



NEMO | etc.

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ENGINEER

TEST

CONSULT

**ROOF SYSTEM ASSESSMENT REPORT
DYNAMIC UPLIFT RESISTANCE PER CSA A123.21**

CUSTOMER:	Seaman Corporation	TEST DATE:	2019-09-20
DOCUMENT NO.	SMN-MARS-3.1	PUBLICATION DATE:	2026-03-11
TEST PANEL NO.	SMN-D6	REVISION NO.	4
SYSTEM TYPE:	C-2	REEVALUATION DATE:	2029-03-11

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:	dimensional lumber decking

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
-5,4	-113	-3,5	-73	-3,6	-75

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	13-mm (0.5-inch)	
		Lexsuco	ISOLEX A		
		Georgia-Pacific	DensDeck Prime, DensDeck StormX Prime		
National Gypsum		DEXcell FA Glass Mat Roof Board			
USG	SECUROCK Gypsum-Fiber Roof Board				
Lexsuco	Lexboard 90				

ROOF SYSTEM ASSESSMENT REPORT, DYNAMIC UPLIFT RESISTANCE PER CSA A123.21

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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 wood deck. Fasteners shall be of sufficient length for min. 1-inch embedment into the wood deck			
	Fastening Rate:	1 part per 0.18 m ² (2 ft ²) 16 parts per 1220 x 2438 (48 x 96-inch) board 1 ft (along board width) x 2 ft (along board length) grid pattern.			
	Eligible Products:	By	Fasteners		Plates
		Seaman	FiberTite Magnum Fastener		FTR-IW Plate
		Altenloh, Brinck & Co.	Trufast #15 EHD Fastener		Trufast PVC IW Plate <i>(limited to FiberTite-SM, FiberTite-XT or Fiber-Tite XTreme)</i>
Lexsuco		Lexgrip #15 Extra Heavy Duty Fastener	Lexgrip Induction Plate (PVC) <i>(limited to FiberTite-SM, FiberTite-XT or Fiber-Tite XTreme)</i>		
OMG		OMG XHD	RhinoBond Insulation Plate-PVC or RhinoBond TreadSafe Plate-PVC with TreadSafe Insert <i>(limited to FiberTite-SM, FiberTite-XT or FiberTite-XTreme)</i>		
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)				

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PRODUCTS/APPLICATION (CONTINUED):			
Vapour Barrier:	Description:	Min. 6-mil polyethylene, VaporTite, LexShield Air/Vapour Barrier Membrane or Permaste 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:	Extended:	Min. 1.5-inch thick, dimensional lumber decking of spruce-pine-fir species acceptable to the Authority Having Jurisdiction. <i>Note: For glue-laminated dimensional lumber decking, care shall be taken to ensure membrane fasteners engage the centerline of a solid wood member. If concern exists as to fastener engagement at a glue-joint, NEMO recommends field withdrawal testing to validate minimum fastener point-load performance.</i>	
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). Results extended to dimensional lumber decking based on previous testing, coupled with criticality test data. 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-Loads:	Point-Load		
	Sustained Test Value		Design Value
	N	lbf	N
	1005	226	653
			lbf
			147

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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:
2021-02-26	FINAL	None	RN
2021-03-01	DRAFT REV1	For client review	RN
2021-03-01	REV1	Add gypsum-based coverboard options based on criticality data on file	RN
2021-10-21	REV2	Add Lexgrip #15 Drill Point Extra Heavy Duty Membrane Fasteners with Lexgrip Induction Plate (PVC), limited to FiberTite-SM or -XT; add Lexboard 90; add Lexshield AVB and Permaste Stick	RN
2023-02-24	REV3	Add results from 4i-SMN-22-SSCRT-01 and 4i-SMN-22-SSCRT-02; Add IKOTerm	RN
2026-03-11	REV4	Re-Validation, reformat	RN

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