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

Document No.:   22-06-B0091-1-MARS018
Document Date: October 14, 2022

Reference Documentation:

CSA A123.21-2014 Report No: 22-06-B0091-1
Supplementary Report No.:   22-06-B0109

Manufacturer:	IKO Industries Ltd.	![IKO logo]	IKO System Identification:
	40 Hansen Road South		
	Brampton, Ontario, Canada		MARS018
	L6W 3H4		

SECTION 1.0: Roof System Summary:

"IKO INNOVI™ TPO MA @ 12" o.c. OPTIONAL TB & CB (10 ft SHEET WIDTH) – Mechanically Attached Roofing System	
Roof Membrane – Cap Sheet:	IKO Innovi TPO – 45 mil
Insulation:	IKO IKOTherm™ – 1.5"
Insulation:	IKO IKOTherm™ – 1.5"
Vapour Barrier:	6 mil Poly
Deck:	Steel Deck, 22 ga, RD938, 230 MPa *(33.4 ksi)*

SECTION 2.0: System Dynamic 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)
August 30, 2022	5.17 (108)	3.45 (72)

Measured Dynamic Wind Uplift Resistance: 5.17 kPa (108 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	IKO Innovi TPO – 45 mil	
Product Size	Roll Thickness: 1.14 mm (0.045"), Roll Width: 3.0 m (10'), Roll Length 30.5 m (100')	
Attachment Method	Seam welded and in-seam fastening – see securement section for details	
Substitutable Product(s)		
Manufacturer	**Product Identification**	
IKO Industries Ltd.	Innovi TPO – 60 mil	Innovi TPO – 80 mil

Cover Board		
Tested Product	Optional layer	
Product Size	12.7 x 1220 x 2440 mm (0.5" x 4' x 8')	
Attachment Method	Pre-secured – see pre-securement section for details	
Fastening Rate	n/a	
Substitutable Product(s)		
Manufacturer	**Product Identification**	
IKO Industries Ltd.	IKOTherm CoverShield	
Georgia-Pacific®	DensDeck®	DensDeck Prime®
USG®/CGC	Securock® Glass-Mat	Securock® Gypsum-Fiber

Insulation (Top Layer)			
Tested Product	IKO IKOTherm		
Product Size	38 x 1220 x 2440 mm (1.5" x 4' x 8')		
Attachment Method	Pre-secured or loose laid with Cover Board – see pre-securement section for details		
Fastening Rate	n/a		
Substitutable Product(s)			
Manufacturer	**Product Identification**		
IKO Industries Ltd.	IKOTherm III	IKOTherm 25 psi	IKOTherm III 25 psi
	IKOTherm Tapered	IKOTherm III Tapered	IKOTherm 25 psi Tapered

Insulation (Bottom Layer)			
Tested Product	IKO IKOTherm		
Product Size	38 x 1220 x 2440 mm (1.5" x 4' x 8')		
Attachment Method	Loose laid or pre-secured		
Fastening Rate	n/a		
Substitutable Product(s)			
Manufacturer	**Product Identification**		
IKO Industries Ltd.	IKOTherm III	IKOTherm 25 psi	IKOTherm III 25 psi
	IKOTherm Tapered	IKOTherm III Tapered	IKOTherm 25 psi Tapered

Vapour Retarder	
Tested Product	6 mil Poly
Product Size	n/a
Attachment Method	Loose laid or self-adhered to substrate
Fastening Rate	n/a

Substitutable Product(s)		
Manufacturer	**Product Identification**	
IKO Industries Ltd.	MVP	MVP Sand
	Armourbond Flash Sand	Armourgard Ice and Water Protector Commercial
	Armourgard Vapour Retarder	
Generic	Any IKO approved Kraft Paper or polyethylene vapour retarder	

Thermal Barrier	
Tested Product	Optional layer
Product Thickness	12.7 x 1220 x 2440 mm (1/2" x 4' x 8')
Attachment Method	Loose laid or pre-secured
Fastening Rate	n/a

Substitutable Product(s)		
Manufacturer	**Product Identification**	
Georgia-Pacific®	DensDeck®	DensDeck Prime®
USG®/CGC	Securock® Glass-Mat	Securock® Gypsum-Fiber
Generic	Any IKO approved Gypsum Board meeting the requirements of ASTM C1177 or ASTM C1278	

Membrane Securement	
Tested Product	InnoviFast™ #15 Heavy Duty (HD) Fastener with InnoviFast 60 mm (2-3/8") HD Seam Plate (barbed)
Fastener Spacing	305 mm (12") o.c. (in seam)
Row Spacing	2.90 m (9.5 ft) o.c. (in seam)

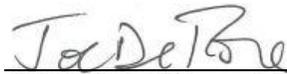| Substitutional Product(s)	
Manufacturer	**Product Identification**
SFS - Dekfast™	#15 (DF-#15-PH3) Fastener with 2-3/8" (60 mm) Round Barbed Stress Plate (PLT-R-2-3/8-6B)
Trufast®	#15 EHD Roofing Fastener with 2.4" (60 mm) Round Barbed Metal Seam Plate (MPB-2400)
OMG®	#15 Extra Heavy Duty Roofing Fastener with 2-3/8" (60 mm) Round Barbed Plate (SPGA238B)

Insulation/Cover Board Pre-securement	
Tested Product	IKO InnoviFast™ All Purpose (AP) #12 Insulation Fastener with InnoviFast 76 mm (3") Round Insulation Plate
Fastening Rate	Minimum 1 per 4.0 ft² (0.37 m²), Eight (8) per 12.7 x 1220 x 2440 mm (1/2" x 4' x 8')
Substitutional Product(s)	
Manufacturer	**Product Identification**
Trufast®	#12 DP Roofing Fastener with 3" (76 mm) Round Metal Insulation Plate (MP-3000)
SFS - Dekfast™	#12 (DF-#12-PH3) Fastener with 3" (76 mm) Round Metal Insulation Plate (PLT-R-3)
OMG®	#12 Standard RoofGrip Drill Point Fastener with 3" (76 mm) Round Galv. Plate (SPGA3C)

Notes: This is not a comprehensive report but a <u>summary</u> 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.

The Substitutable Products referenced in this Element Summary Report have been established for IKO Industries as per Element Document 22-06-B0109.

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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.*