

Bulletin

Roof Testing Laboratory



Roof System Dynamic Wind Uplift Resistance Results

File Number:	MBPS1-240309-01-5100
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BUILDING PRODUCTS OF CANADA CORP.

INSULATED FULLY ADHERED BUILD UP ROOF SYSTEM OVER WOOD DECK

(AARS) ADHESIVE APPLIED ROOFING SYSTEM

Roofing System Summary

Cap sheet membrane:	Membrane composed of 5 plies of perforated felt / Adhered with asphalt type III
Base sheet membrane:	N/A
Cover board:	Wood fiber board one side coated 1220 x 1220 x 12,7 mm (4' x 4' x 1/2") / Adhered with asphalt type III
Insulation (top):	Rigid polyisocyanurate foam insulation board 1220 x 1220 x 38 mm (4' x 4' x 1 1/2") / Adhered with asphalt type III
Insulation (bottom):	Rigid polyisocyanurate foam insulation board 1220 x 1220 x 38 mm (4' x 4' x 1 1/2") / Adhered with asphalt type III
Vapour barrier:	Membrane composed of 2 plies of perforated felt / Adhered with asphalt type III
Thermal barrier:	N/A
Decking:	Standard construction grade plywood

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

System Designation	Measured Value	Computed Value (To Include 1.5 Experimental Factor)
A	-7,2 kPa (-150 psf)	-4,8 kPa (-100 psf)

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Products

CAP SHEET MEMBRANE				
TESTED PRODUCT: Membrane made of 5 plies of organic fibers perforated felt, saturated with bitumen, and adhered with hot bitumen, then covered with a layer of gravel embedded in hot bitumen.				
System	Application Method		Fastening Rate	
A	Fully adhered with asphalt type III (5 plies) and then covered with 20 kg/m ² (400 lb/100 ft ²) of gravel.		1,0 kg / m ² (20 lbs / 100 ft ²) / ply between felt and 3kg/m ² (60 lbs/100 ft ²) to embed gravel.	
ELIGIBLE PRODUCT(S)				
BP Canada Corp.	#15 felt-RF404			
Lexcor	Lexcor No. 15			

BASE SHEET MEMBRANE				
TESTED PRODUCT: N/A				

COVER BOARD				
TESTED PRODUCT: Board composed of interwoven wood fibers coated with a wax emulsion, and asphalt-coated on one side.				
System	Application Method		Fastening Rate	
A	Fully adhered		1,0 kg / m ² (20 lbs / 100 ft ²)	
ELIGIBLE THICKNESS(ES)				
12,7 mm (½ in)				
FASTENING METHOD				
Asphalt type III				
ELIGIBLE PRODUCT(S)				
BP Canada Corp.	Esgard #BRC0544H1B			
Lexcor	Fibrelex			

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INSULATION (Top Row)				
TESTED PRODUCT: Rigid insulation board composed of a closed cell polyisocyanurate foam core bonded in the foaming process between two organic glass fiber reinforced felt.				
System	Application Method		Fastening Rate	
A	Fully adhered		1,0 kg / m ² (20 lbs / 100 ft ²)	
ELIGIBLE THICKNESS(ES)				
38 mm (1½ in) minimum				
FASTENING METHOD				
Type III asphalt				
ELIGIBLE PRODUCT(S)				
Johns Manville	ENRGY 3	ENRGY 3 CGF		
Atlas	ACFoam II	ACFoam III		
IKO	IKOTherm	IKOTherm III		
Soprema	Sopra-ISO	Sopra-ISO Plus		
Lexcor	Isolex	Isolex II		

INSULATION (Bottom Row)				
TESTED PRODUCT: Rigid insulation board composed of a closed cell polyisocyanurate foam core bonded in the foaming process between two organic glass fiber reinforced felt.				
System	Application Method		Fastening Rate	
A	Fully adhered		1,0 kg / m ² (20 lbs / 100 ft ²)	
ELIGIBLE THICKNESS(ES)				
38 mm (1½ in) minimum				
FASTENING METHOD				
Type III asphalt				
ELIGIBLE PRODUCT(S)				
Johns Manville	ENRGY 3	ENRGY 3 CGF		
Atlas	ACFoam II	ACFoam III		
IKO	IKOTherm	IKOTherm III		
Soprema	Sopra-ISO	Sopra-ISO Plus		
Lexcor	Isolex	Isolex II		



VAPOUR BARRIER				
TESTED PRODUCT: Membrane made of 2 plies of organic fibers perforated felt, saturated with bitumen, and adhered with hot bitumen				
System	Fastening Method		Fastening rate	
A	Fully adhered (2 plies)		1,0 kg / m ² (20 lbs / 100 ft ²) / ply	
ELIGIBLE PRODUCT(S)				
BP Canada Corp.	#15 felt-RF404			
Lexcor	Lexcor No. 15			

THERMAL BARRIER				
TESTED PRODUCT: N/A				

FASTENERS				
TESTED PRODUCT(S): N/A				

ADHESIVE				
TESTED PRODUCT: Type III asphalt consisting of oxidized bitumen				
System	Ribbon's spacing		Primer	
A	Full surface		N/A	
ELIGIBLE PRODUCT(S)				
Bitumar (or generic)	Type III asphalt			

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General Notes

1. Decking:

This test, performed by EXP Services inc. («EXP»), was carried over an exterior type Douglas Fir Plywood deck, of 16 mm ($\frac{5}{8}$ 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).

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 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:

Follow all guide lines or supplementary instructions from the manufacturer regarding adhesive application.

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 <http://www.exp.com/fr/rooftesting>.

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.

12. Version tracking table:

2017-09-20	First edition
2018-01-10	Addition of equivalence products

Prepared by:

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Date

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