

## Product

**ProtecRSS-X2**

## Specification

**Steel Deck-Mechanically Attached (Fully Adhered spec following Mechanically Attached Spec)**

**Note: The following are suggested specification paragraphs for use when specifying ModulR TS products as part of a conventional roofing membrane assembly. The information is organized and presented to assist in the writing of the project specification. For further consultation please contact ModulR TS or refer to the N.B.C., Canadian Roofing Contractors Association Specification Manual, ULC, or Factory Mutual.**

**PART 1 GENERAL****.1 REFERENCE STANDARDS**

- .1 ASTM C-726 Standard specification for Mineral Fiber Roof insulation Boards
- .2 ASTM C303 Standard for Dimensions and Density of Preformed Block Type Thermal Insulations
- .3 CAN/ULC S-102 Surface Burning Characteristics
- .4 CAN4-S114-M80 Test for Determination of Non-Combustibility in Building Materials
- .5 CAN/ULC-S704-01 Thermal Insulation, Polyurethane and Polyisocyanurate Boards
- .6 N.R.C. Wind Roof Calculator ([http://irc.nrc-cnrc.gc.ca/bes/prsi/calc\\_new/rciintro\\_e.html](http://irc.nrc-cnrc.gc.ca/bes/prsi/calc_new/rciintro_e.html))

**Part 2 WARRANTY**

- .1 The membrane product manufacturer will issue a written and signed document in the owner's name, certifying that the roofing membranes are free of manufacturing defects for a period of ten (10) years, starting from the date of acceptance. This warranty will cover the removal and replacement of defective roof membrane products, including labour.

**PART 3 PRODUCTS****.1 Steel Deck****.2 ProtecRSS Thermal Barrier Board (vapour barrier support)**

- .1 Layer of 25mm (1") rigid mineral wool fiber board of a minimum actual density (ASTM C612-09) 11lbs. cu / ft (176 kg/M<sup>3</sup>), nominal density not acceptable, manufactured from basalt rock and steel slag to ASTM C726. Top side saturated with bitumen and light coating of sand. Acceptable Product: ProtecRSS "ProtecRSS THERMAL BARRIER BOARD", manufactured by ModulR TS.

**.3 Fasteners / Bitumen**

- .1 Screws and Plates in conformance with FM Standard 4470.
- .2 Asphalt In compliance with CSA A123-7

**.4 Primer for Self Adhesive Applied Membranes**

- .1 Emulsion based primer for Self Adhesive Applied Membranes to provide enhanced adhesion.

**.5 Vapour Barrier (Options)**

- .1 Hot Mop 2 ply 15 lb. felt.
- .2 Torched Mod. Bit. membrane.
- .3 Self Adhesive membrane.

**.6 Insulation – ProtecRSS-X2**

- .1 Multi Density rigid mineral wool board with a higher density (minimum actual density {ASTM C612-09} of 13.75lbs. cu. / ft {220 kg/m<sup>3</sup>}) top layer for durability and enhanced strength formed as a monolithic structure, manufactured from basalt rock and steel slag to ASTM C726. Top side saturated with bitumen and light coating of sand. Overall thickness of \*\* mm (\*\* in.) , thermal resistance of \*\* RSI (\*\*R-Value).
- .2 Board Size 4'x4' (1220mm x 1220mm) min. thickness 2" (0.50mm) up to 5" (125mm).
- .3 Acceptable Product: "**ProtecRSS-X2**", manufactured by ModulR TS.

**.7 Insulation - TAPERED ProtecRSS-X2**

- .1 Multi Density rigid mineral wool board with a higher density (minimum actual density {ASTM C612-09} of 13.75lbs. cu. / ft {220 kg/m<sup>3</sup>}) top layer for durability and enhanced strength formed as a monolithic structure, manufactured from basalt rock and steel slag to ASTM C726. Top side saturated with bitumen and light coating of sand Thickness at the drain of \*\*mm (\*\*in.) with a tapered slope of (1%, 2% or greater upon request). providing an (minimum or average) thermal resistance of RSI (R-Value).
- .2 Board Size 4'x4' (1220mm x 1220mm)
- .3 Acceptable Product: "**TAPERED ProtecRSS-X2**", manufactured by ModulR TS.

**.8 Cants**

- .1 Rigid mineral wool fibre cants manufactured from basalt rock and steel slag to ASTM C726. Top side saturated with bitumen and light coating of sand.
- .2 Acceptable Product: "**CANTRSS**" manufactured by ModulR TS

**.9 Roof Membranes (options)**

- .1 Modified Bitumen Membrane
  - .1 Torch Applied
  - .2 Hot Applied
  - .3 Self Adhered
  - .4 Cold Applied
- .2 B.U.R.
  - .1 Hot Applied
  - .2 Cold Applied

**PART 4 EXECUTION**

**.1 Steel Deck**

**.2 ProtecRSS Thermal Barrier Board (vapour barrier support)**

- .1 Mechanically fastened to the top flutes of the steel deck with FM approved screws and plates at a rate of 1 per 2.7 sq. ft. (1 per 0. 25 M<sup>2</sup>). Screw pattern as prescribed by FM.

