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## **SRO 843 Waterproofing Specification – Roof Membrane Three Layer Bituminous Sheet Membrane – Exposed System**

### **Scope**

A three layer bituminous sheet membrane applied in sheets to approved substrates to form a fully bonded, continuous barrier to water penetration with a mineral chip finish on the top layer for protection against UV light.

### **Applications**

This three layer system is typically used on non-trafficable (maintenance traffic only) roof top and deck areas.

### **Substrates**

Suitable substrates for the bituminous sheet membrane system include

- Concrete that is damp or not fully cured and dry.
- Contaminated substrates such as those with an existing incompatible membrane and/or topping. Topping screeds must be 20MPa minimum compressive strength and 1.5MPa surface tensile strength.
- Approved timber substrates such as exterior grade sheet plywood.

### **Substrate Preparation**

Substrates to which the bituminous sheet membranes are to be applied must be structurally sound and free of all contaminants (e.g. laitance). Concrete substrates should have completed the recommended minimum curing/drying periods (e.g. 28 days) with all holes/voids filled with cement based patching mortars (e.g. [ARDEX B34/ 36](#) system) and all surface protrusions ground flat. All internal corners are to be shaped with a cement based coving fillet (minimum 50 x 50mm).

Contaminated substrates shall have all loose unbonded material removed and topping screeds, if present, shall be checked for soundness and strength.

Timber substrates must be mechanically fixed to the framing with all fixing screws recessed to finish flush with the ply surface and the construction shall comply with the relevant standard in terms of deflection. There must be adequate ventilation under the timber substrate to prevent a build-up of condensation.

Ensure all drainage wastes are the bowl type with clamp rings to secure the sheet membrane into the bowl.

### **Membrane Systems**

The three layer exposed membrane system is composed the following;

- Base layer of [ARDEX WPM 116](#) glued and/or mechanically fixed to the substrate.
- Intermediate layer shall be [ARDEX WPM150](#)
- The top layer shall [ARDEX WPM185](#) Mineral

### **Priming**

Priming is not required unless the substrate is damp and the base layer is to be glued to the substrate. [ARDEX WPM300](#) is then applied to the prepared substrate at a rate of not more than 3m<sup>2</sup>/litre and left to dry overnight.

In addition, timber substrates must not have been treated with LOSP products as these timber preservatives have an oily residue that will inhibit the adhesion of the glued down base sheet.



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However if this type of preservative is present and/or other unsuitable surface finishes are evident on the timber, the base layer must be mechanically fixed to these substrates.

#### Membrane installation

- Apply the base sheet [ARDEX WPM 116](#) membrane to the prepared substrates using ARDEX WA98 adhesive and using LPG or LNG torch techniques to fully weld all sheet overlaps (75mm side-laps and 100mm end-laps) together.
- *Alternatively*, mechanically fix the base sheet using the [ARDEX HD Seam Plates](#) and fixing screws. Mechanical fixings are set at approximately 1m intervals down the centre of each sheet and at approximately 500mm spacing around each sheet perimeter after the sheet overlaps have been fully welded using the LPG/LNG gas torch techniques.
- Begin application from the lowest point and work upward to the highest points
- Apply the base layer first before commencing to apply the second layer.
- Apply the intermediate sheet [ARDEX WPM150](#) over the base sheet using LPG or LNG torch techniques and to ensure the body of this sheet and the sheet overlaps (75mm side-laps and 100mm end-laps) are fully welded together
- The second layer is to be placed so the overlaps of the base layer are covered by the body-sections of the second layer sheet membrane. This ensures the bottom overlaps are resealed with the molten bitumen of the top layer and that overlaps of each layer are not stacked upon each other.
- Apply the top layer [ARDEX WPM185](#) Mineral in similar manner as the second sheet ensuring the sheet overlaps are staggered in relation to the position of the preceding layers.

Once the three layers have been applied, the top edge termination of the membrane shall be secured one of the following systems;

- [ARDEX Pressure Seal](#) mechanically fixed in position
- Liquid applied flashing such as the [ARDEX WPM 179](#) Bituminous latex where this over-flashing will be coated with [ARDEX WPM310](#) or [ARDEX WPM330](#) façade coatings.

#### Protection

The bituminous sheet membrane is protected from sunlight by the mineral chip finish embedded in the top layer. Protection against mechanical damage is generally not required as this system is intended for use only in areas where the membrane is not subject to frequent pedestrian traffic (occasional maintenance staff foot traffic is possible)

#### Disclaimer:

*The recommendation selected is based upon questions answered on the ARDEX Australia website. This recommendation is designed as a general application for your described situation and should not be considered site specific documentation for general distribution. Always consult the latest relevant ARDEX Technical Bulletins and information on the product packaging and/or product data sheets (available on the ARDEX Website). Australian and other relevant standards should be followed during installation. If you have any further questions or would like further clarification please contact the ARDEX Technical Services Hotline on 1800 224 070 (9am to 5pm Monday to Friday).*