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# ARDEX Substrate Specifications

## Substrate Specifications for Membrane Applications

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For the following substrates;

Plywood

Laminex Strandsarking

Concrete

ARDEX PolyIso Board

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### PLYWOOD SPECIFICATION

A minimum of 17mm complying with AS/NZS 2269

CD Structural Grade plywood with the sanded C face upwards, and H3 with Waterborne treatment.

Substrates must be dry when an ARDEX waterproofing membrane is applied. The plywood and the timber substructure shall have a maximum moisture content of 18% when an ARDEX waterproofing membrane is adhered.

Plywood panels shall be laid with staggered joints (brick bond), the edge of sheets shall be supported with dwangs or framing.

Plywood shall be laid with the face grain at right angles to the supports. A 20mm triangular fillet shall be used at the base of any 90° upstand. External edges shall be chamfered with a minimum radius of 5mm.

Plywood shall be fixed with 10 gauge x 50mm stainless steel countersunk head screws with 3mm gaps between all sheets, at 150mm centres on edges, and 200mm in the body of the sheets.

All joints in the plywood and junctions of plywood with other materials must have a 25mm release tape applied before application of the membrane.

### PLYWOOD QUALITY

Plywood to be installed in accordance with the plywood manufacturer's recommendation to provide a suitable surface for membrane.

Laying on plywood with face checking should be avoided and surface corrected.

NOTE: The use of LOSP (Light Organic Solvent Preservative) treated plywood must NOT be used under ARDEX waterproofing membranes in any circumstances or conditions.

Note: The recommended span of support in the NZBC E2 Acceptable solution is 400mm for 17mm Plywood. Specific design may allow 17.5mm plywood or greater to be laid on 400mm purlins with nogs or dwangs at 600mm or even 1200mm centres.

### STRANDSARKING SPECIFICATION

Strandsarking sheets are 3.60m x 800mm x 16.3mm.

Strandsarking sheets shall be laid with staggered joints (brick bond). The edges of all sheets shall be supported with dwangs or framing. The maximum allowed spacing for supporting roof framing is 400mm centres.

When a roof has a pitch below 2 degrees it is recommended to use Strandfloor H3.1.

Strandsarking sheets must be butt jointed with an ARDEX release tape used over the join.

Fixings shall be 50mm x 4.8mm diameter stainless steel screws fixed at 150mm centres.

If fixings are bought into 100mm centres on the intermediate supports this will allow use in wind zones very high and extra high without any further treatment. Fixings must be positioned no closer than 10mm from the sheet edges.

### CONCRETE SPECIFICATION

Ensure new concrete substrate has been allowed to cure for at least 28 days.

Ensure curing compounds and sealers are compatible with ARDEX membrane components before installation.

Prepare surface, including vacuum cleaning and acid etching as necessary to leave smooth, clean, dry and free of sharp edges, fines, loose or foreign materials, oil, grease or other materials which might damage the membrane .

External edges shall be radiused a minimum of 5mm.

Fillets (minimum of 20mm) shall be installed where required. If using timber the use of LOSP treatment shall be avoided.

Consult with ARDEX for a reduction in the curing period.

For further substrate types please consult ARDEX Technical Department.

### ARDEX POLYISO BOARD SPECIFICATION

Packaging, storage and precautions

1. Tuff-wrap packaging provides a durable protective covering to the top and four sides of the bundle, as well as a portion of the bottom board.
2. Keep insulation dry at all times. Insulation bundles need to be elevated above the water line to prevent moisture infiltration from the bottom side.
3. Combustible. Refer to SDS for more information.
4. Before insulation is placed on the roof deck, the substrate must be clean, dry, free of debris, water, ice or snow, and suitably prepared by removing all defects that might affect the quality of the application. Any unusual deck conditions or defects should be brought to the architect or building owner's attention prior to installation.
5. No more insulation shall be installed than can be covered with membrane and completed before the end of each day's work or before the onset of inclement weather.
6. ARDEX Polyiso is non-structural, non-load-bearing material. The finished roof assembly should be protected from excessive roof traffic with proper walkway materials.

ARDEX Polyiso insulation boards must be installed using fasteners and plates, hot bitumen or ARDEX approved insulation adhesives. Insulation shall be neatly fitted to all roof perimeters, penetrations and abutments. The ARDEX Polyiso board is suitable for adhered, ballasted and mechanically fastened single-ply roofing systems.

### SUBSTRATE VENTILATION

Substrate ventilation should be used to release moisture trapped under the membrane on concrete surfaces. Substrate ventilators are used in conjunction with vent tapes. Tapes should be laid in a grid pattern spaced at 600mm venting to the roof perimeter.

On plywood substrates ventilators are used at the junction of the ply. Ventilators are not required in most applications.

One way substrate ventilators prevent moisture vapour build up and if required can be installed every 90 square metres. Not designed to ventilate roof cavities.

For cavity ventilation - seek advice from an ARDEX Representative.

### ROOF VENTILATION

The most important precaution to observe with low slope roofs is that no construction moisture is enclosed. Low slope or flat roof structures are generally slow drying because of their impermeable cladding. All timbers should be below 18% moisture before being enclosed.

No amount of ventilation will cope with moisture problems created by drying timbers.

If there is a reason to believe that there is moisture trapped in the roof structure ARDEX can provide our standard one way substrate ventilators or our lo rise one way ventilators to provide a better visual appearance.

Soffit ventilation is the most effective way to provide effective roof cavity ventilation. Careful placement of the soffit ventilation to avoid gutters etc., will provide a natural airflow as well as cooling to a low slope membrane clad roof.

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This document was issued in August 2018 and is valid for 3 years, in some instances a newer version may be published. Always refer to [www.ardex.co.nz](http://www.ardex.co.nz) for the latest technical data from ARDEX New Zealand Ltd