# Bulletin

## Roof Testing Laboratory

**Roof System Dynamic Wind Uplift Resistance Results**

| | |
|---|---|
| File Numbers: | SOPI-020-059-018<br>SOPI-204337-01-5100 |
| Test Dates: | 2011-05-17<br>2012-01-13 |
| Publication Date: | 2012-02-06 |
| Revision Dates: | 2015-02-06 (R1)<br>2017-05-23 (R2) |
| Reappraisal Date: | 2020-05-23 |

## SOPRABOARD AND SECUROCK

## (AARS) ADHESIVE APPLIED ROOFING SYSTEM

### Roofing System Summary

| | |
|---|---|
| Cap sheet membrane: | Modified bitumen membrane / Torch applied |
| Base sheet membrane: | Modified bitumen membrane / Torch applied |
| Cover board: | Semi-rigid board composed of a fortified asphaltic core 1220 x 1524 x 3,2 mm (4′ x 5′ x ⅛") / Adhered with Duotack |
| Insulation: | Polyisocyanurate foam insulation board 1220 x 1220 x 38 mm (4′ x 4′ x 1½") / Adhered with Duotack |
| Vapor barrier: | Modified bitumen membrane / Torch applied |
| Thermal barrier: | Moisture and fire resistant gypsum board 1220 x 2438 x 12,7 mm (4’ x 8’ x ½’’) / Adhered with Duotack |
| Decking: | Steel deck |

### Dynamic Uplift Resistance (DUR) as per CSA A123.21

| System Designation | Measured Value | Computed Value (To Include 1.5 Experimental Factor) |
|---|---|---|
| **A** | -6,3 kPa (-131 psf) | -4,2 kPa (-87 psf) |
| **B** | -6,5 kPa (-135 psf) | -4,3 kPa (-90 psf) |

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## Products

| CAP SHEET MEMBRANE | | | | |
|---|---|---|---|---|
| **TESTED PRODUCT :** Membrane composed of a non-woven polyester reinforcement and SBS modified bitumen | | | | |
| **Systems** | **Application Method** | | | |
| **A, B** | Torch applied | | | |
| **ELIGIBLE PRODUCT(S)** | | | | |
| **Soprema** | Sopralene Flam 250 GR | Sopralene Flam 250 FR GR | Sopralene Flam 180 GR | Sopralene Flam 180 FR GR |
| | Sopraply Traffic Cap 560 | Sopraply Traffic Cap FR 561 | Soprafix Traffic Cap 660 | Soprafix Traffic Cap FR 661 |
| | Colvent Traffic Cap FR 861 | Sopralene Mammouth GR | Sopralene Mammouth 5 mm | Soprastar Flam HD GR |
| | Soprastar Flam WF | | | |

| BASE SHEET MEMBRANE | | | | |
|---|---|---|---|---|
| **TESTED PRODUCT :** Membrane composed of a non-woven polyester reinforcement and SBS modified bitumen | | | | |
| **Systems** | **Application Method** | | **Row spacing** | **Fasteners spacing** |
| **A, B** | Torch applied | | N/A | N/A |
| **ELIGIBLE PRODUCT(S)** | | | | |
| **Soprema** | Sopralene Flam 180 | Sopraply Torch Base 520 | Elastophene Flam | |

