)				
TESTED PRODUCT: Expanded polystyrene insulation board.				
System	Application Method		Fastening Rate	
A	Loose laid		n/a	
ELIGIBLE THICKNESS(ES)				
1½ in minimum				
ELIGIBLE PRODUCT(S)				
FRANSYL	Izolon HR	Izolon THR	Izolon HD	Izolon THD
LEXCOR	Isolex	Isolex II		
IKO	IKOTherm	IKOTherm II		
Atlas Roofing Corp.	ACFoam II	ACFoam III		
Johns Manville	ENRGY 3	ENRGY 3 CGF		

VAPOUR BARRIER				
TESTED PRODUCT: Polyethylene plastic sheeting				
System	Fastening Method		Primer	
A	Loose laid		n/a	
ELIGIBLE PRODUCT(S)				
LEXCOR	PE-6 Polyethylene	Lexshield	Permate Stick	Permate
Generic	Polyethylene membrane (6 mil minimum)	Self-adhesive membrane		



THERMAL BARRIER				
TESTED PRODUCT : Optional.				
ELIGIBLE PRODUCT(S)				
Georgia-Pacific	DensDeck	DensDeck Prime		
USG	Securock Gypsum Board			
National Gypsum	DEXcell	DEXcell FA	DEXcell Cement Board	
Application method: loose laid, adhered or mechanically fastened. The securement method, rate and thickness to meet codes requirements, are the designer's responsibilities.				

FASTENERS (see general note #3)				
TESTED PRODUCT(S): #15 roofing fasteners.				
System	Screw		Plates	
A	Lexgrip #15 DP		Membrane: Lexgrip 2,4 in barbed metal plates	
			Insulation: Lexgrip 3 in round metal plates	
FASTENERS MEASURED PULL OUT RESISTANCE				
573 lbf (measured)				
ELIGIBLE PRODUCT(S)				
	Screw		Plates	
	Manufacturer	Identification	Manufacturer	Identification
Membrane	LEXCOR	Lexgrip #15 DP	LEXCOR	Lexgrip 2,4 in barbed metal plates
Insulation	LEXCOR	Lexgrip #15 DP	LEXCOR	Lexgrip 3 in round metal plates
			LEXCOR	Lexgrip TPO induction plate
			SRD	TPO induction plate
			OMG*	TPO induction plate
			OMG*	Round insulation plate with special coating

*Or any brand of plates manufactured by OMG under private label.

ADHESIVE
TESTED PRODUCT: n/a



DECKING				
PRODUCT: Steel deck.				
Grade	Thickness (in)	Yield strength (ksi)	Span spacing (in)	Fasteners spacing (in)
230	0,03	33	54	6
Additional testing could be performed on concrete, plywood, planks or other substrates to assess eligibility to possible decking 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 NBC 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 formally requested to EXP 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. Building Wind Load Calculation:

An online calculator is available at <https://nrc.canada.ca/en/research-development/products-services/software-applications/wind-roof-calculators-internet-wind-rci>.

The calculator will compute, the Wind Load of any given building, for field, perimeters and corners, as per 2015 NBC requirement. It will also compute the dimensions of the perimeter and corner areas.

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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:

2023-03-22	First edition.

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Date