

SCIENCE. SERVICE. SOLUTIONS.



# WATERPROOFING

## MiraCLAY® Bentonite Clay Waterproofing System



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Carlisle Coatings & Waterproofing, Incorporated (CCW) provides a broad range of solutions to meet specific waterproofing needs. CCW offers technical services, research & development and manufacturing capabilities from its headquarters in Wylie, Texas and two additional manufacturing facilities in Terrell, TX and Carlisle, PA. The CCW network is further supported by over 50 manufacturer's sales representatives directed by regional sales offices throughout the country. CCW offers a complete line of waterproofing and moisture protection products for the architectural, general construction, industrial and maintenance industries. Carlisle Coatings & Waterproofing, Incorporated., is part of the Carlisle Construction Materials division of Carlisle Companies, Inc., which is a publicly traded company on the NYSE.

### CCW'S MiraCLAY Waterproofing System

- CCW MiraCLAY
- CCW MiraDRAIN
- CCW MiraCLAY Sealant
- CCW MiraSTOP
- CCW MiraCLAY Granules

Use CCW MiraCLAY EF for salt water and contaminated project sites. Contact your local Carlisle Coatings & Waterproofing representative for warranty information.

### CCW MiraSTOP

Concrete structures are only as watertight as the waterstops that join them. CCW MiraSTOP is a flexible, coiled strip of butyl rubber and expandable bentonite clay waterproofing joint compound. When it comes in contact with water it swells to form a strong compression seal.



CCW MiraCLAY is a specially constructed system, which utilizes sodium bentonite clay. The CCW MiraCLAY geotextile panel consists of sodium bentonite clay encased between two layers of woven and non-woven, puncture resistant polypropylene fabric. CCW MiraCLAY is needle punched together using the Infrabond™ process.

In a hydrated state, CCW MiraCLAY has low permeability and high resistance to chemicals. CCW MiraCLAY is ideal for property line or lagging applications when used in combination with CCW MiraDRAIN 6000/6000XL.

CCW MiraCLAY's accessory products, CCW MiraCLAY Sealant, CCW MiraCLAY Granules, CCW MiraSTOP and CCW LM-800XL, complete the system by sealing cracks, gaps and overlaps.

### Infrabond

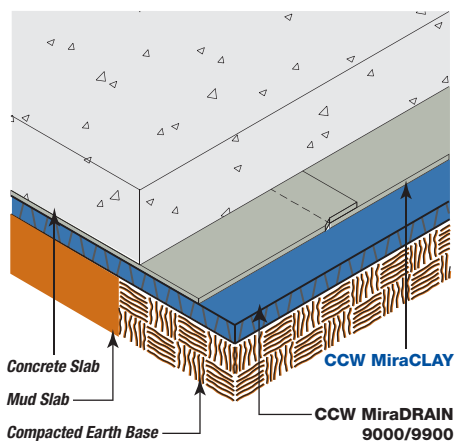
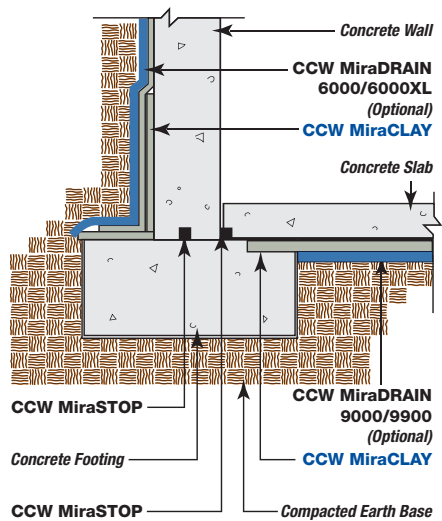
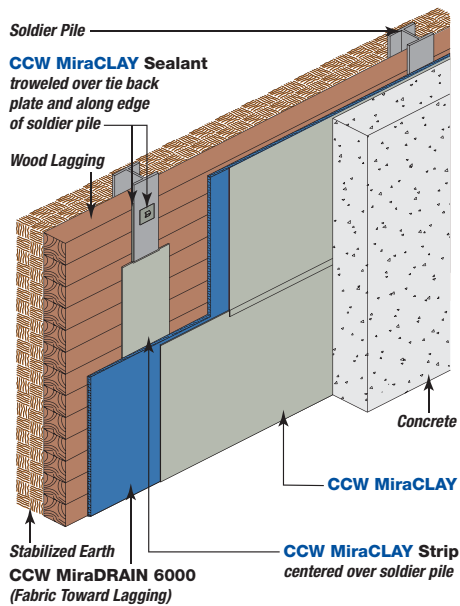
The New CCW MiraCLAY offers significant improvements over traditional bentonite cardboard panels. It combines the latest in geotextile technology with the proven waterproofing capabilities of sodium bentonite. The Infrabond process thermally fuses the needle-punched fibers to the polypropylene fabric. This locks the sodium bentonite into place regardless of incline or hydration cycles, providing a permanently bonded membrane.



