



# WATERPROOFING

## MiraSEAL™



### Description

MiraSEAL is a 100%-solids, fluid-applied, single-component, moisture-reacted, elastomeric, coal-tar and solvent-free, modified polymer that cures to form a flexible, monolithic, waterproof membrane on vertical and horizontal surfaces. Due to the moisture-reactive and non-gassing properties of the membrane, it provides tenacious adhesion to concrete substrates above- and below-grade, preventing lateral water migration, even with moisture present in the concrete. The inherent toughness and resilience of MiraSEAL enables it to bridge structural or shrinkage cracks that may develop in the substrate. MiraSEAL can be applied wet on wet in a horizontal application resulting in reduced installation time.

MiraSEAL is available in a single viscosity for both horizontal and vertical surfaces. Typical applications are between structural slab and wearing course on parking garages, plaza decks, balconies, roof decks, terraces, mechanical equipment rooms, wetrooms, malls, kitchens and shower stalls. MiraSEAL is ideally suited for waterproofing on below-grade foundation walls, tunnels, planters and other areas where a seamless, elastomeric waterproofing is required. MiraSEAL may also be used as a sealant.

### Installation

#### Surface Preparation

New concrete shall be water-cured, trowel-finished, followed by a light, hair broom and in place for 3 days minimum. If curing compounds are required, they shall be 100% Sodium Silicate and shall be approved by CCW. Surfaces shall be structurally sound, dry, and free of oil, grease, dirt, laitance, curing or release agents and other contamination that may harmfully affect the adhesion of the membrane. Mortar joints on block walls shall be struck flush with the block surface.

Remove splatters, fins, ridges or other projections to provide a smooth, level surface. Fill tie rod holes, honey combs, rock pockets, spalls or other voids and indentations with non-shrink grout. Saw-cut moving cracks greater than 1/16" to 1/4" wide x 1/4" deep.

Grind or fill (as required) surface at cold joints where each pour is at a different plane, to provide a smooth and level surface. Clean metal to expose a bright finish. A Concrete Surface Profile (CSP) of 2 or 3 is recommended to promote a mechanical bond between concrete substrate and MiraSEAL.

#### Detail Work

Clean joints and saw-cut cracks. All moving cracks over 1/16" wide and all expansion joints less than 1" wide shall be cleaned, primed, fitted with a backing rod and caulked with Carlisle Polyurethane Sealant as recommended by the data sheet. For larger joints, contact CCW representative.

Apply a one inch, 45° angle cant of CCW-201 sealant at the juncture of all vertical and horizontal surfaces and inside corners, at pipes, vents and other projections.

Apply a 4"-6" wide stripe coat of MiraSEAL Membrane over all sealed cracks, joints and over all hairline cracks less than 1/16" and cold joints. Apply a stripe coat of MiraSEAL over sealant cants and up the vertical wall to the height called out on the drawings, (minimum six inches recommended) and onto the horizontal deck 4"-6". Film form or stripe coat shall be 45 +/- 5 mils thick. Allow stripe coats to cure for 1 hour and no longer than 8 hours. If the stripe coats cure for more than 8 hours they must be solvent wiped with Xylene, Toluene, Weathered Membrane Cleaner or VM&P Naptha prior to the application of a second layer.

#### Priming

Primer is not required for adhesion to dry, non-porous concrete. However, if pinhole and blister problems occur as a result of air and/or moisture vapors being trapped or emitted from the concrete and/or environmental conditions, it is recommended that a thin-mil coat application be applied to remove trapped air/vapor. This is intended to promote and establish an intimate bond with the substrate.

#### Metal

Mechanically clean to bright finish. Remove dust and debris and solvent wipe with clean cloth. Sawcut 1/4" x 1/4" between drain flange and substrate. Install CCW-201 sealant struck flush with surface.

#### Horizontal Application

Apply MiraSEAL over cleaned flange of drains, taking care not to fill weep holes. Drain flange of 3" minimum width recommended. Using a roller, trowel, or brush apply MiraSEAL at 26 sq. ft. per gallon or as required to obtain a 60-mil thickness. Apply MiraSEAL in one coat using a roller, trowel, or squeegee at 26 sq. ft. per gallon or as required to obtain a 60-mil thickness to the entire area to receive waterproofing, including over all detail coats.

