The Sheet Membrane range of waterproofing products incorporates bituminous sheet membranes for a wide variety of roofing and tanking situations. The range comprises both APP and SBS torch applied products. Details for each product are contained in the individual Product Data Sheet.

APP VS SBS
ARDEX provides both APP and SBS modified bituminous membranes

APP – Atactic Polypropylene is used to improve the properties of the distilled bitumen basis.
Provides heat and UV resistance required for our climate.

SBS – Styrene Butadiene Styrene is also used to improve the bitumen properties.
Greater flexibility in cold temperatures. Not appropriate for applications where UV exposure is anticipated.

PRODUCTS

**ARDEX WPM 114**
4.0mm APP Vented Base Sheet
ARDEX WPM 114 is an APP (Atactic Polypropylene) Plastomeric type modified bitumen membrane vented base sheet, consisting of a specially formulated bituminous compound of distilled asphalt modified with selected high-grade viscoelastic polymers. ARDEX WPM 114 is used as part of a multilayer waterproofing system where there may be potential moisture issues in the substrate.

**ARDEX WPM 116**
2.7mm APP Bitumen Fibre-backed Base Sheet
A polyester backed fibreglass reinforced modified bituminous membrane normally installed as a base layer in multi-layer Shelterbit systems. ARDEX WPM 116 (Shelterbit fibre-backed base sheet) has been specially designed for application to heat sensitive substrates such as timber or thermal insulation. It is also ideally suited for use as a base layer on rough or uneven surfaces, over sound existing membranes such as rubber, PVC, bitumen, acrylic and polyurethane. It can be loose laid, mechanically fastened, adhered with ARDEX WA 98 Adhesive or laid in hot-melt bitumen using the hot roll and pour method.

**ARDEX WPM 117**
2mm SBS Fibreglass Reinforced Bituminous Membrane (Shelterstick Self-adhesive Membrane)
A 2mm self-adhesive membrane providing absolute waterproofing with a high resistance to hydrostatic pressure. The Peel and Stick nature of ARDEX WPM 117 means no naked flames during the install – increasing the safety of application.

ARDEX WPM 117 also has the added advantage of being able to be torched over with subsequent layers. ARDEX WPM 117 is also designed to be applied over heat sensitive substrates such as PVC, metals, insulation and in some instances; smooth faced waterproofing membranes (please seek advice from an ARDEX representative for approved membranes).

**ARDEX WPM 150**
3.0mm Combined Reinforced APP Bitumen Membrane
A 3.0mm (nominal) thick combined reinforced (Polyester & Fibreglass) APP modified bituminous torch applied membrane. It is used as a base or mid layer in a multi-layer bituminous membrane system.

**ARDEX WPM 185**
4.5kg/m² Mineral Coated APP Bitumen Membrane (Shelterbit Mineral Membrane)
A 4.0mm (nominal) thick combined reinforced (Polyester & Fibreglass) APP modified bituminous torch applied membrane with a mineral slate finish. Designed as a cap layer in exposed membrane systems. Available in grey only.

**ARDEX WPM 188**
3mm Garden Tanking SBS Bitumen Membrane (Shelterbit Garden Membrane)
A 3mm (nominal) thick combined reinforced (Polyester & Fibreglass) membrane, consisting of a specially formulated bituminous compound of distilled asphalt modified with selected high grade visco-elastic polymers and reinforced with a combined reinforcement (Polyester and Fibreglass).

**PRIMERS, ADHESIVES AND SEALANTS**

**ARDEX WPM 240**
A solvent based bitumen modified primer to be used to seal and prepare the substrates prior to the installation of torch applied (Shelterbit) membranes. Colour: Black Liquid.

**ARDEX WA 98**
Specially formulated adhesive for ARDEX WPM 116, for full or partial adhesion to suitable substrate. Colour: Amber Liquid.

**ARDEX BITUMINOUS ROOF SEALANT**
ARDEX Bituminous Roof Sealant is a one component, easy-to-use, UV-stable sealant with bitumen-based solvents. It is used for gluing and sealing on roofs.
## ARDEX MODIFIED BITUMEN & SBS TORCH-ON MEMBRANES

