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ENGINEER TEST CONSULT

ROOF SYSTEM ASSESSMENT REPORT DYNAMIC UPLIFT RESISTANCE PER CSA A123.21			
CUSTOMER:	Seaman Corporation	TEST DATE:	2021-11-12
DOCUMENT NO.	SMN-MARS-6	PUBLICATION DATE:	2025-07-03
TEST PANEL NO.	SMN-D14	REVISION NO.	2
SYSTEM TYPE:	C-2	REEVALUATION DATE:	2028-07-02

MECHANICALLY ATTACHED ROOFING SYSTEM (MARS) SUMMARY

ROOFING SYSTEM SUMMARY:

Roof Cover:	KEE or KEE/PVC co-polymer single ply, induction welded
Insulation (top):	Gypsum-based or polyisocyanurate foam board, mechanically fixed
Insulation (base):	Polyisocyanurate foam or polystyrene board, loose-laid
Vapor Barrier:	Polyethylene, loose-laid or proprietary self-adhering membrane
Deck:	steel

DYNAMIC UPLIFT RESISTANCE PER CSA A123.21:

Sustained Test Value		Design Value CSA A123.21:20 *(Test Value x 0.65)*		Design Value CSA A123.21:14 *(Test Value ÷ 1.5)*	
kPa	**psf**	**kPa**	**psf**	**kPa**	**psf**
-2,7	-56	-1,8	-37	-1,8	-38

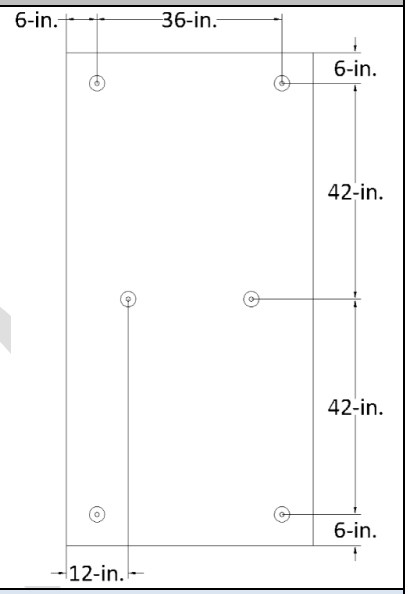
PRODUCTS / APPLICATION:

Roof Cover:	Description:	Membrane composed of polyester reinforcement coated with KEE or KEE/PVC co-polymer compound		
	Application:	Induction welded		
	Eligible Products:	FiberTite (nominal 36-mil), FiberTite-SM (nominal 45- or 60-mil), FiberTite-XT (nominal 50- or 60-mil) or FiberTite XTreme (nominal 60-mil)		
Insulation (top):	Description:	Gypsum-based or polyisocyanurate foam board		
	Application:	Mechanically fixed		
	Eligible Products:	**By**	**Product**	**Min. Thickness**
		Seaman	FTR-Value, FTR-Value A or FTR-Value H	38-mm (1.5-inch)
		Atlas Roofing	ACFoam II	
		Hunter Panels	H-Shield	
		IKO Industries	IKOTherm or IKOTherm III	
		Johns Manville	ENRGY 3	
		Lexsuco	ISOLEX A	
		Georgia-Pacific	DensDeck Prime, DensDeck StormX Prime	13-mm (0.5-inch)
		National Gypsum	DEXcell FA Glass Mat Roof Board	
		USG	SECUROCK Gypsum-Fiber Roof Board	
		Lexsuco	Lexboard 90	

PRODUCTS/APPLICATION (CONTINUED):

Insulation (top) Fasteners:

Description:	Corrosion resistant screw-type roofing fasteners with steel stress plates coated with proprietary coating
Fastening Method:	Fasteners installed through stress plates to engage the top flanges of the steel deck
Fastening Rate:	1 part per 0.5 m^2 (5.3 ft^2) 6 parts per 1220 x 2438 (48 x 96-inch) board • One (1) part in each of four (4) corners, 6-inch from each edge • Two (2) parts along centerline of 8 ft dimension, 12-inch from each edge.



