# Bulletin

## Roof Testing Laboratory

**Roof System Dynamic Wind Uplift Resistance Results**

| | |
|---|---|
| File Numbers: | SOPI-020-059-008 |
| | SOPI-204337-04-5100 |
| | SOPI-204337-06-5100 |
| Test Dates: | 2010-06-07 / 2012-02-20 / 2012-03-09 |
| Publication Date: | 2013-04-02 |
| Revision Dates: | 2015-04-30 (R1)<br>201705-15 (R2) |
| Reappraisal Date: | 2020-05-15 |

## MOD-BIT SOPRAFIX BASE 630 ON VENTED WOOD DECK

## (MARS) MECHANICALLY ATTACHED ROOFING SYSTEM

### Roofing System Summary

| | |
|---|---|
| Cap sheet membrane: | Modified bitumen membrane / Torch applied |
| Base sheet membrane: | Modified bitumen membrane / Mechanically fastened |
| Cover board: | Optional |
| Insulation: | Optional |
| Vapour barrier: | N/A |
| Thermal barrier: | N/A |
| Decking: | Wood deck on steel deck |

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

| System Designation | Measured Value | Computed Value (To Include 1.5 Experimental Factor) |
|---|---|---|
| **A** | -2,4 kPa (-50 psf) | -1,6 kPa (-33 psf) |
| **B** | -2,9 kPa (-60 psf) | -1,9 kPa (-40 psf) |
| **C** | -4,8 kPa (-100 psf) | -3,2 kPa (-67 psf) |

**Roof System Dynamic Wind Uplift Resistance Results**

SOPI-020-059-008 / SOPI-00204337-04-5100 / SOPI-00204337-06-5100

## Products

| CAP SHEET MEMBRANE | | | | |
|---|---|---|---|---|
| **TESTED PRODUCT :** Membrane composed of SBS modified bitumen and a glass mat reinforcement (systems A, B) or an heavy-duty composite reinforcement (system C) | | | | |
| **Systems** | **Application Method** | | | |
| **A, B, C** | Torch applied | | | |
| **ELIGIBLE PRODUCT(S)** | | | | |
| **Soprema** | Soprafix Cap 650 | Soprafix Traffic Cap 660 | Sopralene Flam 180 GR | Sopralene Flam 250 GR |
| | Soprastar Flam HD GR | Sopralene Flam 180 FR GR | Sopralene Flam 250 FR GR | Soprastar Flam HD FR GR |
| | Sopralene Mammouth GR | Sopraply Traffic Cap 660 | Sopraply Traffic Cap FR 661 | Soprafix Cap FR 651 |
| | Soprafix Traffic Cap FR 661 | Soprastar Flam | Soprastar Flam HR | |

| BASE SHEET MEMBRANE | | | |
|---|---|---|---|
| **TESTED PRODUCT :** Membrane composed of SBS modified bitumen and composite reinforcement | | | |
| **System** | **Application Method** | **Row spacing** | **Fasteners spacing** |
| **A** | Mechanically fastened | 890 mm (35 in) o.c. | 457 mm (18 in) o.c. |
| **B** | Mechanically fastened | 890 mm (35 in) o.c. | 305 mm (12 in) o.c. |
| **C** | Mechanically fastened | 890 mm (35 in) o.c. | 152 mm (6 in) o.c. |
| **ELIGIBLE PRODUCT(S)** | | | |
| **Soprema** | Soprafix Base 630 | | |

## Roof System Dynamic Wind Uplift Resistance Results

SOPI-020-059-008 / SOPI-00204337-04-5100 / SOPI-00204337-06-5100

| COVER BOARD | | | | |
|---|---|---|---|---|
| **TESTED PRODUCT :** Optional | | | | |
| **ELIGIBLE THICKNESS(ES)** | | | | |
| Between 6,4 to 15,9 mm (¼ to ⅝ in) | | | | |
| **ELIGIBLE PRODUCT(S)** | | | | |
| **Soprema** | Sopraboard | Soprarock MD | Soprarock MD Plus | |
| **Georgia-Pacific** | DensDeck | DensDeck Prime | | |
| **CGC / USG** | Securock | | | |
| **Unifix** | PermaBase Dek | | | |

| INSULATION (Top Row) | | | | |
|---|---|---|---|---|
| **TESTED PRODUCT :** Optional | | | | |
| **ELIGIBLE THICKNESS(ES)** | | | | |
| Between 38 to 102 mm (1.5 to 4 in) | | | | |
| **ELIGIBLE PRODUCT(S)** | | | | |
| **Soprema** | Sopra-ISO | Sopra-ISO Plus | Soprarock MD | Soprarock MD Plus |
| | Soprarock DD | Soprarock DD Plus | | |
| **Atlas Roofing Corp.** | ACFoam II | ACFoam III | ACFoam IV | |
| **Johns Manville** | ENRGY 3 | ENRGY 3 CGF | | |
| **Hunter Panels** | H-Shield | H-Shield CG | | |

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

## Roof System Dynamic Wind Uplift Resistance Results

SOPI-020-059-008 / SOPI-00204337-04-5100 / SOPI-00204337-06-5100

| FASTENERS PULL OUT RESISTANCE | | |
|---|---|---|
| **TESTED PRODUCT(S):** Hardened carbon #14 fasteners with anticorrosion coating | | |
| **Systems** | **Screws** | **Plates** |
| **A, B, C** | #14 | Round metal plates of 51 mm (2 in) |
| **FASTENERS MEASURED PULL OUT RESISTANCE** | | |
| 237 kgf (524 lbf) | | |
| **ELIGIBLE PRODUCT(S)** | | |
| **Soprafix (screws)** | #14 | |
| **Soprafix (plates)** | Round toothed metal plates | |

| ADHESIVE |
|---|
| **TESTED PRODUCT :** N/A |

| VAPOR BARRIER |
|---|
| **TESTED PRODUCT :** N/A |

| THERMAL BARRIER |
|---|
| **TESTED PRODUCT :** N/A |

**Roof System Dynamic Wind Uplift Resistance Results**

SOPI-020-059-008 / SOPI-00204337-04-5100 / SOPI-00204337-06-5100

## General Notes

1. **Decking:**

   The tests performed by Les Services **exp** inc. (« **exp** ») were made over an exterior Douglas Fir Plywood deck in accordance to CSA 0121, CSA 0151, CSA 0153 standards, EASY T&G, DFP, 16 mm (⅝ in.) thick minimum yielding a load limit of L/180; 6 kPa (125 psf).

   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 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. Version tracking table :**

| | |
|---|---|
| 2013-04-02 | First edition |
| 2015-04-30 (R1) | N/D |
| 2017-05-15 (R2) | New presentation layout |

Prepared by:

**exp** Services Inc.

Serge Rochon, P.Eng.
Provincial Director – Roofing & Building Envelope
OIQ Nº 114865

May 15th 2017
Date