



# CCW MiraDRI 860/861

## SHEET MEMBRANE WATERPROOFING SYSTEMS

### DESCRIPTION

CCW MiraDRI 860/861 are self-adhering sheet membranes consisting of 56 mils (1.4 mm) of rubberized asphalt laminated to 4 mils (0.1 mm) of polyethylene to form a minimum 60 mil (1.5 mm) membrane. CCW MiraDRI 860 membrane is a summer grade material, suitable for installations where the ambient temperature is 40°F (4.4°C) or above. CCW MiraDRI 861 should be used for applications between 25°F (-3.9°C) and 65°F (18°C). The combination of these two excellent waterproofing materials provides a high-performance, extremely durable waterproofing barrier.

### TYPICAL USE

CCW MiraDRI 860/861 membranes are used for vertical and horizontal waterproofing on structural foundation walls and decks. Below-grade foundation walls, tunnels, split slabs, plaza decks and parking decks are all areas where CCW MiraDRI 860/861 may be applied. CCW MiraDRI 860/861 also may be used in interior areas such as mechanical rooms, laboratories, kitchens and bathrooms. CCW MiraDRI 860/861 should be covered with either CCW 200V/300HV Protection Course, CCW Protection Board, or CCW MiraDRAIN® drainage composites.

### LIMITATIONS

- Do not apply where membrane will be subject to continuous exposure to sunlight.
- Do not apply primer or membrane to frozen concrete. Optimum results are obtained when membrane is installed at temperatures above 25°F. Between 25°F and 65°F use the CCW MiraDRI 861 membrane. CCW MiraDRI 860 can be used from 40°F and above.
- Do not apply primer or membrane to a damp, frosty or contaminated surface.
- Not recommended as a pond or tank liner except for "between slab" applications.
- Do not apply over sealants containing coal tar or polysulfides. In the event of existing bitumen modified materials, consult your Carlisle representative.

### APPLICABLE STANDARDS

CCW MiraDRI 860/861 meets the applicable requirements of:

- GSA; PBS PCD 07121
- USN; NAVFAC TS-07111
- VA; H-08-1
- Federal Construction Guide Specs; FCGS-07111
- Corps of Engineers; CEGS-07111-3-82
- UL 790, Class A

### WARNINGS AND HAZARDS

CCW-702 and CCW-704 contain flammable and combustible solvents. Avoid exposure to open flame. Avoid breathing vapors. Use only in areas with adequate ventilation. Refer to MSDS for important warnings and product information.

### TECHNICAL DATA

PROPERTY	TEST METHOD	RESULTS
Color	-	Dark Gray
Thickness	ASTM D 3767	60 mils
Tensile (Membrane)	ASTM D 412	325 psi
Tensile (Film)	ASTM D 882	5000 psi
Elongation	ASTM D 412	350%
Permeance	ASTM E 96	0.05 perms
Low Temp. Flexibility	ASTM D 1970	Unaffected @ -45°F Crack Cycling*
(100 cycles)	ASTM C 836	Unaffected @ -25°F
Peel Strength	ASTM D 903	10.0 lb/in.
Lap Adhesion	ASTM D 1876	19.0 lb/in.
Puncture Resistance	ASTM E 154	60 lb. (min)
Soil Burial	GSA-PBS 07121	16 wks, no effect
H <sub>2</sub> O Absorption	ASTM D 570	0.1% by wt.
Hydrostatic head	ASTM D 751	230 ft.

\* 180° bend over a 1" (25mm) mandrel at -45°F (-43°C)

### PACKAGING

CCW MiraDRI 860/861-36 = 36" wide X 67' roll (200 ft<sup>2</sup>)  
25 rolls per pallet (5000 ft<sup>2</sup>) - Weight = 80 lb/roll (approx.)

Other membrane thicknesses and configurations are available by special order.

CCW-702 VOC Compliant Solvent Based Primer:  
5 gallon pails (45 pails per pallet)

CCW-714 Water Base Primer:  
1 gallon pails (100 pails per pallet)

CCW-AWP Water Base Primer:  
1 gallon pails (100 pails per pallet)  
5 gallon pails (45 pails per pallet)

CCW-715 Damp Concrete Primer:  
5 gallon pails (45 pails per pallet)

CCW-704 Mastic and CCW LM-800XL:  
30 oz. Qt. Tube (12 tubes per carton), 5 gallon pails  
(45 pails per pallet)

### INSTALLATION

#### Weather Conditions

CCW MiraDRI 860 is used for applications where the surface temperatures is 40°F (4.4°C.) and above. CCW MiraDRI 861 is used for applications where the surface temperature is between 25°F (-3.9°C.) and 65°F (18°C).

Do not apply CCW MiraDRI 860/861 to frozen or wet substrates. The membrane should not be left exposed to direct sunlight for longer than 14 days.