# WATERPROOFING

## MiraSEAL

### Vertical Application

Apply MiraSEAL in one coat using a roller, trowel, or squeegee at 26 sq. ft. per gallon or as required to obtain a 60-mil thickness to the entire area to receive waterproofing, including over all detail coats. Wait for material to film form and become stable between each coat.

### Reinforced Systems

Apply MiraSEAL in one coat using a roller, trowel, or squeegee at 26 sq. ft. per gallon or as required to obtain a 60-mil thickness to the entire area to receive waterproofing, including over all details coats. Immediately install CCW Reinforcing Fabric into the wet MiraSEAL. Brush or roll the fabric into the wet MiraSEAL, ensuring it is completely saturated into the wet MiraSEAL. Overlap adjoining fabric sheets a minimum of ½". Ensure overlapping fabric is completely saturated in between overlaps. Install carefully to avoid wrinkles. In the event of wrinkles or fishmouths, cut the fabric and overlap the excess to avoid trapped air. Apply an additional coat of MiraSEAL on top of the fabric at 26 sq. ft. per gallon or as required to obtain a 60-mil thickness, extending past the edge of the fabric to completely encapsulate it. The first coat, CCW-500 Reinforcing Fabric, and the second coat will need to all be completed in the same day or working period. Do not apply the first coat and CCW-500 Reinforcing Fabric in an area that can't be coated with the second coat in the same day. Total system dry film thickness shall be 120-mils. Do not leave Reinforcing Fabric exposed overnight.

All fluid-applied product application rates are based on theoretical coverage relative to the percentage of solids in the material. These are minimum application rates to achieve the required dry film thickness for the system and do not account for substrate condition or porosity. A thicker application of the product may be necessary to achieve the required dry film thickness for system relative to the substrate.

### Protection

The membrane must be protected from damage caused by future operations and other trades. The applicator shall install protection material applicable to jobsite conditions, to protect the membrane. Protection course must be CCW Protection products that correspond to horizontal or vertical applications.

Install protection course on vertical walls immediately after membrane has cured (24 hrs at 75°F). Install protection course on horizontal application immediately following successful flood testing. If flood test is delayed, install a temporary covering to protect the membrane from other trades.

### CCW Protection

Vertical options are Protection Board-V or CCW 200V. Root barrier is the option for Horizontal application.

### Flood Test

After membrane has cured 12 hours, plug drains and provide necessary barriers to contain flood water. Flood deck with a 2" head of water and allow to stand for 24 hours. Check for leaks and immediately make repairs if required. Retest after any repairs have been made.

### Clean Up

Before material cures, clean adjacent areas to remove stains or spills and clean tools with toluene or xylene. Do not wash off skin with solvents.

### Limitations

- Do not apply MiraSEAL to wet or contaminated surfaces.
- Not recommended for exposed or wearing surfaces.
- If metal pan is used for concrete form, the metal pan must be vented.
- Surface temperature must be above 40°F.
- Do not leave exposed for more than 14 days.
- Not compatible with rubberized asphalts. Contact CCW Representative if the MiraSEAL is to come into contact with a rubberized asphalt.

### Warnings and Hazards

Combustible liquid and vapor. Keep away from heat and flame. Use only with adequate ventilation. Avoid contact with the eyes or skin, especially open breaks in the skin. In the event of skin contact, remove immediately and wash with warm soapy water. Refer to MSDS for important warnings and product information.

Xylene and toluene are combustible and flammable solvents. Observe all regulations with regards to working with flammable materials. Workmen must wear appropriate protective clothing, eye and skin protection and NIOSH-approved breathing apparatus (organic cartridge recommended).

