Roof Testing Laboratory (ISO 17025)

UL *Third Party Test Data Program* participant

Roof System Dynamic Wind Uplift Resistance Results

File number:	MTS-21021688
Test date:	2022-01-04
Reappraisal date:	2025-04-28

SENTINEL P150 ADHERED OVER SOPRA-ISO PLUS HD

(AARS) ADHESIVE APPLIED ROOFING SYSTEM

Tested Roofing System Summary

Cap sheet membrane:	PVC membrane / Adhered
Base sheet membrane:	n/a
Cover board:	High-density polyisocyanurate foam 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	-4,3 kPa (-90 psf)	-2,9 kPa (-60 psf)

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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*			
ELIGIBLE PRODUCT(S)				
SOPREMA	SENTINEL P150	SENTINEL P200		
	SENTINEL G150	SENTINEL G200		

BASE SHEET MEMBRANE
TESTED PRODUCT: n/a

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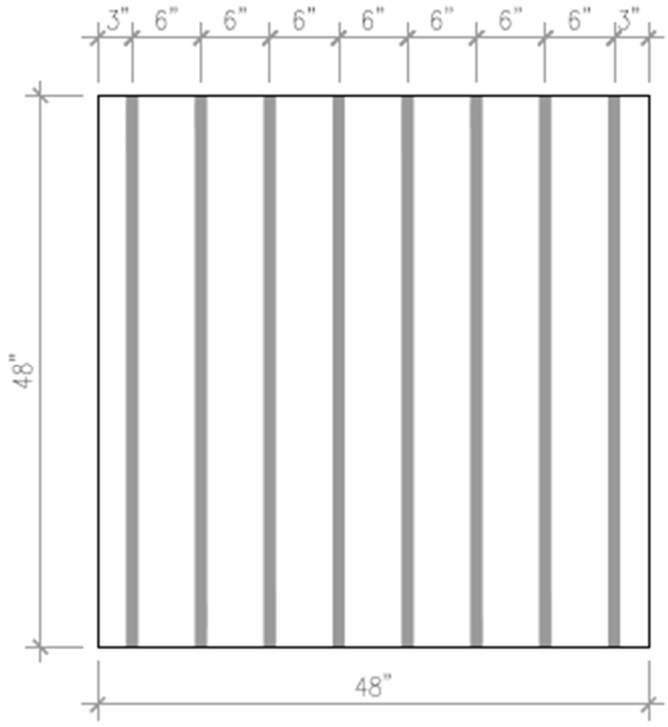
COVER BOARD		
TESTED PRODUCT: High-density polyisocyanurate foam cover board composed of a closed-cell core structure placed between two polymers coated glass fibers facers.		
System	**Application Method**	**Fastening Rate**
A	Adhered	Ribbons at 6 in o.c.
ELIGIBLE THICKNESS(ES)		
½ in minimum		
FASTENING METHOD		
DUOTACK adhesive		
FASTENING PATTERN		



ELIGIBLE PRODUCT(S)				
SOPREMA	SOPRA-ISO PLUS HD			

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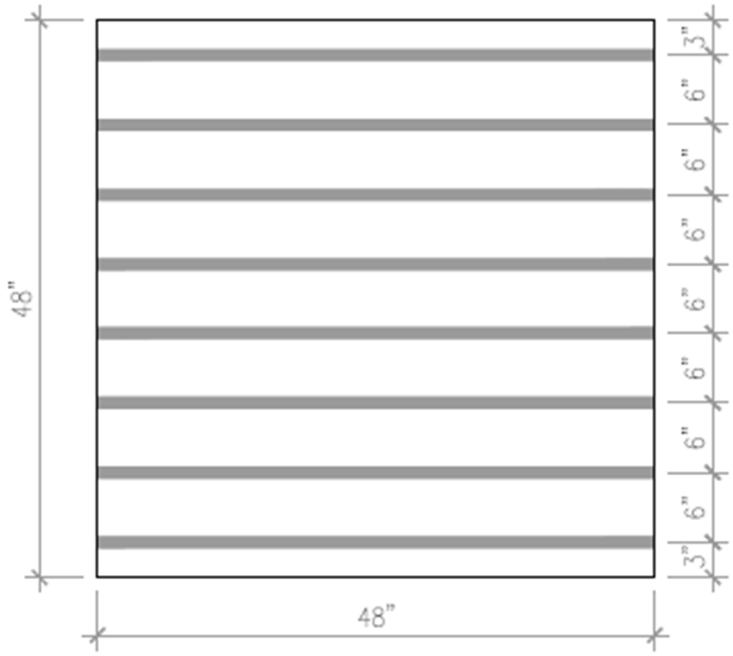
INSULATION		
TESTED PRODUCT: Polyisocyanurate foam insulation board laminated on both sides with fiber reinforced organic felt.		
System	**Application Method**	**Fastening Rate**
A	Adhered	Ribbons at 6 in o.c.
ELIGIBLE THICKNESS(ES)		
1½ in minimum		
FASTENING METHOD		
DUOTACK adhesive		
FASTENING PATTERN		



ELIGIBLE PRODUCT(S)				
SOPREMA	SOPRA-ISO	SOPRA-ISO PLUS		
Atlas Roofing Corp.	ACFoam-II	ACFoam-III		
Johns Manville	ENRGY 3	ENRGY 3 CGF		
Hunter Panels	H-Shield	H-Shield CG		

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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)				
SOPREMA	SOPRAVAP'R			

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 (*SENTINEL S BONDING ADHESIVE*).				
TESTED PRODUCT: Cover board and insulation : Low-rise, two-component, polyurethane adhesive (DUOTACK).				
System	**Ribbon's spacing**		**Primer**	
A	Cap sheet : full surface		n/a	
	Cover board and insulation : 6 in o.c.		n/a	
ELIGIBLE PRODUCT(S)				
SOPREMA	*SENTINEL S BONDING ADHESIVE*			
SOPREMA	DUOTACK			

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DECKING					
PRODUCT: Steel deck.					
Grade	**Thickness (in)**	**Yield strength (ksi)**	**Tensile strenght (ksi)**	**Span spacing (in)**	**Fasteners spacing (in)**
230	0,03	33	45	54	6
Additional testing could be performed on concrete decks or standard 4′ x 8′ x ⅝″ 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).					

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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 requested in written, on EXP application form, 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. **Experimental factor:**

   In accordance with CSA A123.21 -14 standard, the published dynamic uplift resistance (DUR) includes a computed experimental factor of 1,5.

10. 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, perimeters and corners, as per 2015 NBCC requirement, without experimental factor. It will also compute perimeters' and corner's zone dimensions.

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:

2022-04-28	First edition.

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Date