Bulletin

Roof Testing Laboratory (ISO 17025)

UL *Third Party Test Data Program* participant

Roof System Dynamic Wind Uplift Resistance Results

File number:	PTFS-240597-02
Test date:	2017-06-22
Reappraisal date:	2026-05-26

POLYBASE R+ 180 ADHERED WITH LEXPHALT LG

(AARS) ADHESIVE APPLIED ROOFING SYSTEM

Tested Roofing System Summary

Cap sheet membrane:	Modified bitumen membrane / Fused
Base sheet membrane:	Included to cover board
Cover board:	Composite board comprising a polystyrene board, a polyisocyanurate board and a modified bitumen membrane 3 x 8 ft x 2¼ in / Adhered
Insulation:	Included to cover board
Additional insulation:	Optional
Vapour barrier:	Self-adhesive membrane
Thermal barrier:	n/a
Decking:	Steel deck

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

System Designation	**Sustained Pressure (S.P.)** (measured)	**As per CSA A123.21:20** DUR = (S.P. x 0,65)	**As per CSA A123.21:14** DUR = (S.P. ÷ 1,5)
A	-5,7 kPa (-120 psf)	-3,7 kPa (-78 psf)	-3,8 kPa (-80 psf)

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

Roof System Dynamic Wind Uplift Resistance Results

PTFS-240597-02

Products

CAP SHEET MEMBRANE				
TESTED PRODUCT: Membrane composed of tough, non-woven polyester mat, reinforced with glass fiber strands and SBS modified bitumen.				
System	**Application Method**			
A	Fused			
ELIGIBLE PRODUCT(S)				
System with fused cap sheet membrane				
Lexcor	Vanguard 250 TC	Vanguard TP 250 Cap	Vanguard 180 SF(1)	Vanguard 180 FF
IKO	Torchflex TP-250-Cap	Torchflex 250-Cap	Torchflex TP-180-Cap	Torchflex TP-250-Cap 5 mm
	Torchflex PrevENt TP-180	Torchflex PrevENt TP-250	Torchflex PrevENt Premium TP-250	Torchflex 180-FF
	Torchflex 180-SF(1)	Torchflex TP-180-SF	Torchflex TP-HD-Cap	Torchflex TP-HD-FF-Base
	PrevENt TP-HD-Cap	PrevENt TP Premium	ArmourCool Granular TP-HD-Cap	ArmourCool HD-Cap
	ArmourCool	Carrara ArmourCool-250	Carrara ArmourCool HD	
Johns Manville	DynaWeld Cap 180	DynaWeld Cap 180 FR	DynaWeld Cap 250	DynaWeld Cap 180 FR CR G
	DynaWeld 180 S(1)	DynaWeld 250 FR	DynaWeld Cap FR CR (coated)	DynaKap FR T1 HW
Henry Bakor	modifiedPLUS NP250gT4 Cap	Modified Plus NP 180	Modified Plus NP 250	
System with asphalt type III applied cap sheet membrane				
IKO	Modiflex MP-180-Cap	Modiflex MP-250-Cap	Modiflex MP-HD-Cap	Modiflex MP-HD-FS-Base
	PrevENt MP Premium 250	PrevENt MP-250 Cap	PrevENt MP-HD-Cap	
LEXCOR	Vanguard 250 MC			
Johns Manville	DynaLastic 250 FR	DynaLastic 180 FR CR G	DynaLastic 180 Cap	DynaLastic 250 Cap
	DynaKap T1	DynaKap FR T1		
Henry Bakor	modifiedPLUS NP250gT4 Cap			

Roof System Dynamic Wind Uplift Resistance Results

PTFS-240597-02

System with type III asphalt applied cap sheet membrane & surfacing[1]				
IKO	Modiflex MP-180-SS	Modiflex MP-HD-SS-Base		
LEXCOR	Vanguard 180 SS			
Johns Manville	DynaLastic 180 S			
Henry Bakor	modifiedPLUS NP180s/s			

