

Dynamic Wind Uplift Resistance CSA A123.21-2014 – Summary Document

Document No.: 19-06-B0206-TC1, – PFL2, Revision 1 – MARS SBS System #1
Document Date: October 11, 2022

Reference Documentation:

CSA A123.21-2014 Report No.: 20-06-B0003-1 – PFL2, Revision 1
Supplementary Report No.: 19-06-B0206-FPO RV1

Distributor:	Plasti-Fab Ltd.	System Identification:
	2891 Sunridge Blvd. NE, Suite 300	
	Calgary, Alberta	
	CANADA	
	T1Y 7H7	MARS SYSTEM #1

SECTION 1.0: Roof System Summary:

“MARS SBS System #1” – Mechanically Attached Roofing System	
Roof Membrane – Cap Sheet:	IKO Torchflex TP-180-Cap
Roof Membrane/Cover Board:	IKO Protectobase 180
Insulation (Top Layer):	IKO IKOTerm
Insulation (Bottom Layer):	Plasti-Fab PlastiSpan HD EPS
Vapour Retarder:	IKO MVP Sand Vapour Retarder
Thermal Barrier:	None
Deck:	Steel Deck, 22 ga, RD938, 230 MPa (33.4 ksi)

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

Test Date	Dynamic Wind Uplift Resistance (DUR) of tested specimen kPa (psf)	Dynamic Wind Uplift Resistance (DUR)* Rating (with 1.5X safety factor) kPa (psf)
March 27, 2020	5.0 (105)	3.4 (70)

Dynamic Uplift Resistance Rating (DUR): 3.4 kPa (70 psf)

SECTION 3.0: Tested Product and Substitutable Products:

Roof Membrane (Cap Sheet)			
Tested Product	IKO Torchflex TP-180-Cap		
Product Size	Roll Width: 1 m (39.6"), roll Length 8 m (26.2')		
Attachment Method	Heat welded		
Substitutable Product(s)			
Manufacturer	Product Identification		
IKO Industries Ltd.	Torchflex TP-250-Cap	Torchflex TP-250-Cap (5 mm)	Torchflex TP-HD-Cap
	Modiflex MP-180-Cap	Modiflex MP-250-Cap	Modiflex MP-HD-Cap
	PrevENt TP-250-Cap	PrevENt MP-250-Cap	PrevENt Premium-TP-250-Cap
	PrevENt TP-HD-Cap	PrevENt MP-HD-Cap	PrevENt ArmourCool-HD-Cap
	PrevENt ArmourCool-Granular-TP-Cap	ArmourCool Granular-TP-HD-Cap	Carrara ArmourCool-HD-Cap
Soprema	Sopralene Flam 180 GR Cap	Sopralene Flam 180 FR GR Cap	Sopralene Flam 250 GR Cap
	Sopralene Flam 250 FR GR Cap	Soprastar GR	Soprastar Flex
	Soprastar Flam GR Cap	Sopralene Mammouth GR Cap	Sopralene Mammouth GR Cap
	Sopraply Traffic Cap (FR)	Sopraply Traffic Cap Plus G/P 4.0 (FR)	

Roof Membrane (Base Sheet) / Cover Board			
Tested Product	IKO Protectobase 180 (heat welded board and base sheet)		
Product Size	5.4 x 914 x 2438 mm (1/8" x 3' x 8')		
Attachment Method	Mechanically attached		
Fastener Spacing	560 mm (22") o.c. (maximum) fastener spacing with 406 mm (16") o.c. row spacing		
Substitutable Product(s)			
Manufacturer	Product Identification		
IKO Industries Ltd.	Torchflex TP-180-FF-Base	Torchflex TP-180-SF-Base (3.0 mm)	Torchflex TP-180-SF-Base (5.0 mm)
	Torchflex TP-HD-FF-Base	Modiflex MP-180-FS-Base	Modiflex MP-180-SS-Base
	Modiflex MP-180-FS-Base (3.0 mm)	Modiflex MP-HD-FS-Base	Modiflex MP-HD-SS-Base
	Above membranes must be used in combination with IKO Protectoboard		
Soprema	2-1 Soprasmart Board Sanded	2-1 Soprasmart ISO-HD	2-1 Soprasmart ISO-HD Sanded
	2-1 Soprasmart FB Sanded	Sopralene 180 Sanded*	Sopralene 180 PS 3.0*
	Sopralene Flam 180 Base*	Sopralene Flam 250 Base*	Elastophene PS*
	Elastophene 180 PS*	Elastophene 180 Sanded*	Elastophene 180 PS DG*
	Elastophene Sanded*	Elastophene Flam 2.2*	Sopraply Base 510
	Sopraply Base 520	Sopraply Base Plus P/P 3.0	
*Above membranes must be used in combination with Soprema Sopraboard			