### Packaging

Product	Size
MiraSEAL	5-gallon pails
CCW-500 Reinforcing Fabric	36" x 667' (2,000 sf/roll); 15 rolls/pallet
CCW LiquiFiber	6" x 300' rolls, 8 rolls per case (1,200 sf) and 12" x 300' rolls, 4 rolls per case (1,200 sf)
CCW-201 Sealant	1.5 gallon kit (in 2 gallon pail, plus color pack)

### Applicable Standards

ASTM Specification: ASTM C836-06.

### Shelf Life

When stored at temperatures below 80°F, shelf life is 6 months in the original, unopened container.

### Typical Properties

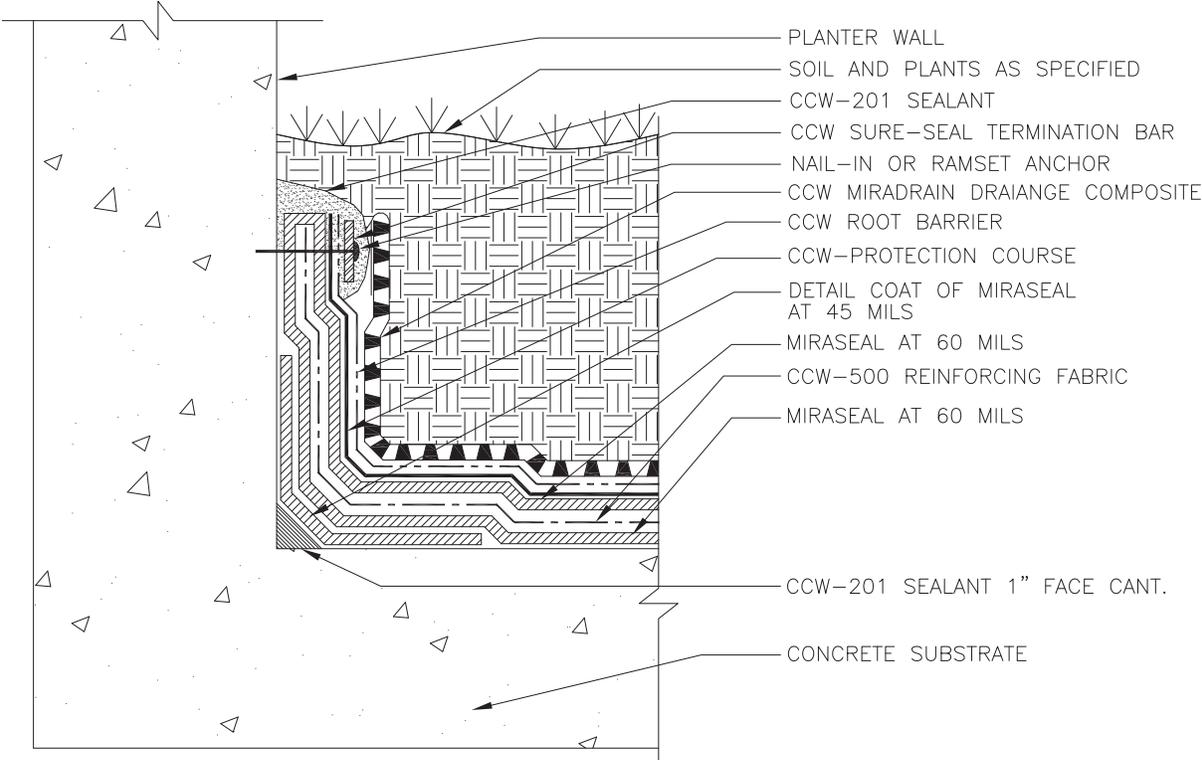
Property	Method	Typical Value
Composition	—	Modified Polymer
Color	—	Black
Tack-free Time @ 77°F (25°C), 50% RH.	—	60 mins
Solids Content** (Vol.)	ASTM 2697	100%
Low Temp. Flexibility	ASTM C836	No Cracking
Low Temperature. Crack Bridging	ASTM C836	No Cracking
Hardness (Shore A)	ASTM C661	10 (+/- 3)
Elongation	ASTM D2370	350%
Tensile Strength	ASTM D2370	95 psi
Water Vapor Transmission Rate	ASTM E96	0.06 perms inches

\* Unless otherwise indicated, individual lots may vary +/- 10%.  
 \*\* The 100% solids content may generate a nominal VOC level of 20 g/l when chemical linkage occurs.

