



NEMO|etc.

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ENGINEER

TEST

CONSULT

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

| | | | |
|----------------|--|--------------------|------------|
| CUSTOMER: | Amrize Building Envelope LLC (Duro-Last) | TEST DATE: | 2017-06-28 |
| DOCUMENT NO. | DL-MARS-5 | PUBLICATION DATE: | 2025-07-10 |
| TEST PANEL NO. | DRL-D1C | 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): | Expanded or extruded polystyrene foam board, mechanically fixed |
| Existing Roof: | Existing built-up roof (BUR) |
| 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 |
| -3,1 | -64 | -2,0 | -42 | -2,0 | -43 |

PRODUCTS / APPLICATION:

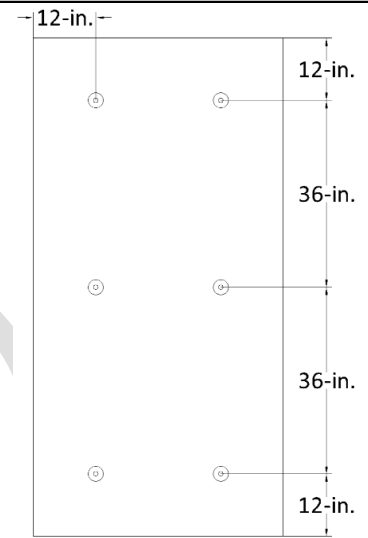
| | | | | | |
|-------------------------|--------------------|---|--|-----------------------|--|
| Roof Cover: | Description: | Membrane composed of polyester reinforcement coated with PVC compound | | | |
| | Application: | Mechanically fixed | | | |
| | Eligible Products: | Duro-Last (min. nominal 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 ² (5 ft ²) | | | |
| | Eligible Products: | Duro-Last #15 Extra Heavy Duty Fastener with Duro-Last Poly-Plates or Duro-Last Cleat Plates | | | |
| Insulation: | Description: | Expanded or extruded polystyrene foam board | | | |
| | Application: | Mechanically fixed | | | |
| | Eligible Products: | Product | | Min. Thickness | |
| | | Duro-Guard EPS Fan Fold | | 13-mm (0.5-inch) | |
| Duro-Guard XPS Fan Fold | | 9.5-mm (0.375-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 0.49 m ² (5.3 ft ²) 6 parts per 1220 x 2438 (48 x 96-inch) board | |
| | Eligible Products: | Fasteners | Plates |
| | | Duro-Last #14 Heavy Duty Fastener | Duro-Last 3-inch Metal Plate |
| Existing Roof: | Description: | Existing built-up roof (BUR) | |
| | Application: | Fully-adhered | |
| | Eligible Products: | Existing built-up roof (BUR) with gravel | |
| 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-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 |
| | 1423 | 320 | 925 | 208 | 1517 | 341 | 986 | 222 |

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

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Page 3 of 3

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.

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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: |
|------------|-------|-------------------------|----------------|
| 2021-01-11 | FINAL | None | RN |
| 2022-07-12 | REV1 | Re-Validation | RN |
| 2025-07-10 | REV2 | Re-Validation, reformat | RN |

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END OF REPORT