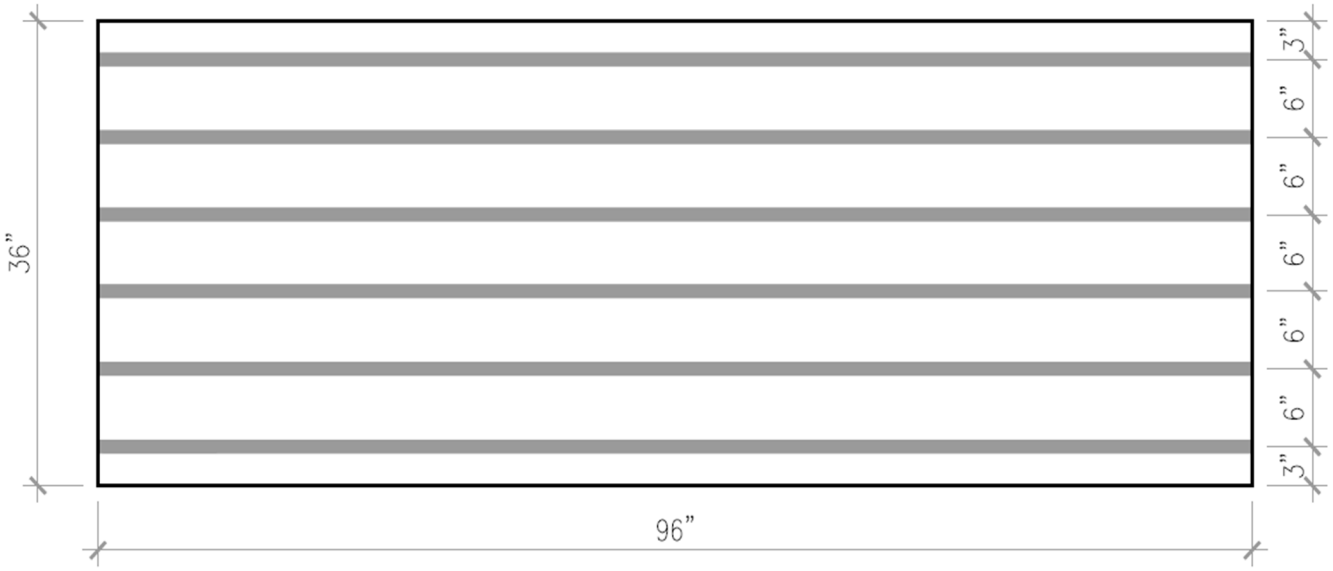
(1) These membranes can be covered with a finishing surface; flood coat and gravel, reflective coating, others.

BASE SHEET MEMBRANE
TESTED PRODUCT: Included to cover board.

Roof System Dynamic Wind Uplift Resistance Results

PTFS-240597-02

COVER BOARD		
TESTED PRODUCT: Composite board consisting of an expanded type 1 polystyrene base insulation of variable thickness, factory-laminated to a very high density polyisocyanurate foam board with fiberglass facers and covered with a polyester-reinforced modified bitumen membrane.		
System	**Application Method**	**Fastening Rate**
A	Adhered	Ribbons at 6 in o.c.
ELIGIBLE THICKNESS(ES)		
2¼ in minimum		
FASTENING METHOD		
Lexphalt LG adhesive		
FASTENING PATTERN		



ELIGIBLE PRODUCT(S)				
Fransyl	Polybase R+ 180	Polybase R+ 180 S (sanded)		

Roof System Dynamic Wind Uplift Resistance Results

PTFS-240597-02

INSULATION (Top Row)
TESTED PRODUCT: Included to cover board

ADDITIONAL INSULATION				
TESTED PRODUCT: Optional				
ELIGIBLE PRODUCT(S)				
Fransyl	Izolon HR	Izolon THR	Izolon HD	Izolon THD
Lexcor	Isolex	Isolex II		
IKO	IKOTherm	IKOTherm III		
Atlas Roofing Corp.	ACFoam II	ACFoam III		
Johns Manville	ENRGY 3	ENRGY 3 CGF		