### 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.

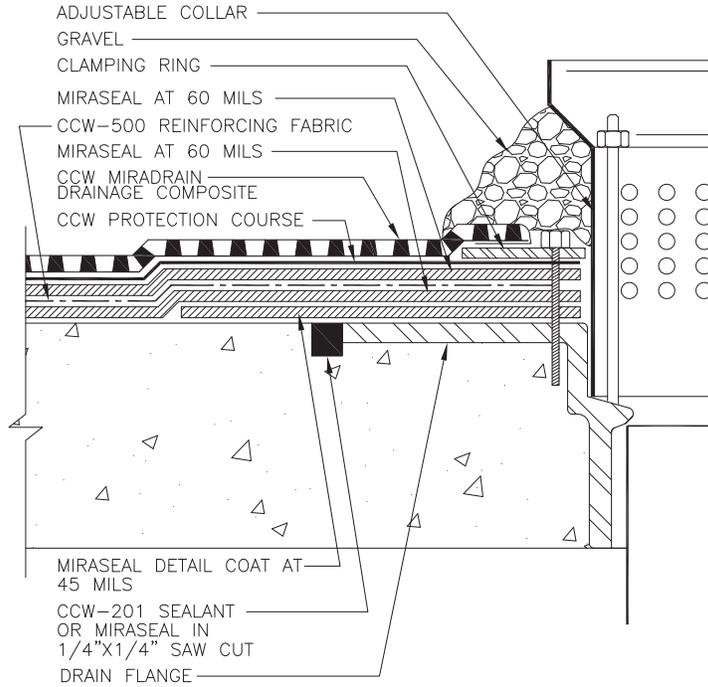
### Planter Detail



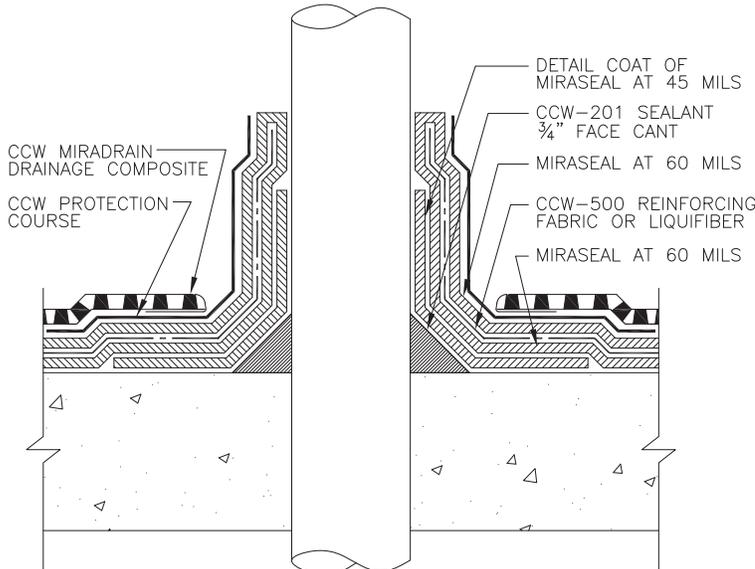
# WATERPROOFING

## MiraSEAL

### Dual Level Drain Detail



### Pipe and Penetration Flashing Detail



**NOTES:**

1. CLEAN METAL TO A BRIGHT FINISH.
2. APPLY CCW-201 SEALANT AND TOOL TO FORM A 3/4" FACE, 45° CANT, ALLOW TO CURE OVERNIGHT.
3. APPLY MIRASEAL DETAIL COAT AT 45 MILS THICK.
4. APPLY MIRASEAL AT 60 MILS THICK.
5. INSTALL CCW-500 REINFORCING FABRIC OR LIQUIFIBER INTO WET MIRASEAL.
6. APPLY MIRASEAL AT 60 MILS THICK.
7. INSTALL CCW PROTECTION COURSE.
8. INSTALL CCW MIRADRAIN DRAINAGE COMPOSITE.