

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

Document No.: 19-06-B0127-MARS005-A RV4
Document Date: May 12, 2021

Reference Documentation:

CSA A123.21-2014 Report No: System A – 18-06-B0147-1 RV1
System B – IKOI-DRS-00210665-05-5100
System C – 19-06-B0112-1
System D – IKOI-DRU-00224994-01-5100

Supplementary Report No.: 19-06-B0042-M RV2

Manufacturer:	IKO Industries Ltd.		IKO System Identification:
	40 Hansen Road South		
	Brampton, Ontario, Canada		
	L6W 3H4		MARS005

SECTION 1.0: Roof System Summary:

“IKO MOD-BIT FAST-N-STICK 180 BASE SYSTEM” – Mechanically Attached Roofing System	
Roof Membrane – Cap Sheet:	IKO Torchflex TP-180-Cap
Roof Membrane – Base Sheet:	IKO Fast-N-Stick 180-Base
Insulation:	IKO IKOTherm™
Insulation:	IKO IKOTherm™
Vapour Retarder:	IKO Armourgard 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	System Designation	Dynamic Wind Uplift Resistance (DUR) of tested specimen kPa (psf)	Dynamic Wind Uplift Resistance (DUR)* Rating (with 1.5X safety factor) kPa (psf)
August 27, 2018	A	4.3 (90)	2.9 (60)
June 25, 2013	B	5.0 (105)	3.4 (70)
August 23, 2019	C	9.8 (206)	6.6 (138)
April 27, 2015	D	7.2 (150)	4.8 (100)

Dynamic Uplift Resistance Rating (DUR) System A: 2.9 kPa (60 psf)

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

Dynamic Uplift Resistance Rating (DUR) System C: 6.6 kPa (138 psf)

Dynamic Uplift Resistance Rating (DUR) System D: 4.8 kPa (100 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 (37"), roll Length 8 m (26')		
Attachment Method	Heat welded		
Substitutable Product(s)			
Manufacturer	Product Identification		
IKO Industries Ltd.	Torchflex TP-HD-Cap	Torchflex TP-250-Cap	Torchflex TP-250-Cap (5 mm)
	PrevENT TP-250-Cap	Torchflex Ultra TP-HD-Cap	PrevENT TP-HD-Cap
	PrevENT Premium TP-250-Cap	ArmourCool Granular TP-HD	PrevENT ArmourCool Granular TP
	PrevENT ArmourCool HD Cap	Carrara ArmourCool HD	
IKO Industries Ltd.	Modiflex MP-180-cap	Modiflex MP-250-cap	Modiflex MP-HD-cap
	PrevENT MP-250-cap	PrevENT MP-HD-cap	

Roof Membrane (Base Sheet)			
Tested Product	IKO Fast-N-Stick 180-Base		
Product Size	Roll Width: 1 m (39.6"), roll Length 15 m (49')		
Attachment Method	Mechanically attached		
Fastener Spacing	In-seam fastening - see securement section for details		
Substitutable Product(s)			
Manufacturer	Product Identification		
IKO Industries Ltd.	Torchflex TP-180-FF Base	Torchflex TP-180-SF-Base	
	Torchflex HD-FF-Base	Torchflex Ultra HD-FF-Base	
IKO Industries Ltd.	Modiflex MP-180-FS Base	Modiflex MP-180-SS-Base	
	Modiflex MP-HD-FS-Base	Modiflex MP-HD-SS-Base	
IKO Industries Ltd.	Protectobase 180		
	ShieldBase 180	ShieldBase 180 Sanded	

Cover Board			
Tested Product	Optional layer		
Product Size	n/a		
Attachment Method	Pre-secured – see pre-securement section for details		
Fastening Rate	n/a		
Substitutable Product(s)			
Manufacturer	Product Identification		
IKO Industries Ltd.	Protectoboard	IKOTherm CoverShield	
Generic	Any IKO approved Gypsum Board meeting the requirements of ASTM C1177 or ASTM C1278		
Generic	Any IKO approved wood fiberboard meeting the requirements of CAN/ULC S-706 & ASTM C208		

