

Dynamic Wind Uplift Resistance CSA A123.21-2020 – Summary Document

Document No.: 22-06-B0092-1 (MARS1), Revision 1
Document Date: March 13, 2023

Reference Documentation:

CSA A123.21-2014 Report No: 22-06-B0092-1

Manufacturer:	Plasti-Fab EPS Product Solutions		Plasti-Fab System Identification:
	#300, 2891 Sunridge Way NE		
	Calgary, Alberta, Canada		MARS1
	T1Y 7K7		

SECTION 1.0: Roof System Summary:

"TPO OVER SELF-ADHERED VAPOUR BARRIER" – Mechanically Attached Roofing System	
Roof Membrane:	Sure-Weld® TPO Membrane
Cover Board:	DensDeck Prime
Fasteners:	XHP Fasteners™ and RhinoBond® Plates
Insulation:	InsulBase® HD Polyiso
Insulation:	PlastiSpan® HD Type 2 EPS
Vapour Retarder:	Vapair Seal MD
Deck:	Steel Deck, 22 ga, RD938, 230 MPa (33.4 ksi)

SECTION 2.0: System Dynamic Wind Uplift Resistance (DUR) Testing Details:

Test Date	Measured Dynamic Wind Uplift Resistance of tested specimen, as per CSA A123.21-20 kPa (psf)	Dynamic Wind Uplift Resistance Rating, DUR (with 1.5X safety factor) as per CSA A123.21-14 kPa (psf)
2022-09-09	4.49 (93.5)	2.99 (62.3)

Measured Dynamic Wind Uplift Resistance: 4.49 kPa (93.5 psf)*

* Value does not include resistance factor. Applicable resistance factor shall be applied.

SECTION 3.0: Tested Product and Substitutable Products:

Roof Membrane (Cap Sheet)	
Tested Product	Sure-Weld® TPO Membrane
Product Size	Roll Thickness: Minimum 1.52 mm (60 mil), Roll Width: Minimum 1.83 m (6"), Roll Length 10 m (33')
Attachment Method	Inductively welded – see securement section for details
Substitutable Product(s)	
Manufacturer	Product Identification
n/a	n/a

Cover Board	
Tested Product	DensDeck Prime
Product Size	12.5 x 2440 x 2440 mm (1/2" x 8' x 8')
Fastening Rate	305 mm (12") o.c.
Substitutable Product(s)	
Manufacturer	Product Identification
n/a	n/a

Insulation (Top Layer)	
Tested Product	InsulBase® HD Polyiso
Product Size	50 x 2440 x 2440 mm (2.0" x 8' x 8')
Attachment Method	Mechanically attached – see securement section for details
Substitutable Product(s)	
Manufacturer	Product Identification
n/a	n/a

Insulation (Bottom Layer)	
Tested Product	PlastiSpan® HD Type 2 EPS
Product Size	50 x 2440 x 2440 mm (2.0" x 8' x 8')
Attachment Method	Mechanically attached – see securement section for details
Substitutable Product(s)	
Manufacturer	Product Identification
Plasti-Fab	CAN/ULC-S701 Type 2 insulation board: PlastiSpan 20, EnerSpan® Type 2 CAN/ULC-S701 Type 3 insulation board: PlastiSpan 25, PlastiSpan 30, PlastiSpan 40, EnerSpan® Type 3

Vapour Retarder	
Tested Product	Vapair Seal MD
Product Size	Thickness 0.38 mm (0.015"), Roll Width 1.080 m (42.5"), Roll Length 40 m (131')
Attachment Method	Mechanically attached – see securement section for details
Substitutable Product(s)	
Manufacturer	Product Identification
n/a	n/a

Membrane Adhesive Securement	
Tested Product	OMG RhinoBond induction welding to RhinoBond Plates 3" (80 mm).
Fastening Rate	10 plates per 96" long x 36" wide cover board, 10 fasteners per 96" long x 22" or 29" wide cover board sections. Fastening pattern staggered between 36" wide and 22" or 29" wide cover board sections.
Substitucional Product(s)	
Manufacturer	Product Identification
n/a	n/a

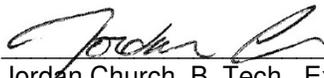
Cover Board/Insulation/Thermal Barrier Adhesive Securement	
Tested Product	RhinoBond Plates 3" (80 mm) round with XHD 6.7 mm Fasteners,
Fastening Rate	10 fasteners per 96" long x 36" wide cover board, 10 fasteners per 96" long x 22" or 29" wide cover board sections. Fastening pattern staggered between 36" wide and 22" or 29" wide cover board sections.
Substitucional Product(s)	
Manufacturer	Product Identification
n/a	n/a

Note: This is not a comprehensive report but a summary of the performance results produced for the roof assembly documented herein tested in accordance to CSA A123.21-2020. Please refer to the reference documents stated on page 1, or consult the manufacturer, for detailed information pertaining to the test specimen configuration and construction.

Approved by:


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Accreditation: Element is an ISO 17025 accredited test lab under A2LA. In addition, CSA A123.21 can be found under our scope of accreditation listing.

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