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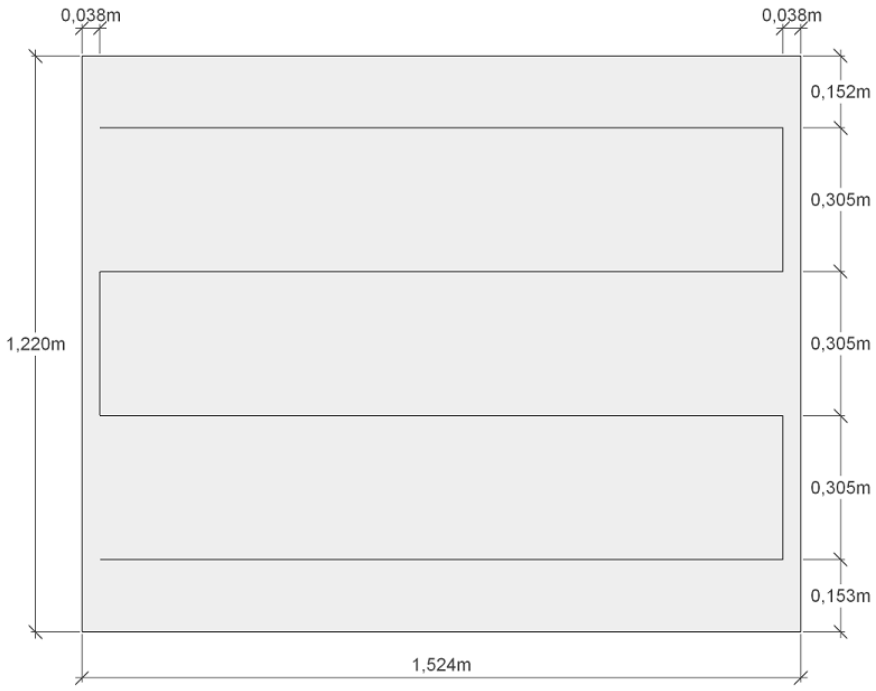
| COVER BOARD | | |
|---|---|---|
| **TESTED PRODUCT :** Semi-rigid board composed of a mineral-fortified asphaltic core between two asphalt-saturated glass mat reinforcement | | |
| **Systems** | **Application Method** | **Fastening Rate** |
| **A, B** | Adhered with Duotack | Ribbons at 305 mm (12 in) |
| **ELIGIBLE THICKNESS(ES)** | | |
| 3,2 mm (⅛ in) | | |
| **FASTENING METHOD** | | |
| Duotack adhesive | | |
| **FASTENING PATTERN** | | |

**Systems A and B**




| ELIGIBLE PRODUCT(S) | | | | |
|---|---|---|---|---|
| **Soprema** | Sopraboard | | | |

## Roof System Dynamic Wind Uplift Resistance Results

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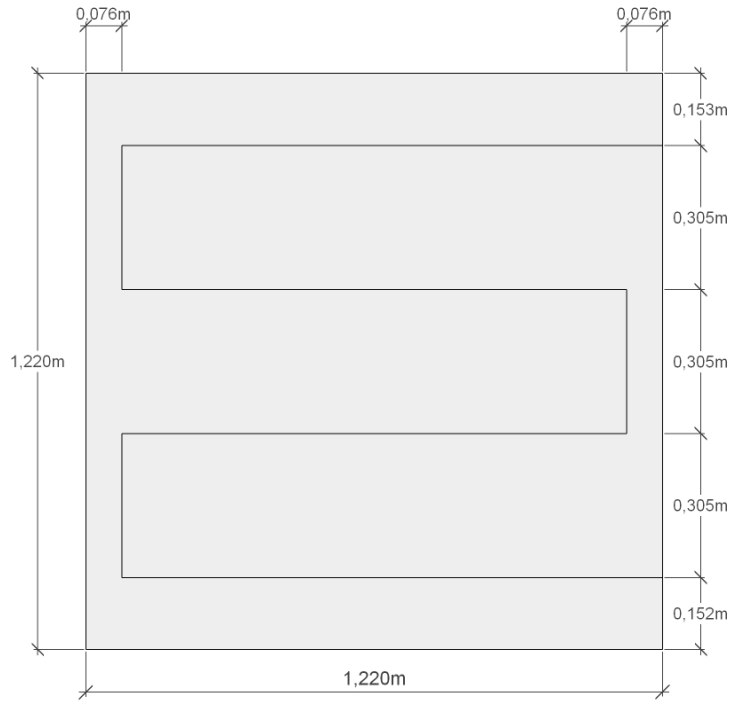
| INSULATION (Top Row) | | |
|---|---|---|
| **TESTED PRODUCT :** Polyisocyanurate foam insulation board laminated on both sides with fiber reinforced felt | | |
| **Systems** | **Application Method** | **Fastening Rate** |
| **A, B** | Adhered with Duotack | Ribbons at 305 mm (12 in) |
| **ELIGIBLE THICKNESS(ES)** | | |
| Between 38 to 102 mm (1½ to 4 in) | | |
| **FASTENING METHOD** | | |
| Duotack adhesive | | |
| **FASTENING PATTERN** | | |

