



# Aquaproof Dual

**Two Component HDPE / Bentonite Waterproofing Membrane**

## Features

- ▶ **HDPE / Bentonite Membrane**
- ▶ **Dual Layer**
- ▶ **Green Concrete**
- ▶ **Self-Sealing**
- ▶ **Below Ground**
- ▶ **Blindside Waterproofing**
- ▶ **Lift Pits**
- ▶ **Lighter Roll Weight**
- ▶ **Virgin HDPE**
- ▶ **Easy to Mould**
- ▶ **White Reflective HDPE Layer**

[www.pasco.net.au](http://www.pasco.net.au)

## Product Description

**Aquaproof Dual** is a multi-layer waterproofing membrane consisting of virgin high-density polyethylene, bentonite and a protective layer of non-woven polypropylene. The tough HDPE membrane provides the primary waterproofing envelope while the expandable bentonite clay provides the self-sealing reassurance under hydrostatic conditions. It can expand up to 10 times its original thickness to prevent water that may make it past the HDPE layer, providing dual protection. **Aquaproof Dual** consists of a white reflective HDPE layer reducing product creep and distortion during warmer conditions. The virgin HDPE is easier to mould around internal and external corners making it easier to use. The polypropylene fabric protects the bentonite from exposure to inclement weather and direct installation of shotcrete.

## Basic Uses

**Aquaproof Dual** waterproofing membrane is used on structures below ground and is especially effective where the waterproofing is applied before the walls or floor are poured. **Aquaproof Dual** is effective for blindside installation such as lagging, under floors and elevator pits or standard installations such as backfilled wall, decks/tunnels. It has outstanding performance when used under conditions of high water head.

## Installation

For complete installation guidelines, please ask your Pasco Technical Representative or visit our website for details.

## Preparation

**Aquaproof Dual** requires firm background to maintain 121kg per m<sup>2</sup> compression. Fill voids or spaces more than 25mm with grout and/or plywood. Remove nails and sharp protrusions over 6.4mm. Installation may proceed on green concrete with damp or frozen surfaces in all weather but standing water must be removed. Cover lagging boards and soldier piles with suggested drainage layer. Complete installation at penetrations (utility and/or tiebacks) as described by the manufacturer.

## Backfilled Wall

**Aquaproof Dual** rolls are installed, either vertically or horizontally with the bentonite side towards the concrete structure, by nailing across the top every 50mm, lapping seams at least 75mm. Overlap seams as shingles. Close the seams with nails at 900mm centres and Seam Tape.

## Lagging

**Aquaproof Dual** rolls are installed, either vertically or horizontally with the bentonite side towards the concrete structure, by nailing across the top every 50mm, lapping seams at least 75mm. Overlap seams as shingles. Close the seams with nails at 600mm centres and box staple between.

**\*Note: Bentonite facing installer for Shotcrete applications.**



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## Under Slab

**Aquaproof Dual** waterproofing system will provide a waterproof seal and a vapor barrier. Roll out membrane bentonite-side down on the blinding slab or over compacted earth with 150micron HDPE. Overlap and stagger seams at least 75mm. Fasten with staples or nails. Tape seams. Tie in the floor to other surfaces as described by the manufacturer. Protect area from flooding prior to concrete pour.

## Protection

**Aquaproof Dual** waterproofing system does not require an additional protection course for most applications. For special applications, contact your Pasco Technical Representative for details.

## Packaging

Roll Sizes: 1.1m x 6.6m or 7.26m<sup>2</sup> standard rolls. Customised lengths are available by SPECIAL ORDER.

## Storage

Protect from moisture. Store on skid or pallet, cover with polyethylene or tarp.

## Limitations

**Aquaproof Dual** installation must be confined by a minimum of 121kg per m<sup>2</sup>. Keep **Aquaproof Dual** dry, protect from exposure to the elements.

**Aquaproof Dual** is resistant to many common contaminants in soil. Please contact Pasco for compatibility testing.

## Typical Physical Properties

| Physical Property                                                | Test Method                        | Value                                                                                                                |
|------------------------------------------------------------------|------------------------------------|----------------------------------------------------------------------------------------------------------------------|
| Membrane                                                         |                                    | Green 20-mil virgin resin HDPE                                                                                       |
| Bentonite                                                        |                                    | Sodium Montmorillonite                                                                                               |
| Weight                                                           |                                    | 4.89 kg/m <sup>2</sup>                                                                                               |
| Puncture Resistance                                              | ASTM E154-88 Section 10            | 170 lbs. (77.3 kg)                                                                                                   |
| Tensile Strength: Membrane                                       | ASTM D638                          | MD: 3660 psi (25.2 MPa)<br>TD: 3650 psi (25.2 MPa)                                                                   |
| % Elongation at break-                                           | ASTM D638 Type I dogbone           | >700%                                                                                                                |
| Resistance to hydrostatic head                                   | ASTM 5385<br>ASTM D751 Procedure A | 70m of water<br>52.9m of water                                                                                       |
| Vapour Water Permeability:                                       | ASTM E96-80                        | 0.53 x 10 <sup>-13</sup> cm/sec<br>0.84 ng/ m <sup>2</sup> .s.Pa<br>0.033 Perms (grains/ft <sup>2</sup> * hr * inHg) |
| Resistance to micro-organisms:<br>(bacteria, fungi, mold, yeast) | ASTM E154-88 Section 13            | Unaffected                                                                                                           |
| Toxicity:                                                        |                                    | Low. Do not ingest                                                                                                   |
| Staining:                                                        |                                    | No known incompatibilities                                                                                           |
| Chemical Resistance:                                             |                                    | Extremely high resistance to chemicals & gases. Contact manufacturer for specific information.                       |
| Freeze/thaw cycles:                                              |                                    | No effect before or after installation.                                                                              |
| Installation Temperatures                                        | ASTM D746, ASTM D1238              | -40°C to 65.5°C                                                                                                      |
| Life Expectancy:                                                 |                                    | Both high-density polyethylene and bentonite have life expectancy measurable in thousands-of-years.                  |

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