

Technical Data Sheet

ActiTex



DESCRIPTION

ActiTex is an active waterproofing membrane of high strength geotextiles encapsulating a layer of sodium Bentonite (@ 4.88kg/m²). Using a non-woven & woven geotextile which are needle-punched together to provide a robust and flexible delivery system, the layer of sodium bentonite is uniquely pre-confined within a strong yet pliable membrane. ActiTex works by forming a low permeability barrier when in contact with water. Once wetted unconfined sodium bentonite can swell up to 15 times its dry volume. ActiTex is designed to allow small worms of sodium bentonite to pass through into the concrete sealing any small cracks caused by ground settlement or concrete shrinkage. The geotextile fibres are encapsulated into the surface of newly poured concrete forming a tenacious mechanical bond, eliminating the risk of water tracking. The swelling abilities allow ActiTex to self heal small tears or penetrations. The product is very robust, flexible, and can be installed in all weather conditions. Application is under slab, around foundations, the back of retaining walls, and it can be applied to property-line construction, where temporary works are used to form the basement excavation (secant piling, contiguous piling, steel sheet piling, diaphragm walling, etc.). Laps are typically 100mm and are self-sealing. There are no requirements for additional products in the laps, which are automatically sealed thanks to bentonite extrusion from the woven surface and cut ends of the membrane. Whilst free-swell of the membrane is restricted due to the needle-punching, in a confined state (including fully peel-adhered ActiTex to concrete), swelling bentonite is forced through the weave and cut ends to provide waterproofing continuity at the concrete interface.

PACKAGING & SYSTEM ANCILLARIES

ActiTex - 1.15m x 5.0m rolls, (@ 33kg per roll).
35 rolls per pallet (201.25m² 1,155kg)
For alternate sizes please refer to GDA-UK.
Ancillaries - ActiStop, ActiSeal, ActiFill, ActiFix, ActiMesh, Acti100, Acti200, Acti300, ActiDrain

STORAGE

All products should be stored under cover in dry conditions.

HEALTH & SAFETY

Always refer to Materials Safety Data Sheets before use or consult with manufacturer.

TYPICAL USES

- Below ground concrete structures – foundations, slabs, walls
- Property line construction – secant / contig piling, steel sheet piling, permanent shuttering, stabilised earth retention walls, king post walls, etc.
- Slabs on void-forming systems, compacted ground, insulation, etc.
- Tunnels and earth covered roofs
- Structures under continuous or intermittent hydrostatic pressure.

ADVANTAGES

- Active self healing properties.
- Mechanical bond, eliminating water tracking.
- Pliable – follows irregular contours
- Robust membrane
- Ease of repair.
- All weather application, mechanical fix
- Mechanical fixing – no primers or adhesives
- Reproducible swell after wet-dry cycle.
- Unaffected by freeze/thaw cycling.
- VOC free

LIMITATIONS

- ActiTex is designed to be used below ground
- ActiTex is designed for minimum 175mm reinforced concrete
- In conditions where ground contamination exists, please consult manufacturer.

TECHNICAL NOTE

This data sheet is for general guidance purposes only and may not be appropriate for all conditions. Conditions of use are beyond our control and we cannot warrant the results obtained. The information given is correct at the time of issue. However, we are committed to continually improving products and reserve the right to change product specification. For latest information contact GDA-UK.

APPLICATION

Installation should be carried out by competent personnel under the guidance of GDA and in accordance with manufacturers installation guidelines and/or project specific detailing. Use appropriate ancillary products as advised to form complete waterproofing system. Install ActiStop in all applicable construction joints & around penetrations.

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Schedule waterproofing application to allow prompt fixing of reinforcement & concrete placement or backfill to ensure waterproofing is exposed for only limited periods, particularly in inclement weather conditions. Whilst ActiTex can be installed in all inclement weather conditions, foot traffic on hydrated membrane should be minimised.

For bespoke details or project specific applications not contained herein, please contact GDA-UK

Concrete slabs / foundations

ActiTex is recommended for use under structural reinforced concrete slabs 175mm thick or greater, on compacted substrate, concrete blinding, insulation, or void-forming systems.

Substrate surfaces can be gradually undulating, but should be free of voids or sharp protrusions. Voids can be filled with ActiSeal or with ActiFill.

