

Bentech Bentonite(R) Heavy Duty Bentonite Membrane

Product Technical Statement: 107248



Contains 5.5kg/m2 high performance natural Sodium Bentonite Clay, expands on hydration.

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Level of assurance needed to demonstrate NZ Building Code Compliance

Supporting documentation should include technical information by manufacturer and either a BRANZ or independent Appraisal or CodeMark



Bentech Bentonite(R) confirms that this minimum level of assurance has been met or exceeded by the following:

CodeMark

[CM20220](#)



Technical Statement

Product Description

Bentech Bentonite® is a 6.4mm thick GCL membrane, comprised of woven and non-woven geotextile, with a thick layer of natural sodium bentonite in the centre. Fibers of the two geotextiles are interlocked by a patented needle-punching process which encapsulates the natural sodium bentonite, keeping it evenly distributed between the two layers of geotextile. By choosing Bentech Bentonite®, you can be assured that you are installing a tried and tested, Codemark Certified product that comes with a full 25 year material Service Life of Structure Product Warranty. Used since the Dark Ages to waterproof Castles, Moats and Dungeons, Bentonite was formed millions of years ago and when installed to specification is warranted for the service life of the structure.

Scope of use

Bentech Bentonite® works through a pressure mechanism of molecular swelling when hydrated with water. When 'confined' between stone and cement this swelling creates pressure that enables post construction self-healing, the key advantage of the product. This mitigates the risk of expensive remedial action should a leak become apparent over, potentially, the service life of the building (depending on the situation and quality of the installation) and thus we are able to offer a Service Life of Structure Warranty.

It is important in both horizontal (GCL) and vertical (HDPE) applications that the membrane be completely confined between concrete and rock. Note when installing in hydrostatic situations, the engineer should specifically design the floor slab thickness/reinforcement to accommodate the potential hydrostatic pressure of 100PSI when the clay hydrates and expands.

Bentech Bentonite® is recommended for all below ground basement, lift-pit, foundation, sump, wall, tunnel, reservoir, landfill, pond and canal waterproofing, confining and tanking applications with hydrostatic pressures up to 70m/6.8Bar/100PSI and when basement waterproofing is critical such as large and complex construction projects.

Bentech Bentonite® is specified for deep excavations where a full tanking system is required and basement waterproofing is critical, eg. below the water table or in large/complex constructions or excavations.

New Zealand Building Code (NZBC)

The product will, if employed in accordance with the supplier's installation and maintenance requirements, assist with meeting the following provisions of the building code:

- **Clause B2 Durability:** Performance B2.3.1(a)
- **Clause E2 External moisture:** Performance E2.3.3
- **Clause F2 Hazardous building materials:** Performance F2.3.1

Evidence

The product meets the requirements set out in the following documents, or relevant parts of cited standards within the documents:

BENTECH Bentonite Heavy Duty GCL Tanking Membrane | CodeMark Product certificate (building.govt.nz)[CM20220](#)

Supporting Evidence

The product has and can make available the following additional evidence to support the above statements:



CodeMark
[CM20220](#)

Company Contact Details



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Product Criteria

Design requirements

Concrete, block or slab surfaces should all be rubbed smooth with a cinder block or brick and MUST be free of ALL tags and surface splatter. Shotcreted surfaces are to be finished and presented to at least 80% of a normal well-finished surface. Plaster-fill all holes >5mm so to present as smooth a surface as possible. NB - All concrete surfaces contacting the membrane are to be at least 100mm thick and contain steel mesh or rebar to spec.

Installation requirements

1) Install GCL rolls horizontally with white geotextile side facing concrete surface to be waterproofed. GCL HDPE is installed on vertical walls, HDPE side to substrate. Laps should be no less than 150mm and staggered between rolls. Precast panels - Pour granules behind GCL HDPE & between slab gaps. Seal with BCC, TREMCO Dymonic FC® or BOSTIK SafeSeal®. Ensure all concrete is poured 'with' the direction of the overlap and not against it, making sure the membrane is not lifted by the pressure of the wet concrete flowing under the lap. Star-cut' and cable-tie GCL membrane around all pipe/cable penetrations. Ensure Bentech Bentonite® Paste is applied around all holes & penetrations.

2) Install CoreFlute - ecorely over entire tanked area taking extra care to not leave corner voids. NB - It's better to NOT have the protection of the CoreFlute than have any voids created due to inaccurate cutting of the plastic sheet. Take extra care.

Maintenance requirements

Installation - cont.

- 3) Fix Termination Bar to top edge of CoreFlute/GCL with drilled 316SS pins every 150-200mm..
- 4) Apply BCC, TREMCO Dymonic FC® or BOSTIK SafeSeal® premium commercial High performance, fast-curing, single-component, premium grade commercial polyurethane sealant. Applied continuously between the T-Bar and wall paying special attention to applying one non-stop strip along the whole top of Termination Bar.

Warrantees

Installation cont.-

Areas requiring additional protection may require an application of Bentech Cementitious Coating (BCC), prepared per instructions on label.

5) BACK FILL – Inspect all Bentech Bentonite® elements to ensure membrane hasn't been damaged during installation. Repair by cutting GCL '100mm oversize' and paste over any holes. Take a close look at your work. Damage is easily patched now but it'll be a different story once you've backfilled – Take your time – Do It Once – Do It Right!

Guaranteed durable for a 25 year service life of the structure.

Company Product Information

Environmental

Bentech Bentonite is 100% natural Sodium Bentonite Clay often sold as a health food supplement and contained in tooth paste.

Quality Assurance



ISO 9001 (Quality Management)

Videos

[Bentech Bentonite Installation - 100% Guaranteed](#)



Date last validated: **24 January 2024**



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