**Substrate Preparation:** CCW MiraDRI 860/861 can be applied to concrete, metal, wood, insulated wall systems or masonry surfaces. All substrates must be clean, dry and free of surface irregularities.

**Concrete Substrates:** Structural concrete must be cured a minimum of 7 days and lightweight structural concrete must cure a minimum of 14 days before the application of CCW MiraDRI 860/861. Repair surfaces that are not structurally sound, have voids, protrusions, rough spalled areas, loose aggregate or exposed coarse aggregate. Void areas should be filled with latex Portland cement, concrete or epoxy concrete and troweled smooth to match the existing surface. Protrusions and other rough areas should be broken off and patched as above. CCW LM-800XL or CCW-201 may be used to fill small voids, honeycombs or bug holes.

**Masonry Substrate:** Rough masonry may require the surface to be parged with a plaster coat of cementitious material to form a well adhered, smooth and uniform finish. Allow the parge coat to dry before priming and installing the CCW MiraDRI 860/861 waterproofing membrane.

**Chemical Additives:** Curing compounds should be a clear resin-based material without waxes, oils or pigments. Form release agents must not transfer to the concrete. Curing compounds or form release agents that adversely affect the adherence of the CCW MiraDRI 860/861 waterproofing membrane must be removed from the substrate prior to application.

**Priming and Detailing:** All concrete, metal and masonry substrates require primer. Wood surfaces and insulated wall systems may not require a primer. Carlisle Coatings & Waterproofing recommends an adhesion test of the CCW MiraDRI 860/861 on any unprimed substrate to verify proper adhesion. Apply the appropriate CCW Primer at the specified coverage rate. Apply primer with a lambswool roller, brush or spray apparatus. Allow primer to dry for a minimum of 30 minutes. The CCW Primer will dry to a tacky finish. Areas primed but not covered with CCW MiraDRI 860/861 within 24 hours should be reprimed. All vertical to horizontal transitions must have a 3/4" (18mm) fillet of CCW LM-800XL or CCW-201 Sealant.

The 3/4" (18mm) fillet must be allowed to cure 24 hours before covering with CCW MiraDRI 860/861 membrane. All inside and outside corners, as well as the vertical to horizontal transitions, should be double covered. A CCW MiraDRI 860/861 Membrane Strip should be applied to each surface a minimum of 4.5" (112mm) before being covered by the field membrane. Refer to the standard detail drawings for specific detail instructions.

## VERTICAL INSTALLATION

Start at the low point and work towards the high point. Remove 6" (150 mm) to 8" (200 mm) of the release paper, and then begin applying the membrane. Press and smooth

the membrane against the substrate while pulling the release paper free. Install membrane with side laps overlapped a minimum of 2.5" (63mm) and end laps a minimum of 5" (127mm). Carlisle Coatings & Waterproofing recommends that the membrane be rolled in place immediately after its placement to ensure full adhesion to the primed substrate. Apply a bead of CCW-704 Mastic OR CCW-703V Liqueiseal at terminations and cut edges, joints, drains, penetrations and protrusions. For walls over 8' (240cm), the membrane should be placed in lifts. Protect the CCW MiraDRI 860/861 membrane with the appropriate CCW MiraDRAIN drainage composite, CCW 200V/300HV Protection Course or CCW Protection Board V.

## HORIZONTAL INSTALLATION

Start at the low point (establish a starting point with a chalk line if necessary) and work towards the high point in shingle fashion. Remove 2' to 3' (60cm to 90cm) of the release paper and apply the membrane to the substrate. Continue pulling the release paper free while pressing and smoothing the membrane against the substrate. Apply in a straight line avoiding wrinkles and over correcting. Roll the membrane with a minimum 75 lb. (34kg) linoleum roller. Install membrane with side laps overlapped a minimum of 2.5" (63mm) and end laps a minimum of 5" (127mm). Apply a bead of CCW-704 Mastic at all terminations of the membrane and "T" joints. Apply a 3/4" (18mm) fillet of CCW LM-800XL or CCW-201 in all inside corners of planter boxes, shower stalls and shower pans applications. Patch inadequately lapped seams and damaged areas with CCW MiraDRI 860/861 membrane covering the damaged area by a minimum of 6" (150mm). "Fishmouths" and severe wrinkles should be slit, flaps overlapped and repaired as above. Protect the CCW MiraDRI 860/861 membrane with the appropriate CCW MiraDRAIN drainage composite or CCW 300HV Protection Course.

**Detail Requirements:** For standard installation details follow the CCW MiraDRI 860/861 details drawings. For non-standard installation instructions contact your local Carlisle Coatings & Waterproofing representative.

## LIMITED WARRANTY

CARLISLE COATINGS & WATERPROOFING INCORPORATED (CARLISLE) warrants its materials 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.