



**NEMO|etc.**

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ENGINEER

TEST

CONSULT

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

CUSTOMER:	<a href="#">Amrize Building Envelope LLC (Duro-Last)</a>	TEST DATE:	2017-06-30
DOCUMENT NO.	DL-MARS-8	PUBLICATION DATE:	2025-07-10
TEST PANEL NO.	DRL-D1E	REVISION NO.	2
SYSTEM TYPE:	D-1	REEVALUATION DATE:	2028-07-09

**MECHANICALLY ATTACHED ROOFING SYSTEM (MARS) SUMMARY**

**ROOFING SYSTEM SUMMARY:**

Roof Cover:	PVC single ply, mechanically fixed, in-lap
Insulation (top):	Polyisocyanurate foam board, mechanically fixed
Insulation (base):	(Optional) polyisocyanurate foam board, loose-laid
Vapor Barrier:	(Optional) Proprietary extruded polyethylene film, loose-laid or SBS modified bitumen with tri-laminated woven polyethylene film surface, self-adhering
Thermal Barrier:	(Optional) Gypsum-, cement- or mineral-wool-based board, loose-laid, adhered or mechanically fixed
Deck:	Wood

**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
-3,8	-80	-2,5	-52	-2,6	-53

**PRODUCTS / APPLICATION:**

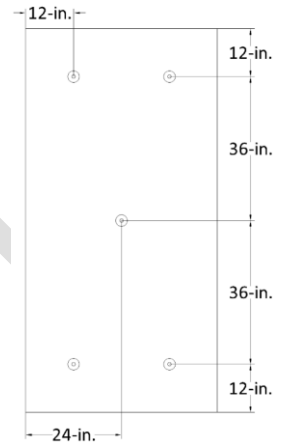
Roof Cover:	Description:	Membrane composed of polyester reinforcement coated with PVC compound			
	Application:	Mechanically fixed			
	Eligible Products:	Duro-Last (min. nominal 40-mil)			
Roof Cover Fasteners:	Description:	Corrosion resistant screw-type roofing fasteners with steel stress plates			
	Fixing Method:	Parts spaced max. 305-mm (12-inch) o.c. within the min. 76-mm (3-inch) wide side fastening tabs, spaced max. 1.5-m (60-inch) o.c.			
	Fixing Density:	1 part per 0.46 m <sup>2</sup> (5 ft <sup>2</sup> )			
	Eligible Products:	<b>Fasteners</b>		<b>Plates</b>	
		Duro-Last #15 Extra Heavy Duty Fastener		Duro-Last Poly-Plates or Duro-Last Cleat Plates	
Insulation:	Description:	Polyisocyanurate foam board			
	Application:	One or more layer(s), top layer mechanically fixed			
	Eligible Products:	<b>Product</b>			<b>Min. Thickness (Top Layer)</b>
		Duro-Guard ISO II-A, Duro-Guard ISO II-E2, Duro-Guard ISO II-H, Duro-Guard ISO III-A, Duro-Guard ISO III-E2 or Duro-Guard ISO III-H			38-mm (1.5-inch)

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

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PRODUCTS/APPLICATION (CONTINUED):			
Insulation Fasteners:	Description:	Corrosion resistant screw-type roofing fasteners with steel stress plates	
	Fixing Method:	Fasteners installed through stress plates, positioned to engage the top flange of the steel deck	
	Fixing Rate:	1 part per 0.59 m <sup>2</sup> (6.4 ft <sup>2</sup> ) 5 parts per 1220 x 2438 (48 x 96-inch) board	
	Eligible Products:	<b>Fasteners</b>	<b>Plates</b>
		Duro-Last #14 Heavy Duty Fastener	Duro-Last 3-inch Metal Plate
Vapour Barrier: <i>(Optional)</i>	Description:	extruded polyethylene film or SBS modified bitumen with tri-laminated woven polyethylene film surface	
	Application:	Loose-laid with taped joints or Self-adhering	
	Eligible Products:	Duro-Blue or Duro-Last Vapor Barrier	
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:	plywood 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 19/32-inch APA rated CDX plywood. 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:	Roof Cover Point-Load				Insulation Point-Load			
	Sustained Test Value		Design Value		Sustained Test Value		Design Value	
	N	lbf	N	lbf	N	lbf	N	lbf
	1779	400	1157	260	2277	512	1480	333

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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)	<a href="#">TL-689</a>
TAS 301 Certification	Miami-Dade	<a href="#">21-0409.01</a>
Third Party Test Data Program	UL, LLC	<a href="#">DA2862</a>
Test Lab Listing	Roofing Contractors Association of British Columbia	<a href="#">RCABC Labs</a>

**REPORT HISTORY**

DATE	EVENT	NOTES	AUTHORIZED BY:
2021-01-11	FINAL	None	RN
2022-07-12	REV1	Re-Validation	RN
2025-07-10	REV2	Re-Validation, reformat, add insulation options	RN

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**END OF REPORT**

