## Bulletin

## **Roof Testing Laboratory (ISO 17025)**



## Roof System Dynamic Wind Uplift Resistance Results

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## SIPLAST PARADIENE 30 TG / 20 TG OVER DENSDECK PRIME ON WOOD DECK

## (AARS) ADHESIVE APPLIED ROOFING SYSTEM

Test conducted by PRI Construction Materials Technologies LLC

## **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 8 ft x ½ in / Adhered		
Top insulation:	Polyisocyanurate foam insulation board 4 x 8 ft x 1½ in / Adhered		
Bottom insulation:	Polyisocyanurate foam insulation board 4 x 8 ft x 1½ in / Adhered		
Vapour barrier:	Self-adhesive membrane		
Thermal barrier:	N/A		
Decking:	Plywood board		

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

System Designation	Measured Value	Computed Value (To Include 1.5 Experimental Factor)
A -2,1 kPa (-45 psf)		-1,4 kPa (-30 psf)

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## **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	System Application Method					
Α	Fused					
		ELIGIBLE PRODUCT(S)				
	Paradiene 30 TG	Parafor 50 LT	Paradiene 20 PR TG	Paradiene 40 FR TG		
Siplast	Parafor 50 TG Parafor 30 TG Paradiene 30 FR TG Paradiene 30 FR TG					
	Veral Aluminum					
Siplast	Parapro					

BASE SHEET MEMBRANE							
TESTED PRODUCT	TESTED PRODUCT: Membrane composed of a lightweight random fibrous glass mat impregnated and coated with SBS modified bitumen.						
System	Application	on Method	Row spacing	Fasteners spacing			
Α	Fused, prime	Fused, primed with PA-917		N/A			
		ELIGIBLE PRODUCT(S)					
	Paradiene 20 TG	Paradiene 20 EG TG	Paradiene 20 HT TG	Paradiene 20 HT TG F			
Siplast	Paradiene 20 HT TS	Paradiene 20 HT TS F	Paradiene 20 HV TG	Paradiene 20 TG F			
	IREX 40						
Siplast (with Parapro only)	Pro Base TG						



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		COVER BOARD		
STED PRODUCT:	Moisture and fire-resistant g	gypsum board, covered wit coating.	h non-combustible fiberglass	felt and non-asph
System	Application	on Method	Fastening	, Rate
A	Adh	ered	Ribbons at 1	2 in o.c.
	E	ELIGIBLE THICKNESS(E	S)	
		½ in minimum		
		FASTENING METHOD		
	Pa	arafast Insulation Adhesive	e C	
		FASTENING PATTERN		
3"-1"-48"	6"	ELIGIBLE PRODUCT(S)	12"	
	DensDeck Prime	1		



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## INSULATION (Top Row) STED PRODUCT: Insulation board composed of a polyisocyanurate foam core bonde

TESTED PRODUCT: Insulation board composed of a polyisocyanurate foam core bonded on both sides to a glass fiber reinforced cellulosic felt facers.

System Application Method		Fastening Rate
Α	Adhered	Ribbons at 12 in o.c.

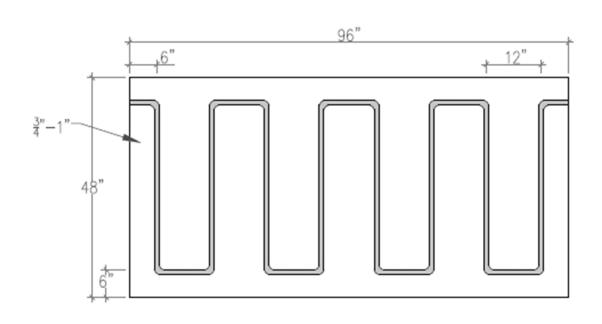
## **ELIGIBLE THICKNESS(ES)**

1½ in minimum

### **FASTENING METHOD**

Parafast Insulation Adhesive C

## **FASTENING PATTERN**



ELIGIBLE PRODUCT(S)					
Siplast	Paratherm G	Paratherm W	Paratherm	Paratherm CG	
GAF	EnergyGuard	EnergyGuard Ultra			
Atlas Roofing Corp.	ACFoam-II	ACFoam-III	ACFoam-IV		
IKO	IKOTherm II	IKOTherm III			



## Roof System Dynamic Wind Uplift Resistance Results

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## INSULATION (Bottom Row)

TESTED PRODUCT: Insulation board composed of a polyisocyanurate foam core bonded on both sides to a glass fiber reinforced cellulosic felt facers.

System Application Method		Fastening Rate
Α	Adhered	Ribbons at 12 in o.c.

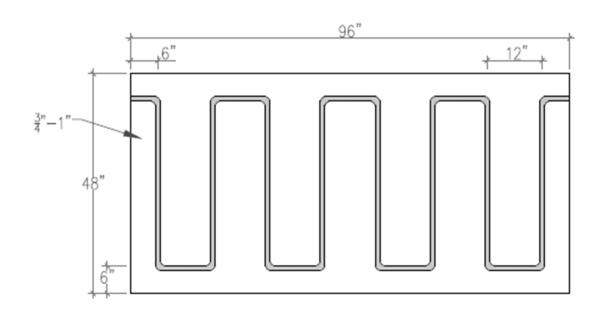
## **ELIGIBLE THICKNESS(ES)**

1½ in minimum

### **FASTENING METHOD**

Parafast Insulation Adhesive C

## **FASTENING PATTERN**



ELIGIBLE PRODUCT(S)					
Siplast	Paratherm G	Paratherm W	Paratherm	Paratherm CG	
GAF	EnergyGuard	EnergyGuard Ultra			
Atlas Roofing Corp.	ACFoam-II	ACFoam-III	ACFoam-IV		
IKO	IKOTherm II	IKOTherm III			



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VAPOUR BARRIER					
TESTED PRODUCT: Membrane composed of an SBS rubberized asphalt compound which is integrally laminated to a blue cross-laminated polyethylene film.					
System	Fastening Method Primer			mer	
Α	Self-adhered		N/A		
ELIGIBLE PRODUCT(S)					
Ноппи	Bakor Vapor Bloc SA				
Henry					

### THERMAL BARRIER

TESTED PRODUCT: N/A

#### **FASTENERS**

TESTED PRODUCT(S): N/A

ADHESIVE						
TES.	TESTED PRODUCT: Quick curing, two component, bead-applied polyurethane adhesive.					
System	System Ribbon's spacing Primer					
Α	12 in o.c.		N/A			
	ELIGIBLE PRODUCT(S)					
Siplast	Siplast Parafast Insulation Parafast Insulation Adhesive C Adhesive					
OMG	OlyBond Classic	OlyBond 500	OlyBond 500 Green			

DECKING									
	PRODUCT: Plywood board (CDX rated APA).								
Gauge	Туре	Grade	Thickness (in)	Yield point (ksi)	Span spacing (in)	Fasteners spacing (in)			
n/d	n/d	n/d	19/32	n/d	n/d	n/d			

Additional testing could be performed on concrete decks to assess eligibility for possible 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 NBCC requirements).



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## **General Notes**

#### 1. Source:

This publication is based on a test conducted by PRI Construction Materials Technologies LLC.

### 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" 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 (when applicable):

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.

### 9. Building Wind Load Calculation:

An online calculator is available at <a href="https://www.nrc-cnrc.gc.ca">https://www.nrc-cnrc.gc.ca</a>.

The calculator will compute, the Wind Load of any given building, for field, perimeter and corners, as per 2015 NBCC requirement, without experimental factor. It will also compute perimeter's and corner's zone dimensions.



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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:

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