Install ActiTex around all foundations (ground beams, pile caps, pads, etc.).

Install ActiTex with the dark grey woven geotextile facing the concrete to be placed / waterproofed.

Overlap all adjoining edges a minimum of 100mm and stagger roll ends a minimum 300mm (to avoid four corners in one location). Staple or nail laps at approx. 350mm centres, or use strategic placement of reinforcement spacers, to prevent any membrane displacement before and during concrete placement.

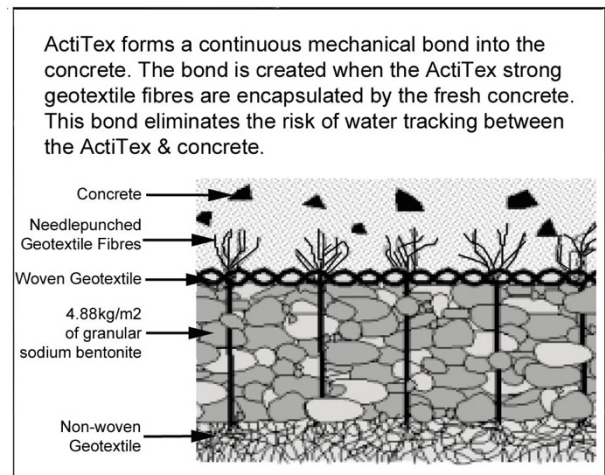
ActiTex should not extend into foundation 'bearing planes' e.g. (pile caps, ground beams, pads, pile heads, etc.), but should completely envelop them. If waterproofing continuity is required through 'bearing planes' we recommend the use of Acti200 (cementitious waterproofing by crystallisation) to which ActiTex can be sealed outside the 'bearing plane', using ActiSeal or ActiFill.

ActiTex should be cut snug to all applicable penetrations and be detailed with ActiSeal or ActiFill as appropriate.

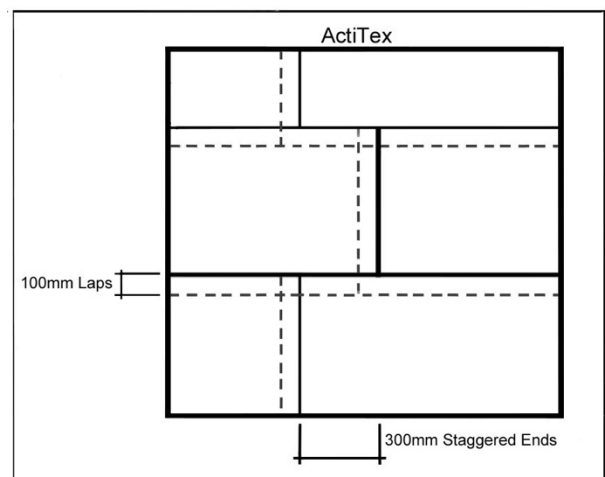
Where concrete underblinding is not used detail an additional 50mm chase filled with ActiFill around the penetration under the ActiTex.

Vertical Application...

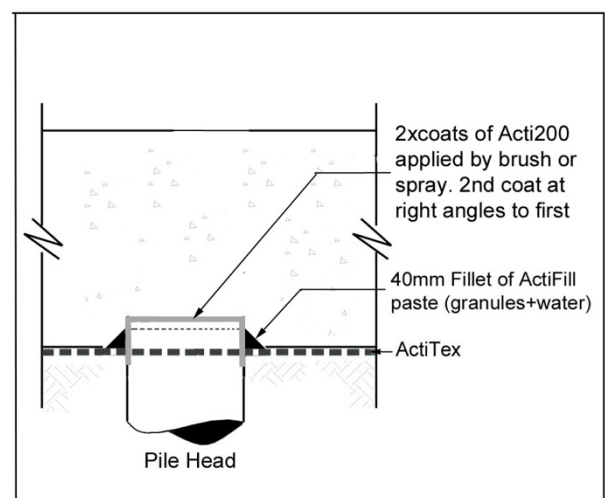
ActiTex is designed to be 'peel-adhered' to concrete to form an integral mechanical bond with the concrete to be waterproofed, and will therefore require installation to the inside of the formwork, prior to concrete placement.