<table>
<thead>
<tr>
<th>TECHNICAL PROPERTY</th>
<th>ARDEX BASE SHEETS</th>
<th>SBS SELF ADHESIVE SHEETS</th>
<th>APP MEMBRANE SHEETS</th>
<th>SBS MEMBRANE</th>
<th>APP MEMBRANE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type</td>
<td>ARDEX WPM 114</td>
<td>ARDEX SPH 116</td>
<td>ARDEX WPM 117</td>
<td>ARDEX WPM 150</td>
<td>ARDEX WPM 185</td>
</tr>
<tr>
<td>Reinforcement</td>
<td>ARDEX VENTED BASE SHEET</td>
<td>ARDEX SHELTERBIT FIBRE BACK BASE SHEET</td>
<td>ARDEX SHELTERSTICK SELF-ADHESIVE MEMBRANE</td>
<td>ARDEX SHELTERBIT 3/150</td>
<td>ARDEX SHELTERBIT MINERAL</td>
</tr>
<tr>
<td>Thickness/Weight</td>
<td>4.0mm</td>
<td>2.7mm</td>
<td>2.0mm</td>
<td>3.0mm</td>
<td>4.5kg/m²</td>
</tr>
<tr>
<td>Top Surface</td>
<td>Sanded polymer</td>
<td>Torch Film</td>
<td>Torch Film</td>
<td>Sand</td>
<td>Slate Chip</td>
</tr>
<tr>
<td>Bottom Surface</td>
<td>Thermo-Adhesive strips</td>
<td>Polyester Fleece</td>
<td>Self-Adhesive</td>
<td>Torch Film</td>
<td>Torch Film</td>
</tr>
<tr>
<td>Tear Resistance</td>
<td>150 N</td>
<td>100 N</td>
<td>130 N</td>
<td>130 N</td>
<td>130 N</td>
</tr>
<tr>
<td>Elongation</td>
<td>35%</td>
<td>60%</td>
<td>35%</td>
<td>45%</td>
<td>40%</td>
</tr>
<tr>
<td>Heat Stability</td>
<td>100°C</td>
<td>110°C</td>
<td>110°C</td>
<td>110°C</td>
<td>110°C</td>
</tr>
<tr>
<td>Cold Flexibility</td>
<td>–10°C</td>
<td>–5°C</td>
<td>–10°C</td>
<td>–5°C</td>
<td>–20°C</td>
</tr>
<tr>
<td>Roll Size</td>
<td>1x10m</td>
<td>1x10m</td>
<td>1x15m</td>
<td>1x10m</td>
<td>1x8m</td>
</tr>
<tr>
<td>Roll Weight (approx.)</td>
<td>45kg</td>
<td>30kg</td>
<td>35kg</td>
<td>35kg</td>
<td>40kg</td>
</tr>
</tbody>
</table>

- **Type**
  - APP with SBS Strips
  - APP
  - SBS
- **Reinforcement**
  - Polyester/Glass (180g/m²)
  - Fibreglass (50g/m²) & Polyester (150g/m²)
- **Thickness/Weight**
  - 4.0mm
  - 2.7mm
  - 2.0mm
  - 3.0mm
  - 4.5kg/m²
- **Top Surface**
  - Sanded polymer
  - Torch Film
  - Torch Film
  - Sand
  - Slate Chip
  - Torch Film
- **Bottom Surface**
  - Thermo-Adhesive strips
  - Polyester Fleece
  - Self-Adhesive
  - Torch Film
  - Torch Film
  - Torch Film
- **Tear Resistance**
  - 150 N
  - 100 N
  - 130 N
  - 130 N
  - 130 N
- **Elongation**
  - 35%
  - 60%
  - 35%
  - 45%
  - 40%
- **Heat Stability**
  - 100°C
  - 110°C
  - 110°C
  - 110°C
  - 90°C
- **Cold Flexibility**
  - –10°C
  - –5°C
  - –10°C
  - –5°C
  - –20°C
- **Roll Size**
  - 1x10m
  - 1x10m
  - 1x15m
  - 1x10m
  - 1x8m
  - 1x10m
- **Roll Weight (approx.)**
  - 45kg
  - 30kg
  - 35kg
  - 35kg
  - 40kg
INSTALLATION DETAILS

This recommendation has been prepared for the general installation of an ARDEX Torch Applied Membrane System. Each project can have its own special conditions and idiosyncrasies that may require special conditions and/or processes of installation. Confirmation of the suitability for this recommendation in relation to any project should be sought from the ARDEX Representative prior to specifying.

The application of ARDEX torch applied membranes should be carried out by an Approved Installer of ARDEX waterproofing membranes. Installation shall be strictly in accordance with the Manufacturer’s recommendations. All materials used in conjunction with the ARDEX Torch Applied Membrane Systems must be approved by ARDEX.

STORAGE AND HANDLING
Rolls of membrane delivered to the site are to be stored in a covered area or be covered with a protective sheet until required for installation. Rolls are to be stored vertically taking care to prevent damage to the ends. Rolls are not to be dropped or mishandled.

