## Roof System Assessment Report

of Wind Uplift Resistance (ISO 17025)

<table>
<thead>
<tr>
<th>Document Number</th>
<th>PUB-DRU168525</th>
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<tbody>
<tr>
<td>Publication Date</td>
<td>2010-07-28</td>
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<tr>
<td>Revised</td>
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<td>Revaluation Date</td>
<td>2018-04-30</td>
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</tbody>
</table>

Supplier:

![Soprema Logo]

### Mod-Bit Soprabase FR mechanically attached System, Mechanically Attached Roof System (MARS)

**Roofing System Summary:**

- **Cap sheet membrane:** Modified Bituminous Membrane or allowable products
- **Composite board:** Factory laminated panel
- **Insulation:** Polysiocyanurate or allowable products
- **Vapour barrier:** Membrane or allowable products
- **Thermal barrier:** Optional
- **Decking:** Steel Deck

- **Dynamic Uplift Resistance (DUR) as per CSA A123.21:**

<table>
<thead>
<tr>
<th>Description</th>
<th>Test observation reading</th>
<th>With SF of 1.5</th>
</tr>
</thead>
<tbody>
<tr>
<td>System A</td>
<td>-2.7 kPa (-56 psf)</td>
<td>-1.8 kPa (-37 psf)</td>
</tr>
<tr>
<td>System B</td>
<td>-3.4 kPa (-70 psf)</td>
<td>-2.3 kPa (-47 psf)</td>
</tr>
<tr>
<td>System C</td>
<td>-5.0 kPa (-105 psf)</td>
<td>-3.4 kPa (-70 psf)</td>
</tr>
</tbody>
</table>

**Notes:**

- **Allow products:** Only equivalent products included into the roofing system’s report are admissible.

- **Optional components:** Components of the roofing system designated as optional may be included or excluded from the roofing system which will not change the published dynamic uplift resistance (DUR).

- **Safety factor:** As required by in the CSA A123.21 Standard, the published dynamic uplift resistance (DUR) are reduced by a safety factor of 1.5 (SF of 1.5)

- **Admissible wind uplift load calculation:** An online calculator is available at [www.sigders.ca](http://www.sigders.ca). The user will have to provide the following information:
  - building location;
  - building geometry;
  - building exposure;
  - building openings;
  - building importance factor.

The calculator will display the allowable design load of the roof's field surface, edges and corners as well as the dimensions of the edge and corner zones.

**Technical Advisories:** Assessment reports must be read in conjunction with technical advisories issued by exp Services Inc.

**Values**

For this document, the metric values are the standard and values in parentheses are for information only.

**Notice**

Exp Services Inc. reserve their right to withdraw, without prior notice, the test report performed as per CSA A123.21 Standard.
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Roofing System’s Specific Data:

**Cap Sheet Membrane:**

- Allowable products:
  - Soprema
    - 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
    - Soprafix Traffic Cap 660
    - Soprafix Traffic Cap FR 661
    - Sopraply Traffic Cap 560
    - Sopraply Traffic Cap FR 561
  - Allowable thickness:
- Attachment mode: Heat welded

**Composite board:**

- Allowable products:
  - Soprema
    - Soprabase FR
    - Soprabase FR 180
  - Allowable thickness:
    - Between 12.7 mm (½ in.) and 25 mm (1 in.)

<table>
<thead>
<tr>
<th>Mechanically attached Pattern</th>
<th>Row spacing</th>
<th>Fasteners spacing</th>
</tr>
</thead>
<tbody>
<tr>
<td>for System A result</td>
<td>457 mm (18 in.) o.c.</td>
<td>609 mm (24 in.) o.c.</td>
</tr>
<tr>
<td>- Attachment type:</td>
<td>Fasteners #14 with #3 deep recesses Phillips head composed of hardened carbon steel and covered with an anticorrosion coating. 20 gauges round barbed plate of 50 mm (2 in.), with Galvalume finish</td>
<td></td>
</tr>
<tr>
<td>- Pullout fastener resistance:</td>
<td>214 psi or 442 lbf or 1967 Newton</td>
<td></td>
</tr>
<tr>
<td>- Attachment supplier:</td>
<td>Soprema</td>
<td></td>
</tr>
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**Mechanically attached Pattern**