**Systems A and B**




| ELIGIBLE PRODUCT(S) | | | | |
|---|---|---|---|---|
| **Soprema** | Sopra-ISO | | | |

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| INSULATION (Bottom Row) |
|---|
| **TESTED PRODUCT :** N/A |

| FASTENERS PULL OUT RESISTANCE |
|---|
| **TESTED PRODUCT(S) :** N/A |

| ADHESIVE | | | | |
|---|---|---|---|---|
| **TESTED PRODUCT :** Low-rise, two-component, polyurethane adhesive | | | | |
| **Systems** | **Ribbon's spacing** | | **Primer** | |
| **A, B** | 305 mm (12 in) | | N/A | |
| **ELIGIBLE PRODUCT(S)** | | | | |
| **Soprema** | Duotack | | | |

| VAPOR BARRIER | | | | |
|---|---|---|---|---|
| **TESTED PRODUCT :** Membrane is composed of a glass mat reinforcement and SBS modified bitumen | | | | |
| **System** | **Fastening Method** | | **Primer** | |
| **A** | Torch applied | | Elastocol 500 | |
| **B** | Torch applied | | N/A | |
| **ELIGIBLE PRODUCT(S)** | | | | |
| **Soprema** | Elastophene SP 2.2 | Sopralene 180 SP 3.5 | | |
| **ELIGIBLE PRODUCT(S) over thermal barrier** | | | | |
| **Soprema** | Elastophene SP 2.2 | Sopralene 180 SP 3.5 | | |

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| THERMAL BARRIER | | |
|---|---|---|
| **TESTED PRODUCT : System A :** Fiber-reinforced, moisture and fire resistant gypsum board<br>**System B :** Moisture and fire resistant gypsum board, coated with non-combustible fiberglass felt and non-asphaltic coating | | |
| **System** | **Application Method** | **Fastening Rate** |
| **A (Securock)** | Adhered with Duotack | Ribbons at 305 mm (12 in) |
| **B (DensDeck Prime)** | Adhered with Duotack | Ribbons at 305 mm (12 in) |

**ALLOWABLE THICKNESS(ES)**

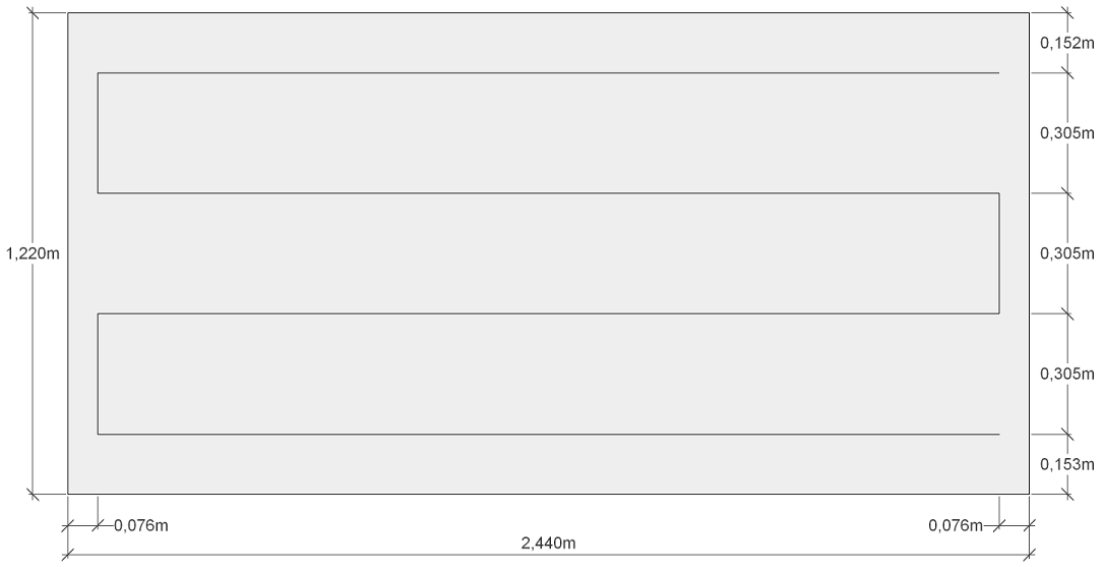
Between 13 to 15,9 mm (½ to ⅝ in)

