



Exterior Below-Grade Commercial Bentonite Waterproofing System

ArmorClay 1000

Description

ArmorClay 1000 is a multi-layer waterproofing membrane consisting of bentonite, virgin high-density polyethylene, 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. The polypropylene fabric protects the bentonite from exposure to inclement weather and direct installation of shotcrete.

Uses

ArmorClay 1000 waterproofing membrane is used on structures below grade and is especially effective where the waterproofing is applied before the walls or floor are poured. ArmorClay 1000 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 call your sales Representative or call Mar-flex at 800-498-1411 or you can visit our website at www.mar-flex.com for details.

Required Prep Work

ArmorClay 1000 requires firm background to maintain 24 lb per sf compression. Fill voids or spaces more than 1" with grout and/or plywood. Remove nails and sharp protrusions over 1/4" (6.4 mm). 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 describe by the manufacturer.

Free Standing Poured Wall

ArmorClay 1000 rolls are installed, either vertically or horizontally, with the bentonite side towards the concrete structure by nailing across the top every 20" (0.51 m), lapping seams at least 4" (10.2 cm). Overlap seams as shingles. Close the seams with nails at 3' (0.9 m) o.c. and Seam Tape.

Lagging

ArmorClay 1000 rolls are installed, either vertically or horizontally with the bentonite side towards the concrete structure, by nailing across the top every 20" (0.51 m), lapping seams at least 4" (10.2 cm).

Overlap seams as shingles. Close the seams with nails at 2' (0.6 m) o.c. and box staple between

Under Slab

ArmorClay 1000 waterproofing system will provide a waterproof seal and a vapor barrier. Roll out membrane bentonite-side down on the mud slab or over compacted earth with 6-mil HDPE. Overlap and stagger seams at least 4" (7.6 cm). 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

The ArmorClay 1000 waterproofing system does not require an additional protection course for most applications. For special applications, contact your Mar-flex Representative for details.

Packaging

3.5' x 21.5' (1.1 m x 6.6 m) or 75 SF (7 m²) standard rolls. Customized lengths are available by SPECIAL ORDER. Each or 20 rolls per pallet maximum.

Storage

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

Availability

Available nationwide through Mar-flex Distributors. Contact us for details.

Limitations

ArmorClay 1000 installation must be confined by a minimum of 24 lbs per sf. Keep ArmorClay 1000 dry, protect from exposure to the elements. ArmorClay 1000 is resistant to many common contaminants in soil. Please contact Mar-flex for compatibility testing.

Limited Warranty

Mar-flex warrants its products will be delivered free of defects in materials and workmanship. Mar-flex will replace the material or refund the purchase price Mar-flex makes no other warranty, including an implied warranty of merchantability or fitness for a particular purpose. Mar-flex shall not be liable for any other loss or damage. Contact Mar-flex to discuss specific details and warranty periods

HEALTH AND SAFETY INFORMATION IS GIVEN IN THE SAFETY DATA SHEET (SDS) AND THE PRODUCT DATA SHEET AVAILABLE FOR THIS PRODUCT. THESE SHOULD BE READ AND UNDERSTOOD BEFORE USING THIS PRODUCT.



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ArmorClay 1000 Typical Physical Properties

Property	Method	Results
Thickness	--	.16"
Membrane		White 20-mil virgin resin HDPE
Bentonite		Sodium Montmorillonite
Weight		1 lb per sq foot (4.89 kg/m ²)
Puncture Resistance	ASTM-E-154-88 Section 10	170 LBS (77.3 kg)
Tensile Strength: Membrane	ASTM D638	MD: 3660 psi (25.2 MPa) TD: 3650 psi (25.2 MPa)
% Elongation at break	ASTM D638 Type 1 dogbone	>700%
Crack Bridging		3/8" (0.95 cm) crack
Resistance to hydrostatic head	ASTM D751 Procedure A	174 ft. (52.9 m) of water
Water Vapor Permeability:	ASTM E96-80	0.53 x 10 ⁻¹³ cm/sec 0.84 ng/ m ² .s.Pa 0.033 Perms (grains/ft ² * hr * inHg)
Resistance to micro-organisms: (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 stability		No effect before or after installation.
Installation Temperatures	ASTM D746, ASTM D1238	-40°F to 150°F (-40°C to 65.5°C)
Life Expectancy		Both high-density polyethylene and bentonite have life expectancy measurable in thousands-of-years.