# Bulletin

## Roof Testing Laboratory

**Roof System Dynamic Wind Uplift Resistance Results**

| | |
|---|---|
| File Number: | SOPI-204337-27 |
| Test Date: | 2012-10-05 |
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| Revision Dates: | 2015-04-28 (R1)<br>2017-05-15 (R2) |
| Reappraisal Date: | 2020-05-15 |

# MOD-BIT SOPRAROCK DD PLUS HOT APPLIED SYSTEM

# (AARS) ADHESIVE APPLIED ROOFING SYSTEM

## Roofing System Summary

| | |
|---|---|
| Cap sheet membrane: | Modified bitumen membrane / Torch applied |
| Base sheet membrane: | Modified bitumen membrane / Fully adhered with asphalt |
| Cover board: | Mineral fiber board with bitumen surface 1220 x 1220 x 51 mm (4' x 4' x 2") / Fully adhered with asphalt |
| Insulation: | Polyisocyanurate foam insulation board 1220 x 1220 x 38 mm (4' x 4' x 1½") / Fully adhered with asphalt |
| Vapour barrier: | Modified bitumen membrane / Fully adhered with asphalt |
| Thermal barrier: | Moisture and fire resistant gypsum board 1220 x 1220 x 6,4 mm (4' x 4' x ¼") / Adhered with Duotack |
| Decking: | Acier galvanisé |

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

| System Designation | Measured Value | Computed Value (To Include 1.5 Experimental Factor) |
|---|---|---|
| **A** | -4,5 kPa (-94 psf) | -3,0 kPa (-62 psf) |

**Roof System Dynamic Wind Uplift Resistance Results**

SOPI-204337-27

## Products

| CAP SHEET MEMBRANE | | | | |
|---|---|---|---|---|
| **TESTED PRODUCT :** Membrane composed of a non-woven polyester reinforcement and SBS modified bitumen | | | | |
| **System** | **Application Method** | | | |
| **A** | Torch applied | | | |
| **ELIGIBLE PRODUCT(S)** | | | | |
| **Soprema** | Sopralene Flam 250 GR | Sopralene Flam 180 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 560 |
| | Sopraply Traffic Cap FR 561 | | | |
| **Attachment mode** : Torch applied | | | | |
| **Soprema** | Colply Traffic Cap FR 461 | Sopralene 180 GR | Sopralene 250 GR | Colply Traffic Cap 460 |
| | Sopralene 180 FR GR | Sopralene 250 FR GR | | |
| **Attachment mode** : Fully adhered with type II asphalt or Soprasphalte M | | | | |

| BASE SHEET MEMBRANE | | | | |
|---|---|---|---|---|
| **TESTED PRODUCT :** Membrane composed of a non-woven polyester reinforcement and SBS modified bitumen | | | | |
| **System** | **Application Method** | | **Row spacing** | **Fasteners spacing** |
| **A** | Fully adhered with asphalt | | N/A | N/A |
| **ELIGIBLE PRODUCT(S)** | | | | |
| **Soprema** | Elastophene 180 PS | Elastophene PS | Sopralene 180 PS | Sopraply Base 510 |
| | Sopralene 180 Sanded | Sopralene 250 Sanded | Elastophene 180 Sanded | |
| **Attachment mode** : Fully adhered with type II asphalt or Soprasphalte M | | | | |
| **Soprema** | Sopralene Flam 180 | Sopralene Flam 250 | | |
| **Attachment mode** : Torch applied | | | | |

## Roof System Dynamic Wind Uplift Resistance Results

SOPI-204337-27

| COVER BOARD | | | | |
|---|---|---|---|---|
| **TESTED PRODUCT :** Mineral fiber (rock wool) insulation board with a rigid surface impregnated with a bitumen layer | | | | |
| **System** | **Application Method** | | **Fastening Rate** | |
| **A** | Fully adhered with asphalt | | N/A | |
| **ELIGIBLE THICKNESS(ES)** | | | | |
| ≥ 51 mm (2 in) | | | | |
| **FASTENING METHOD** | | | | |
| Type II asphalt | | | | |
| **ELIGIBLE PRODUCT(S)** | | | | |
| **Soprema** | Soprarock DD Plus | | | |
| | | | | |

| INSULATION (Top Row) | | | | |
|---|---|---|---|---|
| **TESTED PRODUCT :** Polyisocyanurate foam insulation board laminated on both sides with fiber reinforced organic felt | | | | |
| **System** | **Application Method** | | **Fastening Rate** | |
| **A** | Fully adhered with asphalt | | N/A | |
| **ELIGIBLE THICKNESS(ES)** | | | | |
| Between 38 to 102 mm (1½ to 4 in) | | | | |
| **FASTENING METHOD** | | | | |
| Type II asphalt | | | | |
| **ELIGIBLE PRODUCT(S)** | | | | |
| **Soprema** | Sopra-ISO | Sopra-ISO Plus | | |
| **Atlas Roofing Corp.** | ACFoam II | ACFoam III | ACFoam IV | |
| **Johns Manville** | ENRGY 3 | ENRGY 3 CGF | | |
| **Hunter Panels** | H-Shield | H-Shield CG | | |