Cross Section of ActiTex



ActiTex - Laps & Staggered Ends



Pile Head with Acti200

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Retaining Walls (double-sided formwork)

Install ActiTex to inside of formwork either horizontally or vertically with the dark grey woven geotextile facing the concrete to be placed / waterproofed (and the white non-woven geotextile facing the formwork). Overlap all adjoining edges a minimum of 100mm and stagger roll ends a minimum 300mm (to avoid four corners in one location). Staple laps at approx. 300mm centres preferably using a hammer-tacker.

Where horizontal laps occur, ensure that these face downwards to prevent displacement / discontinuity from falling concrete during concrete placement.

ActiTex should extend the full depth of the formwork so that the ActiTex laps at least 100mm over the ActiTex already cast into the slab edge / wall kicker and allow no less than 150mm at the top of the formwork (properly protected from damage), to provide a ground slab continuity later, if required.

Position formwork as required, and tie / space forms, penetrating ActiTex as necessary (tie-bolt holes detailed prior to backfill placement).

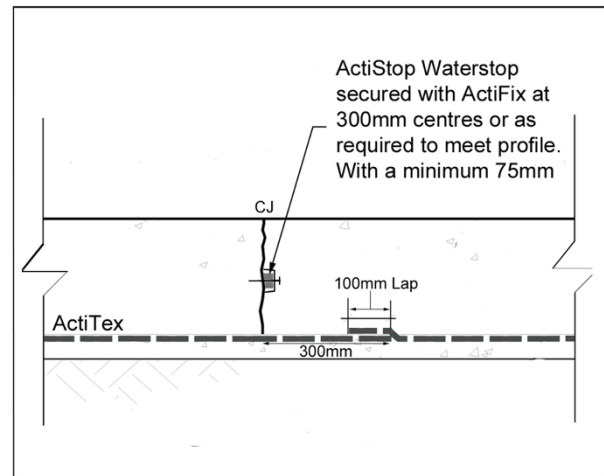
Detail all through-wall pipe / sleeve penetrations with two layers of ActiStop. One at the face of the ActiTex (bedded on a thin layer of ActiSeal), and one located centrally within the wall thickness as a puddle flange, ensuring minimum 75mm concrete cover.

Normal concrete practice is sufficient in terms of striking times for formwork, but due care should be taken to ensure ActiTex remains bonded to the green concrete.

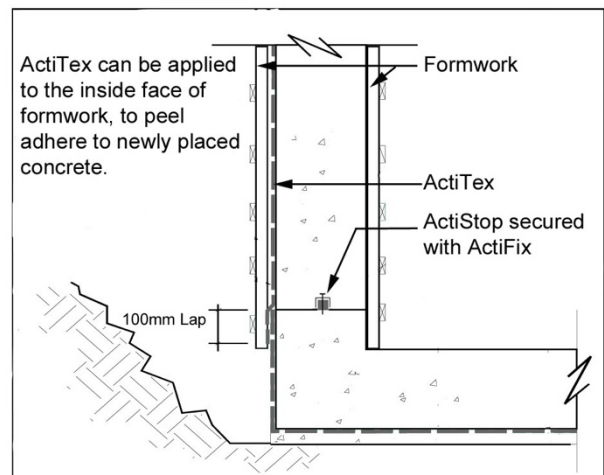
Where a slab 'toe' exists, and under-slab ActiTex has terminated at the top edge of slab, additional ActiTex will be required over the slab 'toe' to link under-slab / edge of slab ActiTex with wall ActiTex. Apply 40mm fillet of ActiFill paste at the internal wall / slab corner and place additional ActiTex over slab 'toe' lapping minimum 100mm over the edge of the slab ActiTex and fixing at approx. 300mm c/c and continue over the 'toe' terminating under the un-bonded wall ActiTex flap at the back of the kicker.

