Roof System Assessment Report
of Wind Uplift Resistance (ISO 17025)

Document Number: PUB-DRU209321
Publication Date: 2012-01-12
Revised: 2015-05-20
Revaluation Date: 2018-05-20

Supplier: SOPREMA

Mod-Bit Xpress-ISO mechanically attached System, Mechanically Attached Roof System (MARS)

Roofing System Summary:
- Cap sheet membrane: Modified Bituminous Membrane or allowable products
- Cover board: Factory laminated Composite board or allowable products
- Insulation: Optional
- 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>-3.6 kPa (-75 psf)</td>
<td>-2.4 kPa (-50 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. 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
    - Soprafix Traffic Cap 660
  - Soprape Traffic Cap 560
- Attachment mode: Heat welded

Composite board:

- Allowable products:
  - Soprema:
    - XpressISO
    - XpressEPS
- Allowable thickness: Between 51 mm (2 in.) and 125 mm (5 in.)

Mechanically attached Pattern for System A result

<table>
<thead>
<tr>
<th>Row spacing</th>
<th>Fasteners spacing</th>
</tr>
</thead>
<tbody>
<tr>
<td>457 mm (18 in.) o.c.</td>
<td>609 mm (24 in.) o.c.</td>
</tr>
</tbody>
</table>

- Attachment type:
  - 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

  **Note 1:** The screws and plates must be installed in staggered and overlapping on the edge of the adjacent panel (see Soprema detail XP04) and covered with a reinforcing strip (Sopralap).

- Pullout fastener resistance:
  - Minimal reference resistance base on test: 214 psi or 442 lbf or 1967 Newton
- Attachment supplier: Soprema

Mechanically attached Pattern for System B result

<table>
<thead>
<tr>
<th>Row spacing</th>
<th>Fasteners spacing</th>
</tr>
</thead>
<tbody>
<tr>
<td>457 mm (18 in.) o.c.</td>
<td>457 mm (18 in.) o.c.</td>
</tr>
</tbody>
</table>

- Attachment type:
  - 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

  **Note 1:** The screws and plates must be installed in staggered and overlapping on the edge of the adjacent panel (see Soprema detail XP04) and covered with a reinforcing strip (Sopralap).

- Pullout fastener resistance:
  - Minimal reference resistance base on test: 214 psi or 442 lbf or 1967 Newton
- Attachment supplier: Soprema

Insulation (optional): See optional products table

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)
- Attachment type: 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)
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Or Vapour Barrier optional:

| Allowable products | Soprema
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Xpress Vap'R board</td>
</tr>
<tr>
<td></td>
<td>Soprastop</td>
</tr>
</tbody>
</table>

- 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:

Insulation:

- Allowable products: Soprema
<table>
<thead>
<tr>
<th>Sopra-Iso</th>
<th>Sopra-Iso +</th>
<th>SopraRock DD</th>
</tr>
</thead>
<tbody>
<tr>
<td>SopraRock DD Plus</td>
<td>SopraRock MD</td>
<td>SopraRock MD Plus</td>
</tr>
<tr>
<td>Atlas Roofing Corp.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AC Foam II</td>
<td>AC Foam III</td>
<td>AC Foam IV</td>
</tr>
<tr>
<td>Johns Manville</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ENRGY 3</td>
<td>ENRGY 3 CGF</td>
<td></td>
</tr>
<tr>
<td>Hunter Panels</td>
<td></td>
<td></td>
</tr>
<tr>
<td>H-Shield</td>
<td>H-Shield CG</td>
<td></td>
</tr>
</tbody>
</table>

- Allowable thickness: Between 25 mm (1 in.) to 203 mm (8 in.)
- Attachment mode: Loose laid or adhered or mechanically attached

Thermal barrier:

- Allowable product: Georgia Pacific
<table>
<thead>
<tr>
<th>DensDeck</th>
<th>DensDeck Prime</th>
</tr>
</thead>
<tbody>
<tr>
<td>CGC / USG</td>
<td></td>
</tr>
<tr>
<td>Securock Gypsum Fiber Roof Board</td>
<td></td>
</tr>
<tr>
<td>Unifix</td>
<td></td>
</tr>
<tr>
<td>PermaBase Dek</td>
<td></td>
</tr>
</tbody>
</table>

- Allowable thickness: Between 6 mm (¼ in.) to 19.5 mm (5/8 in.)
- Attachment mode: Loose laid or adhered or mechanically attached