Bulletin

Roof Testing Laboratory

Roof System Dynamic Wind Uplift Resistance Results

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FULLY ADHERED MODIFIED BITUMEN ROOF SYSTEM WITH VENTED BASE SHEET

(AARS) ADHESIVE APPLIED ROOFING SYSTEM

Roofing System Summary

Cap sheet membrane:	Modified bitumen membrane / torch applied
Base sheet membrane:	Modified bitumen membrane / self adhered in a discontinuous pattern
Cover board:	High density polyisocianurate board 1220 x 2440 x 13 mm (4' x 8' x ½") / adhered
Insulation:	Polyisocyanurate board 1220 x 1220 x 38 mm (4' x 4' x 1½") / adhered
Vapour barrier:	Modified bitumen membrane / torch applied
Thermal barrier:	Gypsum board / adhered
Decking:	Galvanised steel

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

System Designation	Measured Value	Computed Value (To Include 1.5 Experimental Factor)
A	-5,7 kPa (-120 psf)	- 3,8 kPa (-80 psf)

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Products

CAP SHEET MEMBRANE				
TESTED PRODUCT : Membrane composed of a non-woven polyester reinforcement and SBS modified bitumen				
System	**Application Method**			
A	Torch applied			
ELIGIBLE PRODUCT(S)				
IKO	Torchflex TP-180-Cap	Torchflex TP-250-Cap	Torchflex TP-250-Cap 5.0	Torchflex TP-HD-Cap
	PrevENt Premium TP-250 Cap	PrevENt -250 Cap	PrevENt TP-HD-Cap	ArmourCool Granular TP
	PrevEnt ArmourCool Granular TP	PrevEnt ArmourCool HD TP	ArmourCool Granular TP HD	Carrara ArmourCool 250
	Carrara ArmourCool HD			

BASE SHEET MEMBRANE				
TESTED PRODUCT : Membrane composed of a non-woven fiberglass reinforcement saturated with SBS modified bitumen with a self adhering discontinuous strips pattern on the underside				
System	**Application Method**		**Row spacing**	**Fasteners spacing**
A	Self adhered in discontinuous strips		N.A.	N.A.
ELIGIBLE PRODUCT(S)				
IKO	Armourvent Base	Armourvent HD		

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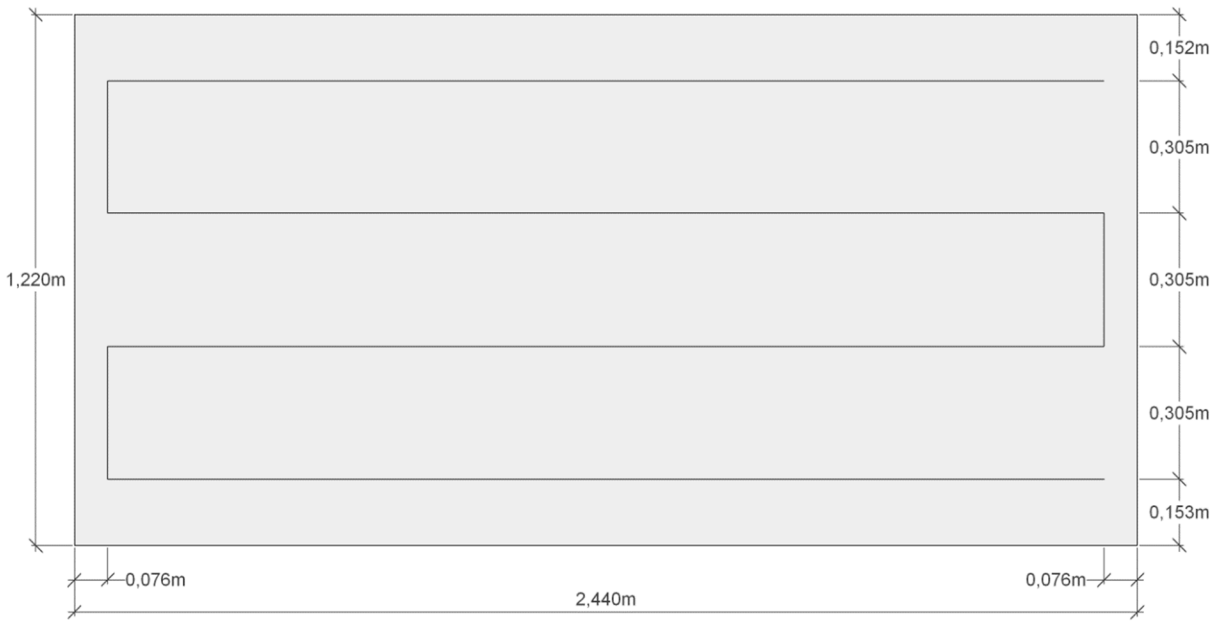
COVER BOARD		
TESTED PRODUCT : Cover board composed of H.D. polyisocyanurate foam expanded between coated fiberglass facers		
System	**Application Method**	**Fastening Rate**
A	Adhered	Beads at 305 mm (12") o.c.
ELIGIBLE THICKNESS(ES)		
12.7 mm (½")		
FASTENING METHOD		
Millenium Adhesive		
FASTENING PATTERN		

