**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**

<table>
<thead>
<tr>
<th>PROPERTY</th>
<th>TEST METHOD</th>
<th>RESULTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Color</td>
<td>-</td>
<td>Dark Gray</td>
</tr>
<tr>
<td>Thickness</td>
<td>ASTM D 3767</td>
<td>60 mils</td>
</tr>
<tr>
<td>Tensile (Membrane)</td>
<td>ASTM D 412</td>
<td>325 psi</td>
</tr>
<tr>
<td>Tensile (Film)</td>
<td>ASTM D 882</td>
<td>5000 psi</td>
</tr>
<tr>
<td>Elongation</td>
<td>ASTM D 412</td>
<td>350%</td>
</tr>
<tr>
<td>Permeance</td>
<td>ASTM E 96</td>
<td>0.05 perms</td>
</tr>
<tr>
<td>Low Temp. Flexibility</td>
<td>ASTM D 1970</td>
<td>Unaffected @ -45°F</td>
</tr>
<tr>
<td>(100 cycles)</td>
<td>ASTM C 836</td>
<td>Unaffected @ -25°F</td>
</tr>
<tr>
<td>Peel Strength</td>
<td>ASTM D 903</td>
<td>10.0 lb/in.</td>
</tr>
<tr>
<td>Lap Adhesion</td>
<td>ASTM D 1876</td>
<td>19.0 lb/in.</td>
</tr>
<tr>
<td>Puncture Resistance</td>
<td>ASTM E 154</td>
<td>60 lb. (min)</td>
</tr>
<tr>
<td>Soil Burial</td>
<td>GSA-PBS 07121</td>
<td>16 wks, no effect</td>
</tr>
<tr>
<td>H₂O Absorption</td>
<td>ASTM D 570</td>
<td>0.1% by wt.</td>
</tr>
<tr>
<td>Hydrostatic head</td>
<td>ASTM D 751</td>
<td>230 ft.</td>
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</tbody>
</table>

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

**PACKAGING**

CCW MiraDRI 860/861-36 = 36” wide X 67’ roll (200 ft²) 25 rolls per pallet (5000 ft²) - 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 course 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 MiraDRI 860/861 can be applied to those areas. 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.