Property-Line (single-sided formwork)

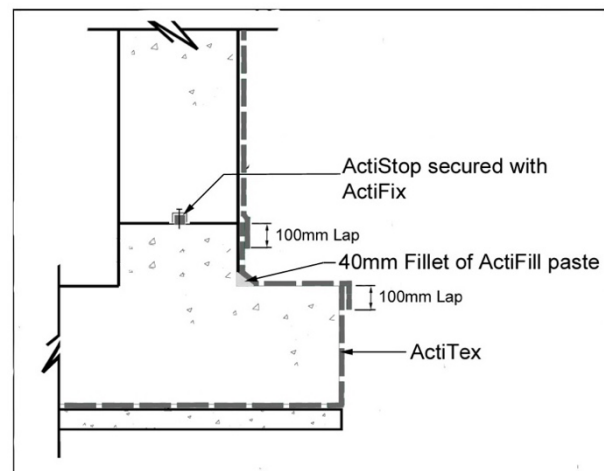
Where retaining walls / lining walls are cast against 'temporary' works / property-line, ActiTex can generally be applied directly against the given surface, including secant and contiguous piling, steel sheet piling, permanent formwork, etc. Surfaces should be free of large voids or projections. Voids, pits & cracks in excess of



Typical Construction Joint



Typical Pre-Applied Line Wall/Slab Junction



Wall/Slab Toe Detail

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20mm, shall be parged to flush condition using cement grout, ActiSeal or ActiFill paste. Protrusions greater than 20mm shall be removed or smoothed flush. Generally gradual undulating surfaces are acceptable, sudden changes in level (i.e. ridges and hollows) are not. Use large washer-headed fixings suitable for shot-firing (e.g. Spit Pulsa System) or nail by hand and follow general application guidelines for lapping all adjacent edges 100mm and staggering roll ends no less than 300mm (thus avoiding four-way laps).

Where horizontal laps occur, ensure that these face downwards to prevent displacement / discontinuity from falling concrete during concrete placement.

Ensure that ActiTex closely contours the substrate surface. For secant piling, locate fixings close to cleavages. On contiguous piling, ensure soil columns between piles are cut back to no less than one third the pile diameter, to create a fixing cleavage, and reduce the likelihood of soil dislodging behind the membrane.

Contact GDA-UK if soil is dislodged before application, as back-blinding may be necessary. If running water is evident between piles this will require managing before application of ActiTex – please contact GDA-UK.

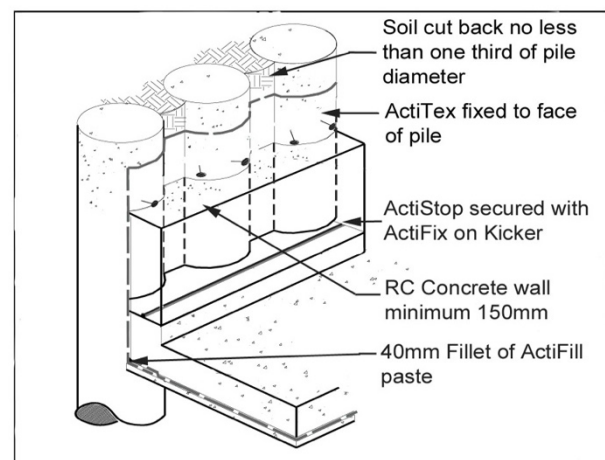
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Due considerations should be given to ground level termination details, with reference to the height of the property line construction and access to the membrane, since cutting down the property line after ActiTex installation / concrete placement, will inevitably damage the waterproofing.

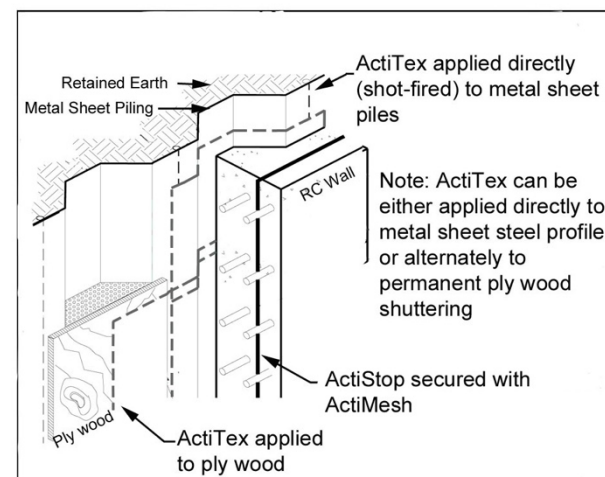
Post-Application

Most building insurers and BS 8102 require external membranes to be fully bonded to the structure, so post-application of ActiTex against cast concrete is not normally accepted.

Consult GDA-UK for project specific design requirements.



Contiguous Piled Wall



Metal Steel Sheet Piling