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| Document Number: | PUB-DRU168520 |
| Publication Date: | 2010-07-28 |
| Revised: | 2015-04-30 |
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Supplier:



Mod-Bit Soprabase FR 180 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: 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:

| Description | Test observation reading | With SF of 1.5 |
|-----------------|--------------------------|----------------------------|
| System A | -3.6 kPa (-75 psf) | -2.4 kPa (-50 psf) |
| System B | -5.0 kPa (-105 psf) | -3.4 kPa (-70 psf) |
| System C | -7.8 kPa (-162 psf) | -5.2 kPa (-108 psf) |

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.



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

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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 | |
| - 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.) | | |
| Mechanically attached Pattern for System A result | Row spacing | | Fasteners spacing |
| | 457 mm (18 in.) o.c. (as per SOP23) | | 609 mm (24 in.) o.c. |
| - Attachment type: | Fasteners #14 with #3 deep recesses Phillips head composed of hardened carbon steel and covered with an anticorrosion coating. 20 gauge round barbed plate of 50 mm (2 in.), with Galvalume finish | | |
| - Pullout fastener resistance: | 214 psi or 442 lbf or 1967 Newton | | |
| - Attachment supplier: | Soprema | | |
| Mechanically attached Pattern for System B result | Row spacing | | Fasteners spacing |
| | 457 mm (18 in.) o.c. (as per SOP23) | | 457 mm (18 in.) o.c. |
| - 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 | | |
| - Pullout fastener resistance: | 214 psi or 442 lbf or 1967 Newton | | |
| - Attachment supplier: | Soprema | | |
| Mechanically attached Pattern for System C result | Row spacing | | Fasteners spacing |
| | 457 mm (18 in.) o.c.(as per SOP23) | | 305 mm (12 in.) o.c. |
| - 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 | | |
| - Pullout fastener resistance: | 214 psi or 442 lbf or 1967 Newton | | |
| - Attachment supplier: | Soprema | | |

Insulation:

| | | | |
|-----------------------|---|---|-------------------|
| - Allowable products: | Soprema | | |
| | Sopra-Iso | Sopra-Iso + | 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 | | |



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Vapour Barrier:

| | | |
|-----------------------|---|--------------------------|
| - Allowable products: | Soprema | |
| | Sopravap'R | Sopralene Stick Adhesive |
| - Attachment mode: | Adhered (Primer required on allowable thermal barrier, wood deck and 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) | |

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 | | |