System A



ELIGIBLE PRODUCT(S)				
IKO	Ikotherm Covershield			

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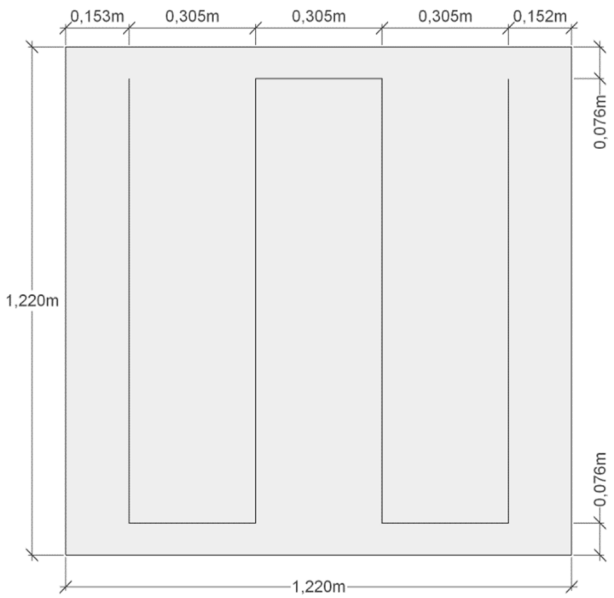
INSULATION (Top Row)		
TESTED PRODUCT : Rigid insulation board composed of polyisocyanurate foam, between two fiber reinforced organic facers		
System	**Application Method**	**Fastening Rate**
A	Adhered	Beads at 305 mm (12 in) o.c.
ELIGIBLE THICKNESS(ES)		
38 to 102 mm (1½ to 4 in)		
FASTENING METHOD		
Millenium Adhesive		
FASTENING PATTERN		

System A



ELIGIBLE PRODUCT(S)				
IKO	IKOTherm	IKOTherm 25 psi	IKOTherm III	IKOTherm III 25 psi
	Flat or tapered panel			

INSULATION (Bottom Row)
TESTED PRODUCT : N.A.

VAPOUR BARRIER				
TESTED PRODUCT : Membrane composed of a non-woven fiberglass reinforcement saturated with SBS modified bitumen				
System	**Fastening Method**		**Primer**	
A	Torched		IKO Mod-Bit Primer	
ELIGIBLE PRODUCT(S)				
IKO	TorchFlex TF-95-SF Base	TorchFlex TF-180-SF Base		

