

## CCW MIRA CLAY GM MATERIAL CERTIFICATION


This is to certify that CCW MiraCLAY GM Waterproofing Membrane is a sheet membrane consisting of a uniform layer of sodium Bentonite clay that is sandwiched between a durable puncture resistant non-woven polypropylene fabric and a high tensile strength woven polypropylene fabric and then needle-punched together with thousands of high strength denier yarns which are fused to each layer of fabric. CCW MiraCLAY GM Granules, MiraCLAY Mastic, CCW MiraSTOP, and CCW MiraDRAIN & 200V/300HV Protection Courses are part of the CCW System and are recommended by Carlisle Coatings & Waterproofing.

CCW manufactures the MiraCLAY GM membrane to comply with the following ASTM typical property values and meets the specification requirements:

CCW MiraCLAY GM - Property	Test Method	Unit	Typical Value
Nominal Dry Thickness	-----	in. (mm)	0.25 (6.4)
Bentonite Mass/Unit Area	ASTM D 5993	lbs/ft <sup>2</sup> (kg/m <sup>2</sup> )	1.0 (4.88)
Nonwoven	ASTM D 5261	oz/yd <sup>2</sup> MARV (g/m <sup>2</sup> MARV)	6.0 (200)
Woven			3.1 (105)
Swell Index	ASTM D 5890	ml (g)	24 (2g) min
Moisture Content	ASTM D 4643	% max	12
Fluid Loss	ASTM D 5891	ml	18 max
Tensile Strength	ASTM D 6768	lb/in MARV (kN/m MARV)	30 (5)
Peel Strength	ASTM D 6496	lb/in MARV (N/m MARV)	3.5 (610)
Permeability	ASTM D 5887	m/s max	5 x 10 <sup>-11</sup>
Index Flux	ASTM D 5887	m <sup>3</sup> /m <sup>2</sup> /s max	1x10 <sup>-8</sup>
Internal Shear Strength	ASTM D 6243	psf (kPa)	500 (24)
Elongation	ASTM D 4632	%	150
Low Temperature Flexibility	ASTM D 1970	@ -25 <sup>0</sup> F (-32 <sup>0</sup> C)	Unaffected
Hydrostatic Head Pressure	ASTM D 751	ft. (m)	228 (59.49)
Adhesion To Concrete	ASTM D 903	lb/in. (kg/cm)	17.7 (8)

Rev. October 1, 2013

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