## Roof System Dynamic Wind Uplift Resistance Results

SOPI-204337-27

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

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

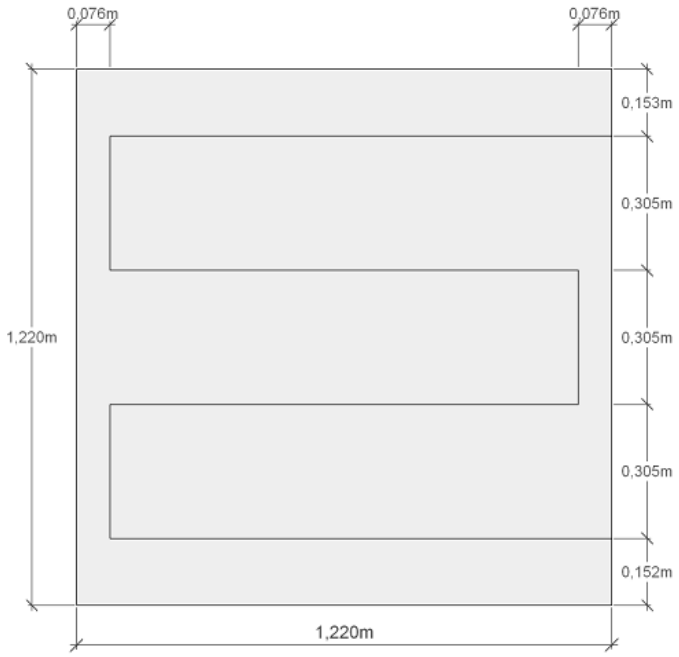
| VAPOUR BARRIER | | | | |
|---|---|---|---|---|
| **TESTED PRODUCT :** Membrane composed of a glass mat reinforcement and SBS modified bitumen | | | | |
| **System** | **Fastening Method** | | **Primer** | |
| **A** | Fully adhered with asphalt | | Elastocol 500 | |
| **ELIGIBLE PRODUCT(S)** | | | | |
| **Soprema** | Elastophene Sanded | Sopralene 180 Sanded | Sopralene 250 Sanded | |
| | | | | |

## Roof System Dynamic Wind Uplift Resistance Results

SOPI-204337-27

| THERMAL BARRIER | | |
|---|---|---|
| **TESTED PRODUCT :** Fiber-reinforced, moisture and fire resistant gypsum board | | |
| **System** | **Application Method** | **Fastening Rate** |
| **A** | Adhered with Duotack | 305 mm (12 in) |
| **ELIGIBLE THICKNESS(ES)** | | |
| Between 6,4 to 15,9 mm (¼ to ⅝ in) | | |
| **FASTENING METHOD** | | |
| Duotack adhesive | | |
| **FASTENING PATTERN(S)** | | |

**System A**




| ELIGIBLE PRODUCT(S) | | | | |
|---|---|---|---|---|
| **CGC / USG** | Securock | | | |
| **Unifix** | PermaBase Dek | | | |

## Roof System Dynamic Wind Uplift Resistance Results

SOPI-204337-27

| ADHESIVE | | | | |
|---|---|---|---|---|
| **TESTED PRODUCT :** Type II asphalt consisting of oxidized bitumen | | | | |
| **TESTED PRODUCT :** Adhésif à deux composants à faible expansion à base de polyuréthane | | | | |
| **System** | **Ribbon's spacing** | | **Primer** | |
| **A** | Full surface applied (base sheet, cover board, insulation and vapour barrier) | | Elastocol 500 (on top of thermal barrier) | |
| | 305 mm (12 in) (thermal barrier) | | N/A | |
| **ELIGIBLE PRODUCT(S)** | | | | |
| **--** | Type II Asphalt | | | |
| **Soprema** | Duotack | | | |

## 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 hot bitumen vapour barrier in the system herein described is suitable for application with hot bitumen over concrete deck.

   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. Version tracking table :**

| | |
|---|---|
| 2012-02-27 | First edition |
| 2015-04-28 (R1) | N/D |
| 2017-05-15 (R2) | New presentation layout |

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