Note: IKO and Soprema products should not be used interchangeably.

Insulation (Top Layer)			
Tested Product	IKO IKOTerm		
Product Size	51 x 1220 x 1220 mm (2" x 4' x 4')		
Attachment Method	Loose laid		
Fastening Rate	n/a		
Substitutable Product(s)			
Manufacturer	Product Identification		
IKO Industries Ltd.	IKOTerm 25 psi	IKOTerm III	IKOTerm III 25 psi
	IKOTerm 25 psi Tapered	IKOTerm III Tapered	
Soprema	Sopra-ISO+	Sopra-ISO	

Insulation (Bottom Layer)			
Tested Product	Plasti-Fab PlastiSpan HD EPS Insulation (<i>evaluated product</i>)		
Product Size	51 x 1220 x 2440 mm (2" x 4' x 8')		
Attachment Method	Loose laid		
Fastening Rate	n/a		
Substitutable Product(s)			
Manufacturer	Product Identification		
Plasti-Fab Ltd.	PlastiSpan® 25	PlastiSpan® 30	EnerSpan® Type 2
	EnerSpan® Type 3	EnerSpan® 30	

Vapour Retarder			
Tested Product	IKO MVP Sand Vapour Retarder		
Product Size	Roll Width 914 mm (36"), Roll Length 24.4 m (80'), Thick 1.4 mm (0.053"), Overlap 76 mm (3")		
Attachment Method	Self-adhered to substrate primed with IKO S.A.M. adhesive		
Fastening Rate	n/a		
Manufacturer	Product Identification		
IKO Industries Ltd.	MVP Vapour Retarder	Armourbond Flash Sand	
Soprema	Sopralene Stick	Sopralene SP 3.5 mm	Sopralene SP 2.2 mm
	Sopravap'R		

Thermal Barrier			
Tested Product	Optional layer		
Product Thickness	n/a		
Attachment Method	Loose laid		
Fastening Rate	n/a		
Substitutable Product(s)			
Manufacturer	Product Identification		
Georgia-Pacific®	DensDeck®	DensDeck Prime®	

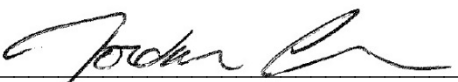
Note: IKO and Soprema products should not be used interchangeably.

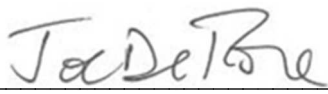
Membrane Securement	
Tested Product	SFS #14 Dekfast™ Fastener with 2-7/8" (73 mm) Dekfast™ Galvanize Steel Hex Metal Seam Plate
Fastening Rate	n/a
Fastener Spacing	560 mm (22") o.c. (maximum)
Row Spacing	406 mm (16") o.c.
Substitutable Product(s)	
Manufacturer	Product Identification
Soprema	#14 Dekfast Fastener with Dekfast 3", 26 ga. Round Stress Plate
Trufast	#14 Trufast Fastener with Trufast 3", 26 ga. Round Stress Plate
Johns Mansville	#12 Ultrafast Fastener with Ultrafast 3", 26 ga. Round or Square Stress Plate
SFS	#12 Dekfast Fastener with Dekfast 3", 26 ga. Round Stress Plate
Trufast	#12 Trufast Fastener with Trufast 3", 26 ga. Round Stress Plate

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 A123.21-2014.

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Accreditation: Element is an ISO 17025 accredited test lab under International Accreditation Service "TL-407" at the time of testing. In addition, CSA A123.21 can be found under our scope of accreditation listing currently listed with A2LA.

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