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<tr>
<td>for System B result</td>
<td>457 mm (18 in.) o.c.</td>
</tr>
<tr>
<td>- Attachment type:</td>
<td>Fasteners #14 with #3 deep recesses Phillips head composed of hardened carbon steel and covered with an anticorrosion coating. 20 gauges round barbed plate of 50 mm (2 in.), with Galvalume finish</td>
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<tr>
<td>for System C result</td>
<td>457 mm (18 in.) o.c.</td>
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<tr>
<td>- Attachment type:</td>
<td>Fasteners #14 with #3 deep recesses Phillips head composed of hardened carbon steel and covered with an anticorrosion coating. 20 gauges round barbed plate of 50 mm (2 in.), with Galvalume finish</td>
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<tr>
<td>- Attachment supplier:</td>
<td>Soprema</td>
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**Insulation:**

- Allowable products:
  - Soprema
    - Sopra-Isol
    - Sopra-Isol +
    - SopraRock DD
    - SopraRock DD Plus
    - SopraRock MD
    - SopraRock MD Plus
    - Atlas Roofing Corp.
      - ACFoam II
      - ACFoam III
      - ACFoam IV
    - Johns Manville
      - ENRGY 3
      - ENRGY 3 CGF
    - Hunter Panels
      - H-Shield
      - H-Shield CG
  - Allowable thickness:
    - Between 25 mm (1 in.) to 203 mm (8 in.)
  - Attachment mode:
    - Loose laid or adhered or mechanically attached
Vapour Barrier:

- **Allowable products:**
  - Soprema
    - SopraVap'R
    - Sopralene Stick Adhesive

- **Attachment mode:**
  - **Adhered** (Primer required on allowable thermal barrier or wood deck or concrete deck with Elastocol stick or Elastocol Stick Zero)
  - **Self-adhering membrane**

Or Vapour Barrier optional:

- **Allowable products:**
  - Soprema
    - Sopralene SP 3.5 mm
    - Sopralene SP 2.2 mm

- **Attachment method:**
  - Heat welded (Required a primer on allowable thermal barrier or concrete deck with Elastocol 500)

Or Vapour Barrier optional:

- **Allowable products:**
  - Soprema
    - Xpress Vap’R board
    - Soprastop

- **Attachment mode:**
  - Loose laid or adhered or mechanically attached

Thermal Barrier (optional):

See optional products table

Decking:

- **Type:** Galvanized construction steel or coated with an aluminum/zinc alloy or PVC in accordance with ASTM A653, ASTM A792, ASTM A1008 or CSSBI 10M Standards.

- **Supplier:** Generic

- **Thickness:** 0.76 mm (0.03 in.) minimum, with a yield strength of 230 MPa (33 ksi) and a tensile strength of 310 MPa (45 ksi) commonly defined as being of a 22 gauges minimum thickness.

- **Attachment method:** The deck’s fastening to the supporting structure must be strong enough to resist wind uplift loads (adjusted as per NBC requirements).

- **Fastening uplift resistance (CSA S136.F04):** 2.09 kN (470 pf)

- **Equivalence:** Steel deck thickness of 18 to 22 gauges or wood deck or concrete deck with pullout resistance equal or higher than the Fastening uplift resistance specified above.

Optional Products Table:

Thermal barrier:

- **Allowable product:**
  - Georgia Pacific
    - DensDeck
    - DensDeck Prime
    - CGC / USG
    - Securock Gypsum Fiber Roof Board
    - Unifix
    - PermaBase Dek

- **Allowable thickness:** Between 6 mm (¼ in.) to 19.5 mm (5/8 in.)

- **Attachment mode:** Loose laid or adhered or mechanically attached