

# Bulletin

## Roof Testing Laboratory (ISO 17025)

UL Third Party Test Data Program participant



## Roof System Dynamic Wind Uplift Resistance Results

EXP file number:	MTS-21002383-D5
Source report:	2b-SOPC-19-LSWUD-03.A
Test date:	2019-09-27
Reappraisal date:	2024-09-08



### COMPLETELY ADHERED PVC ROOFING SYSTEM

### (AARS) ADHESIVE APPLIED ROOFING SYSTEM

Test conducted by NEMO ETC, LLC, Oxford

### Tested Roofing System Summary

Cap sheet membrane:	PVC membrane / Adhered
Base sheet membrane:	N/A
Cover board:	High-density polyisocyanurate cover board 4 x 4 ft x ½ in / Adhered
Insulation:	Polyisocyanurate foam insulation board 4 x 4 ft x 1½ in / Adhered
Vapour barrier:	Self-adhesive membrane
Thermal barrier:	N/A
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	-2,9 kPa (-60 psf)	-1,9 kPa (-40 psf)

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



# Roof Testing Laboratory (ISO 17025)



## Roof System Dynamic Wind Uplift Resistance Results

MTS-21002383-D5

### Products

CAP SHEET MEMBRANE				
TESTED PRODUCT: Membrane composed of thermoplastic polyvinyl chloride (PVC) and a non-woven polyester reinforcement.				
System	Application Method			
A	Fully adhered with SENTINEL S Bonding Adhesive (application rate of 60 ft <sup>2</sup> /gal)			
ELIGIBLE PRODUCT(S)				
SOPREMA	SENTINEL P150	SENTINEL P200	SENTINEL G150	SENTINEL G200

BASE SHEET MEMBRANE				
TESTED PRODUCT: N/A				



COVER BOARD				
TESTED PRODUCT: High-density polyisocyanurate cover board composed of a closed-cell core structure placed between two polymers coated glass fibers facers.				
System	Application Method	Fastening Rate		
A	Adhered	Ribbons at 12 in o.c.		
ELIGIBLE THICKNESS(ES)				
½ in minimum				
FASTENING METHOD				
DUOTACK adhesive				
FASTENING PATTERN				
<p style="text-align: center;">48"</p> <p style="text-align: center;">48"</p> <p style="text-align: center;">6" 12" 12" 12" 6"</p>				
ELIGIBLE PRODUCT(S)				
<b>SOPREMA</b>	SOPRA-ISO PLUS HD			

# Roof Testing Laboratory (ISO 17025)



## Roof System Dynamic Wind Uplift Resistance Results

MTS-21002383-D5

INSULATION				
TESTED PRODUCT: Polyisocyanurate foam insulation board laminated on both sides with fiber reinforced organic felt.				
System	Application Method		Fastening Rate	
A	Adhered		Ribbons at 12 in o.c.	
ELIGIBLE THICKNESS(ES)				
1½ in minimum				
FASTENING METHOD				
DUOTACK Adhesive				
FASTENING PATTERN				
ELIGIBLE PRODUCT(S)				
<b>SOPREMA</b>	SOPRA-ISO	SOPRA-ISO PLUS		
<b>Atlas Roofing Corp.</b>	ACFoam-II	ACFoam-III	ACFoam-IV	
<b>Johns Manville</b>	ENRGY 3	ENRGY 3 CGF		
<b>Hunter Panels</b>	H-Shield	H-Shield CG		



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

VAPOUR BARRIER				
TESTED PRODUCT: Self-adhesive membrane composed of a trilaminated woven polyethylene and SBS modified bitumen.				
System	Fastening Method			Primer
A	Self-adhered			N/A
ELIGIBLE PRODUCT(S)				
<b>SOPREMA</b> (over steel deck)	SOPRAVAP'R	SOPRAPLY STICK DUO	SOPRALENE STICK	
<b>SOPREMA</b> (over concrete deck)	SOPRALENE 180 SP 3.5	ELASTOPHENE SP 2.2		
Use the primers prescribed by the manufacturer for the right membrane and substrate.				

THERMAL BARRIER				
TESTED PRODUCT : N/A				

FASTENERS				
TESTED PRODUCT(S): N/A				

ADHESIVE				
TESTED PRODUCT: Cap sheet: Solvent-based adhesive designed for bonding bare-backed SENTINEL PVC membranes.				
TESTED PRODUCT: Cover board and insulation: Low-rise, two-component, polyurethane adhesive.				
System	Ribbon's spacing			Primer
A	Cap sheet : fully adhered			N/A
	Cover board and insulation : 12 in o.c.			N/A
ELIGIBLE PRODUCT(S)				
<b>SOPREMA</b> (cap sheet)	SENTINEL S Bonding Adhesive			
<b>SOPREMA</b> (cover board and insulation)	DUOTACK			



**Roof System Dynamic Wind Uplift  
Resistance Results**

MTS-21002383-D5

DECKING						
PRODUCT: Steel deck.						
Gauge	Type	Grade	Thickness (in)	Yield point (ksi)	Span spacing (ft)	Fasteners spacing (in)
22	B	40	0,030	45,1	6	6

Additional testing could be performed on concrete decks or standard 4' x 8' x 5/8" plywood 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).

# Roof Testing Laboratory (ISO 17025)



## Roof System Dynamic Wind Uplift Resistance Results

MTS-21002383-D5

### General Notes

**1. Source:**

This publication is based on a test conducted by **NEMO ETC, LLC, Oxford.**

**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 <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 NBCC requirement, without experimental factor. It will also compute perimeter's and corner's zone dimensions.

# Roof Testing Laboratory (ISO 17025)



## Roof System Dynamic Wind Uplift Resistance Results

MTS-21002383-D5

### 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:

2021-09-08	First edition.

Prepared by:

EXP Services Inc.

---

Serge Rochon, P. Eng.  
O.I.Q. N° : 114865  
P.E.O. N° : 100023274  
Provincial Manager – Building science and CSA laboratory

---

2021-09-08

Date