SURFACE PREPARATION
Surfaces to which the ARDEX Torch Applied Membrane Systems are installed must be properly prepared prior to installation. All surfaces must be clean, dry, smooth, free of sharp edges, fines, loose or foreign materials, oil, grease and other materials which may damage the membrane. Concrete must be 28 days old, screeds must be 7 days and substrate must be dry.

Sand/cement fillets are recommended at all change in direction of substrate (from horizontal to vertical).

Plywood substrates should be structurally sound, fixed with 3mm gaps between all sheets, and countersunk screws fixed to plywood manufacturer’s specifications. **Staples and nails are not suitable under any circumstances.** Wooden substrates with right angled internal corners should have a timber triangular fillet 50mm x 50mm screwed to each corner. External corners should be rounded to reduce wear on edges and allow an improved finish.

Commencement of laying shall be taken as acceptance of the substrate by the Applicator.

PRIMING
Prior to the application of ARDEX Torch Applied Membranes, all prepared surfaces shall be primed with ARDEX WPM 240 primer at a rate of 5-6m² per litre and allowed to dry.

Coverage of primer may vary depending on the density or porosity of the substrate. Primer may be applied by brush, roller or spray equipment. Coverage must be uniform.

Note that priming is not required for the installation of ARDEX WPM 116 Base Sheets.

Refer to ARDEX WA 98 Adhesive and approximate coverage (2.5m² per/L – dependent on substrate porosity) of the WA 98 etc.

MEMBRANE SYSTEM COMBINATION
ARDEX Torch Applied Membranes can be used in various combinations, refer to ARDEX Torch Applied Membrane System Recommendation in this section for your individual waterproofing requirement.

TESTING
After installation, it is recommended, where possible, a water test be carried out for a minimum of 24 hours.

PROTECTION
An ARDEX protection board must be used prior to backfilling or when topping is required.

SAFETY PRECAUTIONS
ARDEX Torch Applied Membranes are non-dangerous goods. However, during installation, exercise extreme caution when working with open flame.

Do not use open flame directly on highly combustible material. Follow all local fire codes.
ARDEX Torch Applied waterproofing membranes can be used in a wide variety of combinations to suit the requirements of a specific waterproofing application. The following table outlines most of the acceptable alternatives for a range of common situations encountered. Please consult with your local ARDEX representative to select the most appropriate solution.

**WATERPROOFING SYSTEMS**

<table>
<thead>
<tr>
<th>ROOFS &amp; DECKS EXPOSED</th>
<th>SYSTEM/MATERIALS WARRANTY</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 Layer Bitumen – Mineral Finish</td>
<td>WPM 240 / WPM 117 / WPM 150 / WPM 185</td>
</tr>
<tr>
<td>2 Layer Bitumen – Mineral Finish</td>
<td>WPM 240 / WPM 114 / WPM 185</td>
</tr>
<tr>
<td>2 Layer Bitumen – Mineral Finish</td>
<td>WPM 240 / WPM 150 or WPM 444 / WPM 185</td>
</tr>
<tr>
<td>3 Layer Vented Bitumen – Mineral Finish</td>
<td>WA 98 / WPM 116 / WPM 150 / WPM 185</td>
</tr>
<tr>
<td>2 Layer Vented Bitumen – Mineral Finish</td>
<td>WA 98 / WPM 116 / WPM 185</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ROOFS &amp; DECKS PROTECTED</th>
<th>SYSTEM/MATERIALS WARRANTY</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 Layer Bitumen</td>
<td>WPM 240 / WPM 150 / WPM 444</td>
</tr>
<tr>
<td>2 Layer Bitumen</td>
<td>WPM 240 / WPM 117 / WPM 188</td>
</tr>
<tr>
<td>2 Layer Bitumen</td>
<td>WPM 240 / WPM 150 / WPM 150</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ROOFS &amp; DECKS LANDSCAPED</th>
<th>SYSTEM/MATERIALS WARRANTY</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 Layer Bitumen with Root Inhibitor</td>
<td>WPM 240 / WPM 188 / WPM 188</td>
</tr>
<tr>
<td>2 Layer Bitumen with Root Inhibitor</td>
<td>WPM 240 / WPM 117 / WPM 188</td>
</tr>
<tr>
<td>1 Layer Bitumen with Root Inhibitor</td>
<td>WPM 240 / WPM 188</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>BELOW GRADE POSITIVE SIDE</th>
<th>SYSTEM/MATERIALS WARRANTY</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 Layer Bitumen – Root Growth Inhibited</td>
<td>WPM 240 / WPM 188 / WPM 188</td>
</tr>
<tr>
<td>2 Layer Bitumen with Root Inhibitor</td>
<td>WPM 240 / WPM 117 / WPM 188</td>
</tr>
<tr>
<td>2 Layer Bitumen – Torch Film</td>
<td>WPM 240 / WPM 150 / WPM 150 or WPM 444</td>
</tr>
<tr>
<td>1 Layer SBS Bitumen – Sand Finish</td>
<td>WPM 240 / WPM 188</td>
</tr>
<tr>
<td>2 Layer Self Adhesive SBS Bitumen</td>
<td>WPM 240 / WPM 3000X / WPM 3000X</td>
</tr>
</tbody>
</table>
INSTALLATION DETAILS

