

Installation Of Delta Dualproof, Pre-Applied, Fully Bonded Membrane

DualProof

DualProof is a pre-applied, fully, and permanently bonded, composite sheet waterproofing membrane, consisting of a special non-woven fleece co-extruded with a highly flexible PVC membrane designed for use with structural reinforced concrete. When "fresh" concrete is cast onto DualProof membrane a permanent mechanical bond is created with the fleece.

Substrate Preparation

DualProof membrane should be installed on a flat surface that is free from sharp objects. Voids that are greater than 12mm should be repaired.

Lean-mix Concrete or compacted sands are suitable base substrates.

Detailing of all critical 'points' (including up-stands, penetrations, ground anchors, pile caps, etc.), must be completed before installing the membrane.

INSTALLATION ON HORIZONTAL SUBSTRATES

Formwork Stop-Ends

DualProof membrane should be placed onto the prepared substrate with the fleece facing towards where the concrete is to be poured. Install the first length of DualProof membrane flush with the top of the formwork stop-end. Secure the membrane using nail-fixings at 500mm centres along the top of the formwork stop-end.

Retaining Walls

Install the first length of DualProof membrane in order that one end extends up the retaining wall at least 200mm higher than ground level (consideration should be taken to the thickness of the ground floor slab).

Secure the DualProof membrane to the retaining wall using nail-fixings at 500mm centres.

Detailing of Overlaps

Using a clean dry cloth, clean the face of the selvedge edge on the roll.

Position the subsequent roll in order that the edge-selvedge on the previous roll will be overlapped by a minimum of 50mm. All overlaps must be detailed with either Delta Double-Sided Tape, Heat welded or DualProof Polymer Adhesive (CEM 805) and compressed using a wooden roller.

The ends of the DualProof membrane should be staggered by a minimum of 300mm, overlap the membrane by 50mm and detail using either Delta Sealing Tape, DualProof Polymer adhesive (CEM 805) or heat weld.



Reinforcing strips of DualProof membrane should be used at both internal and external corners, these reinforcing strips may be formed using a patch of DualProof membrane and bonded with Delta Double-Sided Tape or DualProof Polymer Adhesive (CEM 805) using the same method used with overlaps.

Accurate folding of the DualProof membrane to create internal and external corners maybe required. Practicing first with a piece of paper or offcut is recommended.

Please refer to Delta's website Technical Drawings - DualProof (Pre-Applied Membranes) - Delta Membranes for Technical Drawings.

Placement of Reinforcement

- Steel reinforcement should be placed as soon as possible after the DualProof membrane is installed.
- Inspect the installation of DualProof membrane before installation of steel reinforcement.
- Do not use reinforcement carriers which have sharp ends.
- Flat cement-based carriers should be used.
- Where possible place the carriers along the overlaps.

Delay in Placement of the Reinforcement/Concrete

Where there will be a delay in the placing of the reinforcement or the concrete, extend the DualProof membrane by at least 1m past the termination point of the reinforcement/concrete, fold-back the extended DualProof membrane and cover with plastic to ensure it is kept free from damage, clean and dry.

Cleaning DualProof Membrane

If required, the DualProof membrane may be brushed clean using clean cold water. Please Note: the surface of the installed DualProof membrane should be free from standing water before placement of concrete.

Damages

DualProof membrane should be inspected for damages prior to the placement of the concrete. In the unlikely event of damages being found, these must be repaired using an oversize patch of the DualProof membrane, which must be sealed with Delta Double-Sided Tape or DualProof Polymer Adhesive (CEM 805) and compressed using a wooden roller.

Note: repair patches should always extend beyond the damaged area.



INSTALLATION ON VERTICAL SUBSTRATES

Preparation

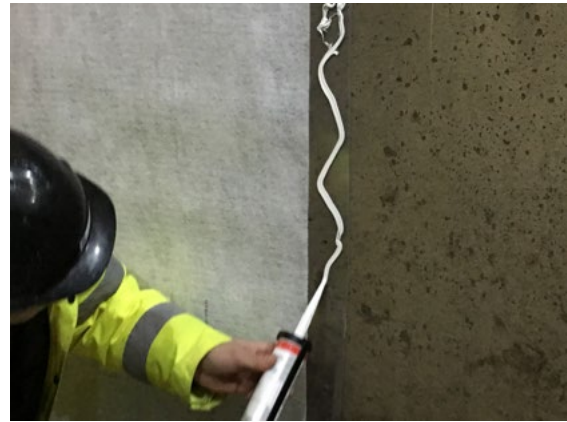
All substrates to which DualProof membrane is to be installed should be flat and free from sharp objects and voids that are greater than 12mm.