Insulation (Top Layer)			
Tested Product	IKO IKOTerm		
Product Size	51 x 1220 x 2440 mm (2" 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.	IKOTerm III	IKOTerm 25 psi	IKOTerm III 25 psi
	IKOTerm Tapered	IKOTerm III Tapered	IKOTerm 25 psi Tapered

Insulation (Bottom Layer)			
Tested Product	IKO IKOTerm		
Product Size	51 x 1220 x 2440 mm (2" x 4' x 8')		
Attachment Method	Loose laid or pre-secured		
Fastening Rate	n/a		
Substitutable Product(s)			
Manufacturer	Product Identification		
IKO Industries Ltd.	IKOTerm III	IKOTerm 25 psi	IKOTerm III 25 psi
	IKOTerm Tapered	IKOTerm III Tapered	IKOTerm 25 psi Tapered

Vapour Retarder			
Tested Product	IKO Armourgard Vapour Retarder		
Product Size	Roll Width: 0.9 m (36"), Roll Length 20 m (65'), 1.4 mm (0.053"), 50.8 mm (2") Overlap		
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	
Generic	Any IKO approved Kraft Paper or polyethylene vapour retarder		


Thermal Barrier			
Tested Product	Optional layer		
Product Thickness	n/a		
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				
System Designation	Fastener Spacing (on centre)		Row Spacing (on centre)	
	mm	Inch	mm	Inch
A	457	18	914	36
B	305	12	914	36
C	152	6	914	36
D	305	12	457	18
Tested Product	Trufast® #14 HD Roofing Fastener with 2.4" (60 mm) round (MP-2400) Barbed Metal Seam Plate			
Substitutional Product(s)				
Manufacturer	Product Identification			
IKO Industries Ltd.	#14 IKO InnoviFast™ All Purpose (AP) Fastener with 2-3/8" (60 mm) HD Seam Plate (barbed)			
SFS	#14 Dekfast™ Fastener with 2.4" (60 mm) round (PLT-R-2-3/8-6B) Barbed Stress Plate			
OMG®	#14 Heavy Duty Roofing Fastener with 2.4" (60 mm) round (PGA238) Barbed Seam Plate			

Insulation/Cover Board Pre-securement	
Tested Product	IKO InnoviFast™ #12 Insulation Fastener with InnoviFast 76 mm (3") Round Insulation Plate
Fastening Rate	Minimum 1 per 8 ft² (0.74 m²), Four (4) per 12.7 x 1220 x 2440 mm (1/2" x 4' x 8')
Substitutional Product(s)	
Manufacturer	Product Identification
Trufast®	#12 DP or #14 HD Roofing Fastener with 3" (76 mm) Round Metal Insulation Plate (MP-3000)
SFS- DekFast™	#12 or #14 (DF-PH3) Fastener with 3" (76 mm) Round Metal Insulation Plate (PLT-R-3)
OMG®	#12 or #14 RoofGrip/ HD Roofing Fastener with 3" (76 mm) Round Galv. Plate (SPGA3C)


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. Please refer to the reference documents stated on page 1 for detailed information pertaining to the test specimen configuration and construction.*

Reported by:



Allan Lawrence, Ext. 11212
Supervisor, Building Systems
Industrials Division

Authorized by:



Jordan Church, B. Tech., Ext. 11546
Ops. / Tech. Manager, Bldg. Science & Fire Testing
Industrials Division

Accreditation: *Element is an ISO 17025 accredited test lab under International Accreditation Service "TL-407". In addition, CSA A123.21 can be found under our scope of accreditation listing.*

This report is related only to the sample identified and shall not be reproduced, except in full, without approval and is covered under Element Materials Technology Canada Inc. Standard Terms and Conditions of Contract, which is accessible at www.element.com, or by calling 1-866-263-9268. Direct readings reported form the basis for acceptance or rejection (pass/fail) and do not take into account or incorporate uncertainty.