**FASTENING METHOD**

Duotack adhesive

**FASTENING PATTERN(S)**

**Systems A and B**




| ELIGIBLE PRODUCT(S) | | | | |
|---|---|---|---|---|
| **CGC** | Securock | | | |
| **Georgia-Pacific** | DensDeck Prime | | | |

## Roof System Dynamic Wind Uplift Resistance Results

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## General Notes

1. **Decking:**

   The tests performed by **exp** services inc. («**exp**») were performed over a standard roll formed steel deck profile, with a galvanized or aluminum / zinc alloy coating finished, as per ASTM A653, A792, A1008 or CSSBI 10M standards, bearing a thickness of 0.76 mm (0.03 inch) minimum (commonly defined as 22 gauge), corresponding to the ASTM A653M grade SS 230, having a yield point of 230 MPa (33 ksi) and a tensile strength of 310 MPa (45 Ksi).

   Equivalency; tests have demonstrated that the heat welded vapour barrier in the system herein described is suitable for application on concrete deck properly primed with Elastocol 500.

   Tests could be conducted on 4 'x 8' x ⅝ "standard plywood deck to assess eligibility for possible equivalencies.

   The deck's fastening to the supporting structure must be strong enough to resist wind uplift loads (as defined per NBC requirements).

2. **Deck equivalency products:**

   18 to 22 gage steel deck. Wood or concrete deck which testing gave equivalent or superior uplift resistance than the value specified in the "Fasteners Pull Out Resistance" section.

3. **Fasteners Pull Out Resistance:**

   Testing were conducted in laboratory according to ANSI/SPRI FX-1 2011 standard, over a minimum of 10 test samples on a ***Com-Ten*** apparatus over steel deck (unless stated otherwise).

4. **Adhesive Pull Resistance:**

   Testing were conducted in laboratory over 3 test samples, according to ANSI/SPRI IA-1 2010 standard on a ***Com-Ten*** apparatus over steel deck (unless stated otherwise) or, according to ASTM D1623 standard over a universal press testing bench, for in-between materials.

5. **Note on adhesive:**

   Follow all guide lines or supplementary instructions from the manufacturer regarding adhesive application.

6. **Equivalent products:**

   Only the products listed in this report under eligible products are deemed acceptable as substitute to the tested products. Any other modifications must be requested in written, on **exp** application form, to be studied for approval.

7. **Optional components:**

   Any components of this roofing system listed as optional, may be removed from the roof design. Inclusion or exclusion of the said component having no effect on the published dynamic uplift resistance results. (DUR).

8. **Experimental factor:**

   In accordance with CSA A123.21 standard, the published dynamic uplift resistance (DUR) include a computed experimental factor of 1,5.

**9. Building Wind Load Calculation:**

An online calculator is available at http://www.exp.com/fr/rooftesting.

The calculator will compute, the Wind Load of any given building, for field, perimeter and corners, as per 2015 CNB requirement, without experimental factor. It will also compute perimeter's and corner's zone dimensions.

**10. Technical Advisories:**

This roof system assessment reports must be read in conjunction with any issued technical advisories from **exp**.

**11. Notice :**

**Exp** reserves the right to withdraw, without prior notice, any Bulletin of Roof System Dynamic Wind Uplift Resistance Results published and/or make any necessary corrections.

**12. Revision tracking table :**

| | |
|---|---|
| 2012-02-06 | First edition |
| 2015-02-06 (R1) | N/D |
| 2017-05-23 (R2) | Adding system results B, new layout |

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