All service penetrations (service ducts, pipe penetrations, etc.) must be detailed prior to the placement of the DualProof membrane. DualProof membrane should be placed onto the properly prepared substrates with the fleece facing towards the concrete to be poured. DualProof membrane should be installed on properly prepared vertical surfaces by cutting the membrane into the required lengths (when cutting DualProof membrane use a retractable craft knife or sharp shears, along with suitable safety wear), secure the DualProof membrane at the top using nail-fixings, and allowing the DualProof membrane to extend down over the previously installed under-slab membrane by at least 100mm.

If required additional nail-fixings may be used, placed at 500mm centres along the clear selvedge where they will be covered by subsequent rolls, should any nail-fixings be exposed these should be covered with DualProof Polymer Adhesive (CEM 805), or alternatively a patch of DualProof membrane, bonded with either Delta Double-Sided Tape or DualProof Polymer Adhesive (CEM 805). Compress the patch area using a wooden roller to ensure complete adhesion. Using a clean dry cloth, clean the face of the selvedge on the installed DualProof membrane. Position the subsequent DualProof membrane in order, the clean edge-selvedge on the installed membrane will be overlapped by a minimum of 50mm. All overlaps must be sealed using Delta Double-Sided Tape or DualProof Polymer Adhesive (CEM 805).

Using a wooden roller, compress overlaps to ensure complete adhesion.

Please Note: DualProof must only be used as "pre-applied" waterproofing membrane.



INSTALLATION ON REMOVABLE FORMWORK

Formwork should be free from voids or damages that are greater than 12mm. Please refer to Delta's Technical Team for advice and guidance on remedial approaches to voids.

Using a suitable retractable craft knife, sharp shears or cutting tool along with suitable safety wear, cut the DualProof membrane to a required length.

DualProof membrane should be placed against the formwork with the fleece facing towards you/towards the later placed fresh concrete.

Place the first strip of membrane against the formwork. Secure the DualProof membrane to the top of the formwork using nail-fixings, fixed at 300mm centres, additional nail-fixings placed at 500mm centres along the edge of the membrane may be used if required. Ensure the DualProof membrane is laid flat against the formwork. Using a clean dry cloth wipe the face of the selvedge on the installed DualProof membrane. Position the subsequent length of DualProof membrane, ensuring the edge-selvedge on the previous installed DualProof membrane will be overlapped by a minimum of 50mm, the overlaps must be sealed using Delta Double-Sided Tape or DualProof Polymer Adhesive (CEM 805) and compressed using a wooden roller.

The membrane should be inspected for damages prior to installing the formwork. In the unlikely event of damages being found these must be repaired using an oversized patch of DualProof membrane bonded with Delta Double-Sided Tape or DualProof Polymer Adhesive (CEM 805) and compacted using a wooden roller.

The fresh concrete must achieve a minimum compressive strength of 10Kn/mm² before the formwork is removed.

All tie-holes should be filled with Koster KB Flex 200 and Koster Repair Mortar Plus "non-shrink" mortar and covered with an oversized patch of DualProof membrane sealed with Delta Double-Sided Tape or DualProof Polymer Adhesive (CEM 805) and compressed using a wooden roller.

Should the ends of any nail-fixings be protruding through the DualProof membrane, these should be cut off and the area covered with DualProof Polymer Adhesive (CEM 805), or alternatively using an oversized patch of DualProof membrane sealed with Delta Double-Sided Tape or DualProof Polymer Adhesive (CEM 805). The patched area should be compressed using a wooden roller.

Note: repair patches should always extend beyond the damaged area.



BACKFILLING

The walls should be inspected for damages prior to backfilling, should there be any damages, honeycombing, etc., these areas should be repaired and detailed with an oversize patch of DualProof membrane bonded with Delta Double-Sided Tape or DualProof Polymer Adhesive (CEM 805), and compressed using a wooden roller.

There is no requirement for the use of protection boards with DualProof membrane, provided care is taken when backfilling. Ensure backfill is clean filling and free from sharp objects or construction debris. Stones or filling that are larger than 50mm should not be used.

As a general guide, ensure backfill is compacted every 300mm as defined by ASTM 1557.

Care should be taken when backfilling to prevent damage to the DualProof waterproofing membrane.

Please refer to Delta's website for Technical Drawings Technical Drawings - DualProof (Pre-Applied Membranes) - Delta Membranes or for site specific assistance, please contact Delta's Technical Team on 01992 523 523 or email info@deltamembranes.com.