Woven Geotextile

Non-Woven Needle Punched Geotextile

Granular Sodium Bentonite



## Features & Benefits

- High Shear Construction
- Impermeable Waterproofing Barrier When Hydrated
- Self-Sealing When Punctured or Penetrated
- Totally Flexible
- Resistant to Most Chemicals
- Non-Toxic, Non-Polluting, No Fumes
- Economical and Easy to Install
- Cold Weather Application
- Hydrated Panel Edges Prevent Material Loss During Installation
- Contaminated Ground Water (Salt or Chemical)
- Continuous Protection Layer in Combination with CCW MiraDRAIN

## Typical Properties

Property	Method	Unit	Typical Value
Bentonite Mass/Unit Area	ASTM D5993	lbs/ft <sup>2</sup> (kg/m <sup>2</sup> )	1.0 (4.88)
Nonwoven	ASTM D5261	oz/yd <sup>2</sup> MARV <sup>1</sup>	6.0 (200)
Woven		(g / m <sup>2</sup> MARV)	3.1 (105)
Swell Index	ASTM D5890	—	24 ml (2 g) min
Moisture Content	ASTM D4643	% max	12
Fluid Loss	ASTM D5891	ml max	18
Tensile Strength <sup>2</sup>	ASTM D6768	lb/in MARV (kN/m MARV)	30 (5)
Peel Strength	ASTM D6496	lbs/in MARV N/m MARV	3.5 (610)
Permeability <sup>3</sup>	ASTM D5887	m/s max	5 x 10 <sup>-11</sup>
Index Flux <sup>3</sup>	ASTM D5887	m <sup>3</sup> /m <sup>2</sup> /s max	1 x 10 <sup>-8</sup>
Internal Shear Strength <sup>4</sup>	ASTM D6243	psf (kPa)	500 (24)
Elongation <sup>5</sup>	ASTM D4632	%	150
Low Temperature Flexibility	ASTM D1970	@ -25°F (-32°C)	Unaffected
Hydrostatic Head Pressure	ASTM D903	ft (meter)	228 (59.49)
Adhesion to Concrete	ASTM 0903	lb/in (kg/cm)	17.7(8)

1. Minimum Average Roll Value.

2. Tested in machine direction.

3. Deaired, deionized water @ 5 psi (24.5 kPa) maximum effective confining stress and 2 psi (13.8 kPa) head pressure.

4. Typical peak value for specimen hydrated for 24 hours and sheared under a 200 psf (9.5 kPa) normal stress.

5. Measure at maximum peak, in the weakest principle direction.

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## Limited Warranty

Carlisle Coatings & Waterproofing, Incorporated (Carlisle) warrants this product to be free of defects in workmanship and materials only at the time of shipment from our factory. If any Carlisle materials prove to contain manufacturing defects that substantially affect their performance, Carlisle will, at its option, replace the materials or refund its purchase price.

This limited warranty is the only warranty extended by Carlisle with respect to its materials. There are no other warranties including the implied warranties of merchantability and fitness for a particular purpose.

Carlisle specifically disclaims liability for any incidental, consequential or other damages including, but not limited to, loss of profits or damages to a structure or its contents arising under any theory of law whatsoever.

The dollar value of Carlisle's liability and buyer's remedy under this limited warranty shall not exceed the purchase price of the Carlisle material in question.

## Carlisle Coatings & Waterproofing

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