**.3 Primer for Self Adhesive Applied Membranes**

- .1 Install over roof deck substrates prior to the installation of the Self Adhesive Vapour Barrier Membrane.
- .2 Apply primer at a rate recommended by the manufacturer.
- .3 Primer must be compatible to the Self Adhesive Vapour Barrier Membrane.

**.4 Vapour Barrier (Options)**

- .1 Mop 2 ply 15 lb. Felt as per CRCA SO-VR-1
- .2 Torch Applied as per manufacturer's instructions.
  - .1 Apply directly onto clean substrate.
  - .2 Overlap side laps and end laps as per manufacturer's instructions..
  - .3 Turn-up Vapour Barrier sheet on vertical surfaces.
  - .4 All laps and vertical penetrations to be flashed as per manufacturers details.
- .3 Self-Adhered.
  - .1 Apply directly onto clean primed substrate by removing silicone cover sheet.
  - .2 Overlap side laps and end laps as per manufacturer's instructions..
  - .3 Turn-up Vapour Barrier sheet on vertical surfaces.
  - .4 All laps and vertical penetrations to be flashed as per manufacturers details.

**.5 Insulation- ProtecRSS-X2 (Flat or Tapered)**

- .1 Install **ProtecRSS-X2** panels tightly together.
- .2 Mechanically fastened with FM approved screws and plates through the insulation into the top flutes of the steel deck.
- .3 Increase number of screw and plates required in the perimeter and corners as prescribed by FM for a wind-up resistance of FM-90.
- .4 For tapered install as per approve shop drawings.
- .5 Install only as much insulation as can be covered in the same day.
- .6 Temporarily seal the roof from water penetration with a cut-off seal at the end of each work day.
- .7 Remove cut-off when commencing work.

**.6 Cants**

- .1 Install cants at vertical walls of the perimeter parapet and roof top curbs with a full coverage of compatible adhesive.

**.7 Roof Membrane**

- .1 Modified Bitumen Membrane.
  - .1 Install as per manufacturer's instructions
- .2 B.U.R.
  - .1 Install as per CRCA Technical Manual or manufacturer's instructions.

## Product

**ProtecRSS-X2** (Flat and Tapered)

## Specification

**Steel Deck-Fully Adhered**

**Note: Following are suggested specification paragraphs for use when specifying ModulR TS products as part of a conventional roofing membrane assembly. The information is organized and presented to assist in the writing the project specification. For further consultation contact ModulR TS or refer to the N.B.C., Canadian Roofing Contractors Association Specification Manual, ULC, or Factory Mutual.**

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- .5 CAN/ULC-S704-01 Thermal Insulation, Polyurethane and Polyisocyanurate Boards
- .6 N.R.C. Wind Roof Calculator ([http://irc.nrc-cnrc.gc.ca/bes/prsi/calc\\_new/rciintro\\_e.html](http://irc.nrc-cnrc.gc.ca/bes/prsi/calc_new/rciintro_e.html))

**PART 2 WARRANTY**

1. The membrane product manufacturer will issue a written and signed document in the owner's name, certifying that the roofing membranes are free of manufacturing defects for a period of ten (10) years, starting from the date of acceptance. This warranty will cover the removal and replacement of defective roof membrane products, including labour.

**PART 3 PRODUCTS****.1 Steel Deck****.2 ProtecRSS Thermal Barrier Board (vapour barrier support)**

- .1 Layer of 25mm (1") rigid mineral wool fiber board of a minimum actual density (ASTM C612-09) 11lbs. cu / ft (176 kg/M<sup>3</sup>), nominal density not acceptable, manufactured from basalt rock and steel slag to ASTM C726. Top and bottom sides saturated with bitumen and light coating of sand.
- .2 Board Size 4' x 4' x 1" (1220mm x1220mm x 25mm) butt edge.
- .3 Acceptable Product: "**ProtecRSS THERMAL BARRIER BOARD COATED 2 SIDES**", manufactured by ModulR TS.

**.3 Insulation Adhesion (options)**

- .1 Asphalt
  - .1 In compliance with CSA A123-7
- .2 Cold Adhesive
  - .1 Ensure Cold Adhesive compatibility with assembly components.

**.4 Primer for Self Adhesive Applied Membranes**

- .1 Emulsion based primer for Self Adhesive Applied Membranes to provide enhanced adhesion.

