



NEMO|etc.

353 Christian Street, Unit #13
Oxford, CT 06478
(203) 262-9245

ENGINEER

TEST

CONSULT

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

CUSTOMER:	Amrize Building Envelope LLC (Elevate)	TEST DATE:	2016-10-07
DOCUMENT NO.	FBP-MARS-1	PUBLICATION DATE:	2025-10-06
TEST PANEL NO.	FBP-1	REVISION NO.	1
SYSTEM TYPE:	D-1	REEVALUATION DATE:	2028-10-06

MECHANICALLY ATTACHED ROOFING SYSTEM (MARS) SUMMARY

ROOFING SYSTEM SUMMARY:

Roof Cover:	Thermoplastic polyolefin (TPO) single ply, mechanically fixed, in-lap
Insulation (top):	Polyisocyanurate foam board or gypsum-based board, mechanically fixed
Insulation (base):	(Optional when using 1.5-inch polyisocyanurate top layer) One or more layer(s), polyisocyanurate foam board, loose-laid
Vapor Barrier:	Proprietary SBS modified bitumen, self-adhering
Thermal Barrier:	(Optional) Gypsum-, cement- or mineral-wool-based board, loose-laid, adhered or mechanically fixed
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
-4,8	-100	-3,1	-65	-3,2	-67

PRODUCTS / APPLICATION:

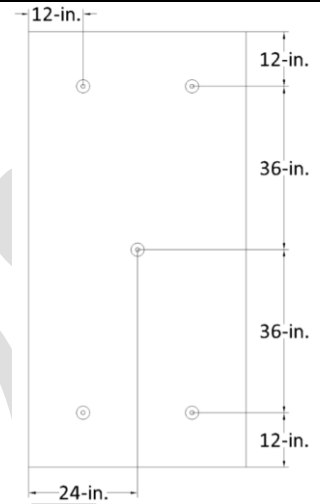
Roof Cover:	Description:	Membrane composed of polyester reinforcement coated with TPO compound			
	Application:	Mechanically fixed			
	Eligible Products:	UltraPly TPO (min. nominal 45-mil) or UltraPly TPO Platinum			
Roof Cover Fasteners:	Description:	Corrosion resistant screw-type roofing fasteners with steel stress plates			
	Fixing Method:	Parts spaced max. 305-mm (12-in.) o.c. within the min. 152.4-mm (6-in.) wide side laps spaced max. 2.90-m (114-in.) o.c.. Laps sealed with minimum 38.1-mm (1.5-in) heat weld.			
	Fixing Density:	1 part per 0.88 m ² (9.5 ft ²)			
	Eligible Products:	Elevate Heavy Duty Fasteners with Elevate HD Seam Plates			
Insulation (top):	Description:	Polyisocyanurate foam or gypsum-based board			
	Application:	Top layer mechanically fixed			
	Eligible Products:	By	Product	Min. Thickness	
		Amrize	Elevate ISOGARD HD	13-mm (0.5-in.)	
			Elevate ISOGARD GL, ISOGARD CG, ISOGARD HG or ISOGARD HD Composite	38.1-mm (1.5-in.)	
		Georgia-Pacific Gypsum LLC	DensDeck Prime® Roofboard	6.4-mm (0.25-in.)	
USG Corporation		SECUROCK® Gypsum-Fiber Roof Board, SECUROCK® Glass-Mat Roof Board	6.4-mm (0.25-in.)		
Generic	APA rated OSB	11.1-mm (7/16-in.)			

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, positioned to engage the top flanges of the steel deck					
	Fastening Rate:	1 part per 0.59 m ² (6.4 ft ²) 5 parts per 1220 x 2438 mm (48 x 96-in.) board					
	Eligible Products:	Elevate All Purpose Fasteners or Elevate Heavy Duty Fasteners with Elevate Insulation Fastening Plates					
Insulation (base): <i>(Optional when using min. 1.5-inch polyisocyanurate top layer)</i>	Description:	Polyisocyanurate foam board					
	Application:	One or more layer(s), loose-laid with staggered joints					
	Eligible Products:	<table border="1"> <thead> <tr> <th>By</th> <th>Product</th> <th>Min. Thickness</th> </tr> </thead> <tbody> <tr> <td>Amrize</td> <td>Elevate ISOGARD GL, ISOGARD CG, ISOGARD HG or ISOGARD HD Composite</td> <td>38.1-mm (1.5-in.)</td> </tr> </tbody> </table>	By	Product	Min. Thickness	Amrize	Elevate ISOGARD GL, ISOGARD CG, ISOGARD HG or ISOGARD HD Composite
By	Product	Min. Thickness					
Amrize	Elevate ISOGARD GL, ISOGARD CG, ISOGARD HG or ISOGARD HD Composite	38.1-mm (1.5-in.)					
Vapour Barrier:	Description:	proprietary self-adhering SBS modified bitumen					
	Application:	self-adhering					
	Eligible Products:	Elevate V-Force™ Vapor Barrier Membrane or Elevate BASEGARD SA Base Sheet					
Thermal Barrier: <i>(Optional)</i>	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 SYSTEM ASSESSMENT REPORT, DYNAMIC UPLIFT RESISTANCE PER CSA A123.21

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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.

Point-Loads

Insulation Fasteners:	Sustained Test Value		Design Value	
	N	lbf	N	lbf
	2847	640	1850	416

Membrane Fasteners:	Sustained Test Value		Design Value	
	N	lbf	N	lbf
	4226	950	2747	618

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:
2022-09-01	DRAFT	For customer review	RN
2022-09-05	FINAL	After customer review	RN
2025-10-03	DRAFT REV1	For customer review, Re-format, Re-validation, Update to reflect performance with self-adhering vapor barrier only, as loose-laid vapor barrier option now covered by FBP-MARS-2 and -3	RN
2025-10-06	REV1	After customer review	RN

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END OF REPORT