Mod-Bit Fast-N-Stick HD mechanically attached System, Mechanically Attached Roof System (MARS)

Roofing System Summary:
- Cap sheet membrane: Modified Bituminous Membrane or allowable products
- Base sheet membrane: Modified Bituminous Membrane
- Cover board: Optional
- Insulation: Polyisocyanurate 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>-3.6 kPa (-75 psf)</td>
<td>-2.4 kPa (-50 psf)</td>
</tr>
<tr>
<td>System B</td>
<td>-5.0 kPa (-105 psf)</td>
<td>-3.4 kPa (-70 psf)</td>
</tr>
<tr>
<td>System C</td>
<td>-7.7 kPa (-160 psf)</td>
<td>-5.1 kPa (-106 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 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.
Roof System Assessment Report
of Wind Uplift Resistance (ISO 17025)

Roofing System's Specific Data:

**Cap Sheet Membrane:**

- **Allowable products:**
  - IKO
    - Torchflex TP-250 Cap
    - Prevent TP-250
    - Armourcool Granular TP-HD
  - Torchflex TPQ-250 Cap
    - Prevent Premium TP-250
    - Armourcool Granular Prevent TP-HD
  - Torchflex TP-HD
    - Prevent TP-HD
    - Armourcool Granular Prevent Premium TP-HD
  - Torchflex TP-250 5 mm
    - Prevent Premium TP-HD
    - Armourcool Granular TP
  - Torchflex TP-180 Cap

- **Attachment mode:** Heat welded

**Base sheet membrane:**

- **Allowable products:**
  - IKO
    - Fast-N-Stick HD Base

**Mechanically attached Pattern**  
- **Row spacing:** 890 mm (35 in.) o.c.  
- **Fasteners spacing:** 457 mm (18 in.) o.c.

- **Attachment type:**
  - Fasteners #14 DP
  - Round barbed plate, with Galvalume finish of 61 mm (2.4 in)

- **Pullout fastener resistance:**
  - 225 psi or 492 lbf or 2189 Newton

**Mechanically attached Pattern**  
- **Row spacing:** 890 mm (35 in.) o.c.  
- **Fasteners spacing:** 305 mm (12 in.) o.c.

- **Attachment type:**
  - Fasteners #14 DP
  - Round barbed plate, with Galvalume finish of 61 mm (2.4 in)

- **Pullout fastener resistance:**
  - 225 psi or 492 lbf or 2189 Newton

- **Attachment supplier:** Trufast

**Mechanically attached Pattern**  
- **Row spacing:** 890 mm (35 in.) o.c.  
- **Fasteners spacing:** 152 mm (6 in.) o.c.

- **Attachment type:**
  - Fasteners #14 DP
  - Round barbed plate, with Galvalume finish of 61 mm (2.4 in)

- **Pullout fastener resistance:**
  - 225 psi or 492 lbf or 2189 Newton

- **Attachment supplier:** Trufast

**Cover board (optional):** See optional products table

**Insulation:**

- **Allowable products:**
  - IKO
    - IKOTherm
    - IKOTherm Tapered
    - IKOTherm 25 Tapered psi
    - IKOTherm III
    - IKOTherm III 25 psi
    - IKOTherm 25 psi

- **Allowable thickness:** Between 25 mm (1 po) and 203 mm (8 po)

**Mechanically attached Pattern**  
- **Row spacing:** One fastener and plate every 4 ft  
- **Fasteners spacing:** As Mechanically pattern drawing

- **Attachment type:**
  - Fasteners #12 DP
  - Plate, with Galvalume finish of 76 mm (3 in)

- **Pullout fastener resistance:**
  - 234 psi or 516 lbf or 2295 Newton

- **Attachment supplier:** Trufast
Vapour Barrier:

- **Allowable products:**
  - IKO ArmourGard
  - MVP Vapour Retardant
  - Generic
  - Polyethylene Kraft Vapour Retarder

- **Attachment mode:** Loose laid, 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 gauge 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:

**Cover board:**

<table>
<thead>
<tr>
<th>Allowable product</th>
<th>IKO</th>
<th>Protectoboard</th>
<th>Protectobase 180</th>
<th>Covershield</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Georgia Pacific</td>
<td>Dens deck</td>
<td>Dens deck Prime</td>
<td></td>
</tr>
<tr>
<td></td>
<td>CGC / USG</td>
<td>Securock Gypsum Fiber Roof Board</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Generic</td>
<td>Roofing Gypsum board</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **Allowable thickness:** Between 3 mm (1/8 in) to 25 mm (1 in)
- **Attachment mode:** Loose laid or adhered or mechanically attached

**Thermal barrier:**

<table>
<thead>
<tr>
<th>Allowable product</th>
<th>Georgia Pacific</th>
<th>Dens Deck</th>
<th>Dens Deck Prime</th>
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<tr>
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<tr>
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- **Allowable thickness:** Between 5 mm (3/16 in) to 25 mm (1 in)
- **Attachment mode:** Loose laid or adhered or mechanically attached