VAPOUR BARRIER				
TESTED PRODUCT: Self-adhesive membrane composed of a non-asphaltic adhesive backing and a reinforced surface of woven polypropylene laminated with a non-woven polyester.				
System	**Fastening Method**		**Primer**	
A	Self-adhered		Ultrastick	
ELIGIBLE PRODUCT(S) : vapour barrier				
Adhered membranes				
Lexcor	Permate Stick			
Fused membranes				
Lexcor	Vanguard 95 SF	Vanguard 180 SF		
IKO	Torchflex 95 SF	Torchflex 180 SF		
ELIGIBLE PRODUCT(S) : primer				
With adhered membranes				
Lexcor	Ultrastick	Multigrip		
With fused membranes				
Lexcor	Lexprime TG			

Roof System Dynamic Wind Uplift Resistance Results

PTFS-240597-02

THERMAL BARRIER
TESTED PRODUCT: n/a

FASTENERS
TESTED PRODUCT(S): n/a

ADHESIVE				
TESTED PRODUCT: One component low-rise liquid polyurethane adhesive that cures with moisture.				
System	**Ribbon's spacing**		**Primer**	
A	6 in o.c.		n/a	
ELIGIBLE PRODUCT(S)				
Lexcor	Lexphalt LG	Insultac II		
Fransyl	Adphalt			

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).				

Roof System Dynamic Wind Uplift Resistance Results

PTFS-240597-02

General Notes

1. **Source:**

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

2. **Deck equivalency products:**

   EXP carried tests over exterior type Douglas Fir Plywood deck, of 16 mm (⅝ in.) minimum thickness, meeting CSA 0121, CSA 0151, CSA 0153 standards, EASY T&G and DFP grade, yielding a load limit of L/180; 6 kPa (125 psf). Those tests demonstrated that Permate Stick self-adhered membrane, used as a vapour barrier, is suitable over a wood deck previously prepared with Ultrastick or Multigrip primer from Lexcor.

   EXP carried tests over cured concrete slab. Those tests demonstrated that a Vanguard 95 SF membrane, used as a vapour barrier, is suitable over concrete deck previously prepared with Lexprime TG primer from Lexcor.

   The deck's fastening to the supporting structure must be strong enough to resist wind uplift loads (as defined per NBC requirements).

3. **Fasteners Pull Out Resistance:**

   Tests were conducted in laboratory according to ANSI/SPRI FX-1 standard, over a minimum of 10 specimens 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 standard over steel deck (unless stated otherwise) or, according to ASTM D1623 standard.

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 will compute the Wind Load of any given building, for field, perimeters and corners, as per 2015 NBC requirement. It will also provide the dimensions of the perimeter and corner areas. The calculator is available at https://nrc.canada.ca/en/research-development/products-services/software-applications/wind-load-calculators-roof-cladding-vegetated-roof-assembly

10. Dynamic Uplift Resistance (DUR) calculation:

CSA A123.21 (2014 and earlier) specified to divide the measured result by 1,5 to obtain the effective wind resistance (DUR).

CSA A123.21 (2020) suggest to multiply the measured result with 0,65 to obtain the effective wind resistance (DUR).

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:

2017-09-18	First edition.
2019-03-20 (R1)	Addition of eligible products, addition of equivalent decks.
2019-06-05 (R2)	Addition of eligible products.
2020-03-10 (R3)	Addition of eligible vapour barrier membranes.
2021-04-08 (R4)	Removal of the optional thermal barrier (not tested in an AARS system), and update of the presentation layout.
2023-05-26 (R5)	Presentation update, addition of eligible cap sheet membranes and vapour barriers.

Roof System Dynamic Wind Uplift Resistance Results

PTFS-240597-02

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2023-05-26

Date

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