



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 (Duro-Last) | TEST DATE: | 2022-02-09 |
| DOCUMENT NO. | DL-MARS-16 | PUBLICATION DATE: | 2025-07-11 |
| TEST PANEL NO. | DL-D5 | REVISION NO. | 2 |
| SYSTEM TYPE: | C-2 | REEVALUATION DATE: | 2028-07-10 |

MECHANICALLY ATTACHED ROOFING SYSTEM (MARS) SUMMARY

ROOFING SYSTEM SUMMARY:

| | |
|----------------|--|
| Roof Cover: | PVC or KEE/PVC co-polymer single ply, induction welded |
| Coverboard: | Oriented strand board (OSB), adhesive-applied |
| Insulation: | Expanded polystyrene (EPS), adhesive-applied |
| Vapor Barrier: | SBS modified bitumen membrane with trilaminate woven polyethylene top surface, self-adhering |
| Barrier Board: | Concrete-based barrier board, adhesive-applied |
| 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 |
| -2,9 | -60 | -1,9 | -39 | -1,9 | -40 |

PRODUCTS / APPLICATION:

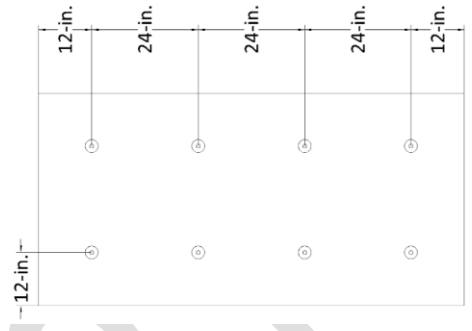
| | | | | | |
|----------------------|---------------------------------------|--|--------------------------------|--|----------------|
| Roof Cover: | Description: | Membrane composed of polyester reinforcement coated with PVC or KEE/PVC co-polymer compound | | | |
| | Application: | Induction welded | | | |
| | Eligible Products: | Duro-Last (min. nominal 40-mil), Duro-Last EV (min. nominal 50-mil) or Duro-Tuff (min. nominal 50-mil) | | | |
| Coverboard: | Description: | Oriented strand board (OSB) | | | |
| | Application: | Adhesive-applied | | | |
| | Eligible Products: | Product | | | Min. Thickness |
| Coverboard Adhesive: | Description: | Polyurethane based insulation adhesive | | | |
| | Application: | Continuous ribbons, 305-mm (12-inch) on-center | | | |
| | Eligible Products: | By | Product | | |
| | | Amrize: | Duro-Grip WeatherTite One Step | | |
| H.B. Fuller Company: | Millennium One Step Foamable Adhesive | | | | |

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

CUSTOMER: Amrize Building Envelope LLC (Duro-Last) PUBLICATION DATE: 2025-07-11
 DOCUMENT NO. DL-MARS-16 REVISION NO. 2
 TEST PANEL NO. DL-D5 REEVALUATION DATE: 2028-07-10



| PRODUCTS/APPLICATION (CONTINUED): | | | | |
|---|---------------------------------------|---|--|-----------------------------|
| Fasteners for Induction Welding: <i>(Fasteners do not engage the roof deck).</i> | Description: | Corrosion resistant screw-type roofing fasteners with steel stress plates coated with proprietary coating | | |
| | Fastening Method: | Fasteners installed through stress plates <u>to engage the adhered OSB coverboard</u> | | |
| | Fastening Rate: | 1 part per 0.37 m ² (4 ft ²) 0.61 x 0.61 m (2 x 2 ft) grid | | |
| | Eligible Products: | 2-in. long Duro-Last #15 EHD Drill Point Fasteners with plate options noted below | | |
| | | Membrane | Thickness | Stress Plate Options |
| Duro-Last | | Min. 40-mil | Duro-Bond Plate 1302 or Duro-Bond PVC IW Plate | |
| Duro-Last | | Min. 60-mil | Duro-Bond ISO WELD 1302-1 | |
| Duro-Last EV | Min. 50-mil | Duro-Bond Plate 1302, Duro-Bond ISO WELD 1302-1 or Duro-Bond PVC IW Plate | | |
| Duro-Tuff | Min. 50-mil | Duro-Bond Plate 1302, Duro-Bond ISO WELD 1302-1 or Duro-Bond PVC IW Plate | | |
| Insulation: | Description: | Expanded polystyrene (EPS) board | | |
| | Application: | Two (2) or more layers with staggered joints, adhesive-applied | | |
| | Eligible Products: | By | Product | |
| Insulation Adhesive: | Description: | Polyurethane based insulation adhesive | | |
| | Application: | Continuous ribbons, 305-mm (12-inch) on-center | | |
| | Eligible Products: | By | Product | |
| | | Amrize: | Duro-Grip WeatherTite One Step | |
| | | H.B. Fuller Company: | Millennium One Step Foamable Adhesive | |
| Vapour Barrier: | Description: | SBS modified bitumen membrane with trilaminate woven polyethylene top surface | | |
| | Application: | Self-adhering | | |
| | Eligible Products: | Duro-Last Vapor Barrier | | |
| Barrier Board: | Description: | Concrete-based barrier board | | |
| | Application: | Adhesive-applied | | |
| | Eligible Products: | By | Product | |
| Barrier Board Adhesive: | Description: | Polyurethane based insulation adhesive | | |
| | Application: | Continuous ribbons, 152-mm (6-inch) on-center | | |
| | Eligible Products: | By | Product | |
| | | Amrize: | Duro-Grip WeatherTite One Step | |
| H.B. Fuller Company: | Millennium One Step Foamable Adhesive | | | |
| Deck: | Tested Product: | Steel roof deck | | |



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

| | | | |
|----------------|--|--------------------|------------|
| CUSTOMER: | Amrize Building Envelope LLC (Duro-Last) | PUBLICATION DATE: | 2025-07-11 |
| DOCUMENT NO. | DL-MARS-16 | REVISION NO. | 2 |
| TEST PANEL NO. | DL-D5 | REEVALUATION DATE: | 2028-07-10 |



Page 3 of 3

| 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 550 MPa (80-ksi). Alternate deck displaying equivalent strength may be specified at the discretion of the Designer of Record to the satisfaction of the Authority Having Jurisdiction. | | |
| Fastener Point-Loads: | Induction Weld Fastener Point-Load | | |
| | Sustained Test Value | | Design Value |
| | N | lbf | N |
| | 1068 | 240 | 694 |

| 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: |
| 2022-02-22 | FINAL | None | RN |
| 2025-03-04 | REV1 | Re-Validation | RN |
| 2025-07-11 | REV2 | Re-Validation, reformat | RN |

This report and the data contained therein is the sole property of NEMO|etc. and the named customer. This report shall not be reproduced outside NEMO|etc. except by the named customer without written permission by the named customer, in which case the report shall be reproduced in its entirety.

END OF REPORT