ARDEX TORCH APPLIED MEMBRANE

APPLICATION DETAILS

TWO PLIES SYSTEM

STAGGERED LAYOUT

FOR FINISH MEMBRANE

1 – First layer
2 – Second layer
3 – Third layer

SHEET LAYOUT

Application Details Two Plies System
Staggered Layout for Finish Membrane

TYPICAL TURN UP DETAILS –

EXPOSED MEMBRANE

TYPICAL TURN UP DETAILS –

NON-EXPOSED MEMBRANE

Three Layer System

Two Layer System

Single Layer System

PRESSURE SEAL FLASHING

Flexible Sealant
ARDEX Pressure Seal
Mechanical Fixing
Cap Layer Sheet
Base Layer Sheet
CUT IN FLASHING

Cap Layer
Cut into Wall

Cap Layer Sheet
Base Layer Sheet

LIQUID MEMBRANE FLASHING

ARDEX WPM 330 or
ARDEX WPM 310
Facade Coating

ARDEX WPM 179 with
Deckweb reinforcement

Bitumen Sheet
Membrane System

Coving

CAPPING DETAIL

Capping
Sand cement fillet
Membrane
300mm base sheet

Concrete

CONSTRUCTION JOINT

Shelterbit top layer fully bonded except over 250mm strip

Concrete slab

250mm Shelterbit strip stuck to one side of the joint only

Expansion joint

EXPANSION JOINT

Shelterbit top layer fully bonded except over 300mm underflashings

Fire resistant product

Concrete slab

300mm Shelterbit underflashings fully bonded to each side of the joint

Expansion joint

ALTERNATE EXPANSION JOINT

CAPPING
Sealant
Bituminous fibreboard
Sand cement fillet
Ballast
Slipsheet
Insulation
Membrane
Screed
Concrete slab

GARDEN BED/PLANTER BOX DETAIL

ARDEX WPM 330 or
ARDEX WPM 310
Facade Coating

See Liquid Flashing Detail

ARDEX
WPM 150

ARDEX Protection Board

ARDEX WPM 188
Garden Membrane

Drainage Cell

Capping

ARDEX WPM 150

Capping

Coving
MECHANICAL FIXING OVER FOAM
2 LAYER SYSTEM

ARDEX WPM 150/185
ARDEX WPM 116
Fibre Base Sheet
Foil
Insulation

Overlapping ARDEX WPM 116 Fibre Base Sheet

ROOF EDGE – MECHANICALLY FIXED

Mechanical fixing
Metal capping
Fillet
Shelterbit mineral
Substrate
WPM 116 Basesheet

MECHANICAL FIXING OVER FOAM
3 LAYER SYSTEM

ARDEX WPM 150/185
ARDEX WPM 150
Fibre Base Sheet
Foil
Insulation

Overlapping ARDEX WPM 116 Fibre Base Sheet

ROOF EDGE ON LOAD BEARING WALL

Metal Flashing (optional)
Mastic/Sealant
ARDEX Torch Applied Membrane Flashing turned into chase
Torched to Base Sheet
Substrate
ARDEX Torch Applied Membrane Base Sheet

TYPICAL OUTLET DETAIL

Membrane
Grate
Membrane underflashing
Concrete
Outlet insert
INSTALLATION DETAILS

SKYLIGHT FLASHING

- Cover flashing extends under skylight moulding
- Membrane base sheet to substrate

TYPICAL IRMA ROOF DETAIL

- Sealant
- Pressure Seal Flashing
- Sand/Cement Fillet
- Ballast
- Filter Fabric
- Insulation
- Membrane
- Membrane base sheet

IRMA ROOF OVERFLOW

- Wall or Parapet
- Metal Flashing
- Gravel Retainer
- Dress Membrane into Overflow Pipe
- Ballast
- Filter Fabric
- Insulation
- Membrane
- Concrete
- Overflow

IRMA ROOF OUTLET & GRAVEL RETAINER

- Grate
- Ballast
- Screed
- Filter Fabric
- Insulation
- Membrane
- Concrete
- Outlet Insert
Below Grade Detail

Preferred Option

**Important Note:**
Drainage core should always be positioned lower than the horizontal membrane.
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Web: www.ardexaustralia.com

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