Eligible Products:

By	Fasteners	Plates
Seaman	FiberTite Magnum Fastener	FTR-IW Plate
Altenloh, Brinck & Co.	Trufast #15 EHD Fastener	Trufast PVC IW Plate *(limited to FiberTite-SM, FiberTite-XT or Fiber-Tite XTreme)*
Lexsuco	Lexgrip #15 Extra Heavy Duty Fastener	Lexgrip Induction Plate (PVC) *(limited to FiberTite-SM, FiberTite-XT or Fiber-Tite XTreme)*
OMG	OMG XHD	RhinoBond Insulation Plate-PVC or RhinoBond TreadSafe Plate-PVC with TreadSafe Insert *(limited to FiberTite-SM, FiberTite-XT or FiberTite-XTreme)*
SFS Group	DF-#15-PH3	isoweld F1-P-6.8-PVC Plate or isoweld FI-P-16.0-PVC Plate with FI-R-20 insert tube

Insulation (base):

Description:	Polyisocyanurate foam or polystyrene board
Application:	One or more layer(s), loose-laid with staggered joints

Eligible Products:

By	Product	Min. Thickness
Seaman	FTR-Value, FTR-Value A or FTR-Value H	38-mm (1.5-inch)
Atlas Roofing	ACFoam II	
Hunter Panels	H-Shield	
IKO Industries	IKOTherm or IKOTherm III	
Johns Manville	ENRGY 3	
Lexsuco	ISOLEX A	
FRANSYL	IZOLON (min. 1.0 pcf)	

PRODUCTS/APPLICATION (CONTINUED):		
Vapour Barrier:	Description:	Min. 6-mil polyethylene, VaporTite, LexShield Air/Vapour Barrier Membrane or Permate Stick or other vapor barrier
	Application:	Loose-laid, adhered or mechanically-fixed
	Eligible Products:	Any approved product acceptable to the named customer and the Authority Having Jurisdiction
Thermal Barrier: *(Optional)*	Description:	Cement-based, gypsum-based or mineral-wool board
	Application:	Loose-laid, adhered or mechanically-fixed
	Eligible Products:	Any approved product acceptable to the named customer and the Authority Having Jurisdiction
Deck:	Tested Product:	Steel roof deck
NOTES:		
Test Value and Design Value:	The "Test Value" noted herein reflects the ultimate passing test pressure recorded during testing. The "Design Value" herein reflects the "Test Value" multiplied by a resistance factor of 0.65 (same as "Test Value" divided by a safety factor of 1.5) The "Design Value" should meet or exceed the design pressure requirements of the project, as determined in accordance with the current National Building Code of Canada (NBC) requirements.	
Equivalence of Other Products:	This report applies only to the products listed as "Eligible Products" herein.	
Optional Components:	Components listed herein as "optional" may be removed from the roof system design with no adverse effect on system dynamic wind uplift performance.	
As-Tested Deck:	Testing utilized 22 ga., Type B (6-inch deck module) steel deck meeting ASTM A653, A792, A1008 or CSSBI 10M standard and having a yield strength of 275 MPa (40-ksi). Alternate deck displaying equivalent strength and fastener-holding capacity (withdrawal resistance) may be specified at the discretion of the Designer of Record to the satisfaction of the Authority Having Jurisdiction.	
Fastener Point-Load:	The base sheet fastener point-loads resisted during this test are: • Test Value: 1335 N (300 lbf) • Design Value: 868 N (195 lbf)	

RSAR SCOPE

Roof System Assessment Reports (RSAR) constitute a summary of allowable products and interfaces used in low-slope roof assemblies based testing in accordance with CSA A123.21 at our ISO/IEC 17025 accredited laboratory.

While RSAR's are reviewed and renewed each 3-years based primarily on report holder declaration, these are not Certification listings, and are not intended to state or imply ongoing quality control / surveillance activities by NEMO at the report holder's facilities.

NEMO ETC, LLC is not, in any way, the Designer of Record for any project on which these RSAR's, or previous versions thereof, is/was used for permitting or design guidance. RSAR's are not to be construed as representing any attributes not specifically listed, nor to be construed as an endorsement of the subject of the report or a recommendation for its use. There is no warranty by NEMO ETC, LLC, express or implied, as to any finding or other matter in these RSAR's, or as to any product covered by the RSAR's.

NEMO ETC CREDENTIALS

TYPE	ENTITY	REFERENCE
ISO/IEC 17025 Accreditation	International Accreditation Service (IAS)	TL-689
TAS 301 Certification	Miami-Dade	21-0409.01
Third Party Test Data Program	UL, LLC	DA2862
Test Lab Listing	Roofing Contractors Association of British Columbia	RCABC Labs

REPORT HISTORY

DATE	EVENT	NOTES	AUTHORIZED BY:
2020-11-18	FINAL	None	RN
2022-08-30	REV1	Add results from 4i-SMN-22-SSCRT-01 and 4i-SMN-22-SSCRT-02; Add IKOTherm	RN
2025-07-03	REV2	Re-Validation, reformat	RN

END OF REPORT