**.5 Asphalt Felts**

- .1 No. 15 perforated

**.6 Vapour Barrier (Options)**

- .1 Hot Mop 2 ply 15 lb. felt.
- .2 Torched Mod. Bit. membrane.
- .3 Self Adhesive membrane.

**.7 Insulation – ProtecRSS-X2**

- .1 Multi Density rigid mineral wool board with a higher density (minimum actual density {ASTM C612-09} of 13.75lbs. cu. / ft {220 kg/m<sup>3</sup>}) top layer for durability and enhanced strength formed as a monolithic structure, manufactured from basalt rock and steel slag to ASTM C726. Top side saturated with bitumen and light coating of sand. Overall thickness of\*\* mm (\*\* in.) , thermal resistance of \*\* RSI (\*\*R-Value).
- .2 Board Size 4'x4' (1220mm x 1220mm) min. thickness 2" (0.50mm) up to 5" (125mm).
- .3 Acceptable Product: "**ProtecRSS-X2**", manufactured by ModulR TS.

**.8 Insulation - TAPERED ProtecRSS-X2**

- .1 Multi Density rigid mineral wool board with a higher density (minimum actual density {ASTM C612-09} of 13.75lbs. cu. / ft {220 kg/m<sup>3</sup>}) top layer for durability and enhanced strength formed as a monolithic structure, manufactured from basalt rock and steel slag to ASTM C726. Top side saturated with bitumen and light coating of sand Thickness at the drain of \*\*mm (\*\*in.) with a tapered slope of (1%, 2% or greater upon request). providing an (minimum or average) thermal resistance of RSI (R-Value).
- .2 Board Size 4'x4' (1220mm x 1220mm)
- .3 Acceptable Product: "**ProtecRSS-X2**", manufactured by ModulR TS.

**.9 Cants**

- .1 Rigid mineral wool fibre cants manufactured from basalt rock and steel slag to ASTM C726. Top side saturated with bitumen and light coating of sand.
- .2 Acceptable Product: "**CANTRSS**" manufactured by ModulR TS.

**.10 Roof Membrane (Options)**

- .1 Modified Bitumen Membrane
  - .1 Torch Applied
  - .2 Hot Applied
  - .3 Self Adhered
  - .4 Cold Applied
- .2 B.U.R.
  - .1 Hot Applied
  - .2 Cold Applied

**PART 4 EXECUTION**

**.1 Steel Deck**

**.2 ProtecRSS Thermal Barrier Board (vapour barrier support)**

- .1 Apply adhesive as prescribed by adhesive manufacturer.
- .2 Install "**ProtecRSS Thermal Barrier Board**" tightly and stagger joints.

**.3 Primer for Self Adhesive Applied Membranes**

- .1 Install over roof deck substrates prior to the installation of the Self Adhesive Vapour Barrier Membrane.
- .2 Apply primer as recommended by the manufacturer.
- .3 Primer must be compatible to the Self Adhesive Vapour Barrier Membrane.

**.4 Vapour Barrier (Options)**

- .1 Mop 2 ply 15 lb. Felt as per CRCA SO-VR-1
- .2 Torch Applied as per manufacturer's instructions.
  - .1 Apply directly onto clean substrate.
  - .2 Overlap side laps and end laps as per manufacturer's instructions..
  - .3 Turn-up Vapour Barrier sheet on vertical surfaces.
  - .4 All laps and vertical penetrations to be flashed as per manufacturers details.
- .3 Self-Adhered.
  - .1 Apply directly onto clean primed substrate by removing silicone cover sheet.
  - .2 Overlap side laps and end laps as per manufacturer's instructions..
  - .3 Turn-up Vapour Barrier sheet on vertical surfaces.
  - .4 All laps and vertical penetrations to be flashed as per manufacturers details.

**.5 Insulation- ProtecRSS-X2**

- .1 Mop hot asphalt at a rate of 25 lbs per<sup>2</sup> (1.2kg/m<sup>2</sup>) or apply cold adhesive as per manufacturers recommendation.
- .2 Press "**ProtecRSS-X2**" into place with insulation joints tightly together.
- .3 Do not install more insulation that can be completely roofed in one day.
- .4 Temporarily seal the roof from water penetration with a cut-off seal at the end of each work day.
- .5 Remove cut-off when commencing work.
- .6 Install tapered or sloped insulation as per approve shop drawings.

**.6 Cants**

- .1 Install cants at vertical walls of the perimeter parapet and roof top curbs with a full coverage of compatible adhesive.

**.7 Roof Membrane**

- .1 Modified Bitumen Membrane.
  - .1 Install as per manufacturer's instructions
- .2 B.U.R.
  - .1 Install as per CRCA Technical Manual or manufacturer's instructions.