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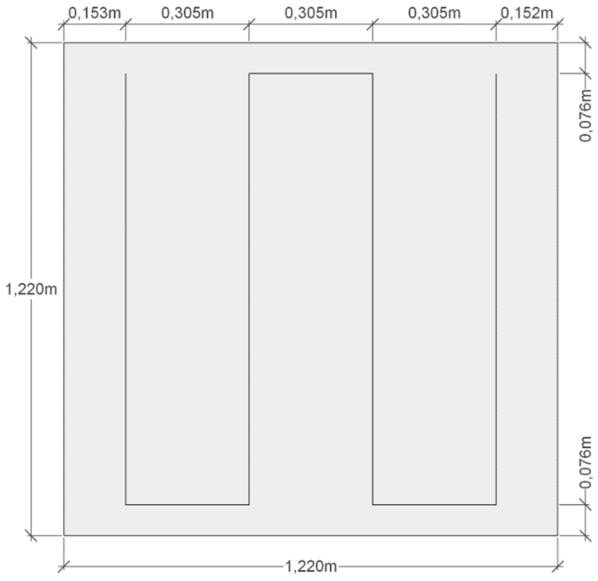
THERMAL BARRIER		
TESTED PRODUCT : Moisture and fire resistant gypsum board, covered with non-combustible fiberglass felt and non-asphaltic coating		
System	**Application Method**	**Fastening Rate**
A	Adhered	Beads at 305 mm (12 in) o.c.
ELIGIBLE THICKNESS(ES)		
13 & 16 mm (½ & ¾ in)		
FASTENING METHOD		
Millenium Adhesive		
FASTENING PATTERN(S)		

System A



ELIGIBLE PRODUCT(S)				
Georgia Pacific	DensDeck Prime			

FASTENERS PULL OUT RESISTANCE
TESTED PRODUCT(S) : N.A.

ADHESIVE				
TESTED PRODUCT : Two parts low-rise polyurethane foam				
System	**Ribbon's spacing**		**Primer**	
A	Beads at 305 mm (12 in) o.c.		N.A.	
ELIGIBLE PRODUCT(S)				
IKO	Millenium Adhesive			

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General Notes

1. **Decking:**

   Tests were performed over a standard roll formed steel deck profile, with a galvanized or aluminum / zinc alloy coating finished, as per ASTM A653, A792, A1008 or CSSBI 10M standards, bearing a thickness of 0.76 mm (0.03 inch) minimum (commonly defined as 22 gauge), corresponding to the ASTM A653M grade SS 230, having a yield point of 230 MPa (33 ksi) and a tensile strength of 310 MPa (45 Ksi). Tests could be performed on concrete deck or standard 4′ x 8′ x ⅝″ plywood deck to assess eligibility for possible equivalencies.

   The deck's fastening to the supporting structure must be strong enough to resist wind uplift loads (as defined per NBC requirements).

2. **Deck equivalency products:**

   18 to 22 gage steel deck. Wood or concrete deck which testing gave equivalent or superior uplift resistance than the value specified in the "Fasteners Pull Out Resistance" section.

3. **Fasteners Pull Out Resistance:**

   Testing were conducted in laboratory according to ANSI/SPRI FX-1 2011 standard, over a minimum of 10 test samples on a ***Com-Ten*** apparatus over steel deck (unless stated otherwise).

4. **Adhesive Pull Resistance:**

   Testing were conducted in laboratory over 3 test samples, according to ANSI/SPRI IA-1 2010 standard on a ***Com-Ten*** apparatus over steel deck (unless stated otherwise) or, according to ASTM D1623 standard over a universal press testing bench, for in-between materials.

5. **Note on adhesive:**

   Follow all guide lines or supplementary instructions from the manufacturer regarding adhesive application.

6. **Equivalent products:**

   Only the products listed in this report under eligible products are deemed acceptable as substitute to the tested products. Any other modifications must be requested in written, on **exp** application form, to be studied for approval.

7. **Optional components:**

   Any components of this roofing system listed as optional, may be removed from the roof design. Inclusion or exclusion of the said component having no effect on the published dynamic uplift resistance results. (DUR).

8. **Experimental factor:**

   In accordance with CSA A123.21 standard, the published dynamic uplift resistance (DUR) include a computed experimental factor of 1,5.

9. **Building Wind Load Calculation:**

   An online calculator is available at http://www.exp.com/fr/rooftesting.

   The calculator will compute, the Wind Load of any given building, for field, perimeter and corners, as per 2015 CNB requirement, without experimental factor. It will also compute perimeter's and corner's zone dimensions.

10. Technical Advisories:

This roof system assessment reports must be read in conjunction with any issued technical advisories from **exp**.

11. Notice :

Exp reserves the right to withdraw, without prior notice, any Bulletin of Roof System Dynamic Wind Uplift Resistance Results published and/or make any necessary corrections.

12. Version tracking table:

2017-06-01	First publication

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