RubberGard™ EPDM RMA mechanically attached System, Mechanically Attached Roof System (MARS)

Roofing System Summary:
- Membrane: EPDM membrane or allowable products
- Cover board: Polyisocyanurate board or allowable products
- 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>-4.8 kPa (-100 psf)</td>
<td>-3.2 kPa (-67 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.
Roof System Assessment Report of Wind Uplift Resistance (ISO 17025)

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Publication Date: 2015-06-02
Revised: 
Revaluation Date: 2018-06-02

Roofing System’s Specific Data:

Membrane:
- Allowable product: Firestone
  - RubberGard™ EPDM
  - Platinum EPDM
  - EcoWhite membranes
  - RubberGard™ MAX EPDM
  - EPDM PT membranes
- Attachment mode: Mechanically attached

<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>1828 mm (72 in.) o.c.</td>
<td>305 mm (12 in.) o.c.</td>
</tr>
</tbody>
</table>
- Attachment type: Fasteners #14 (W56RAC4239) and plates (W56RAC4182)
- Attachment mode: QuickSeam R.M.A. Strip (W56RAC1610)
- Pullout fastener resistance: Minimal reference resistance base on test: 600 lbf or 272.2 Kg
- Attachment supplier: Firestone

Cover board:
- Allowable product: Firestone
  - ISOGard HD
  - HailGard
  - CGC / USG
  - Securock Gypsum Fiber Roof Board
- Allowable thickness: Between 3 mm (1/8 in.) to 15.9 mm (5/8 in.)

<table>
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<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>12 fasteners per 32 ft²</td>
<td>As fastener drawing pattern</td>
</tr>
</tbody>
</table>
- Attachment type: Fasteners #14 (W56RAC4239) and plates (W56RAC4190)
- Pullout fastener resistance: Minimal reference resistance base on test: 749.4 lbf or 340 Kg
- Attachment supplier: Firestone

Insulation:
- Allowable products: Firestone
  - ISO 95+
  - Resista
- 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:**
  - Firestone
  - V-Force
  - Basegard SA
  - Generic
  - Polyethylene
  - Kraft paper

- **Attachment mode:** Adhered or loose laid
- **Attachment type:** Self-adhering membrane or loose laid or adhered

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 lbf)
- **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:

<table>
<thead>
<tr>
<th>Thermal Barrier:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Allowable product:</strong></td>
</tr>
<tr>
<td>DensDeck</td>
</tr>
<tr>
<td>CGC / USG</td>
</tr>
<tr>
<td><strong>Allowable thickness:</strong></td>
</tr>
<tr>
<td><strong>Attachment mode:</strong></td>
</tr>
</tbody>
</table>