



WATERPROOFING

MiraPLY™-H with SeamLOCK™ Technology

Description

MiraPLY-H with **SeamLOCK** Technology is a nominal, 70-mil horizontal grade, self-adhering, blindsided waterproofing membrane. The dual laminate membrane fuses a 45-mil thick, reinforced TPO sheet to a 25-mil butyl adhesive coating, combining two of the most time-tested waterproofing technologies used worldwide. With the addition of new **SeamLOCK** pre-primed strips, MiraPLY-H is not only tough, durable and flexible, it is easy to install.

Features and Benefits

- **Durable** - Pliable TPO layer has twice the puncture resistance of HDPE, making MiraPLY the best system to meet the active demands of heavily trafficked construction sites and uneven rocky substrates.
- **Tenacious Bond** - Butyl Alloy adhesive creates a permanent, chemical bond with placed concrete to eliminate water migration between membrane and concrete, while ensuring protection against ground settlement beneath slabs.
- **Efficient Application**
 - Light-weight, kick-out roll for fast installation less labor
 - Factory installed **SeamLOCK** pre-primed, peel-and go-strips eliminates primer for enhanced adhesion and easier side lap construction. Retains strong bond in both wet and dry, dusty site conditions.
 - Elastic properties make cutting membrane easy with fewer hand injuries

Plus!

- Fully bonds to concrete
- Excellent resistance to most chemicals (i.e., acids and bases)
- Effective Radon barrier
- Bridges cracks in concrete

Typical Uses

- Below elevator pits
- Under slabs and footings
- Below-grade structural slabs

Packaging

4' x 50' (1.22 m x 15.24 m) rolls. Weight: 80 lbs (36 kg)

Typical Properties

Property	Method	Unit	Typical Value
TPO	—	mils (mm)	45 (1.14)
Butyl Alloy	—	mils (mm)	25 (.64)
Thickness per ASTM D 5147 across sheet	ASTM D1970	mils (mm)	70 (1.78)
Water Vapor Transmission (Water Method) - With Seams	ASTM E96	perms	0.090
Tensile Strength ¹	ASTM D882	psi	1,500
300% Modulus ¹	ASTM D412	psi	1,000
Lap Seam T-Peel (90°)	ASTM D1876	pli.	15.0
Elongation @ Break @ 23°C (Die C) ¹	ASTM D412	%	325
Flexibility Temperature @ -29°C (-20°F) ¹	ASTM D1970	pass/fail	No Cracking @ -29°C (-20°F)
Hydrostatic Pressure Resistance	ASTM D5385	ft.	>231 ft. (100 psi)
Peel Strength Over Poured Concrete	ASTM D903	pli.	>5.0
Puncture Resistance Load at Puncture	ASTM E154	lb.	375
Tear Strength of Vulcanized Rubber and Thermoplastics Die C ¹	ASTM D624	psi	1,000
Soil Decay E 96 Testing Water Vapor Transmission	ASTM E154		Pass
Soil Decay Testing-Weight Loss	ASTM E154		Pass
Lateral Water Migration Resistance ²	ASTM D5385 modified		Pass at 100 psi (231 ft) of hydrostatic pressure

¹Data Listed according to Machine Direction criteria where applicable

²Lateral water migration resistance test is performed by casting concrete against butyl side of membrane with a hole and applying a hydrostatic head pressure with water. This test measures the resistance of lateral water migration between membrane and concrete.

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Accessories

Carlisle Coatings & Waterproofing offers a wide range of accessories to accommodate all application requests.

Substrate Preparation

Gravel sub-base must be $\frac{3}{4}$ " or smaller aggregate, level and compacted. Install MiraDRAIN over sub-base before installing MiraPLY-H with SeamLOCK Technology.

MiraPLY-H Installation

Start the installation at one corner of the building. Unroll the first sheet of MiraPLY-H square/parallel to building wall starting at one corner with the TPO side down and the adhesive facing up with the Factory-Applied Tape (FAT™) on the side for the succeeding sheet to lap onto. Unroll the next sheet of MiraPLY-H lapping the SeamLOCK pre-primed strip onto the previously installed sheet a minimum of 3". Stagger end laps and extend onto adjoining sheets a minimum of 3". Ensure that the membrane lays flat and no openings are visible. At side laps, simultaneously remove the release liner on the factory applied tape and pre-primed strip then mate the two sheets together. At end laps ensure the TPO and Butyl surfaces are clean and free of debris and surface contaminants. Position 6" MiraPLY Seam Tape in the lap area. Roll MiraPLY Seam Tape using a hard rubber roller and firm hand pressure. Remove the release liner and join the two sheets together. After seam is fully constructed, roll the entire seam area with a hard rubber roller using firm hand pressure.

MiraPLY Repair

Inspect the MiraPLY-H membrane for damaged areas before placement of rebar or concrete. Clean with a cloth dampened with Weathered Membrane Cleaner and allow to dry. Repair slices, cuts and small punctures ($\frac{1}{2}$ " or less) with MiraPLY Detail Tape.

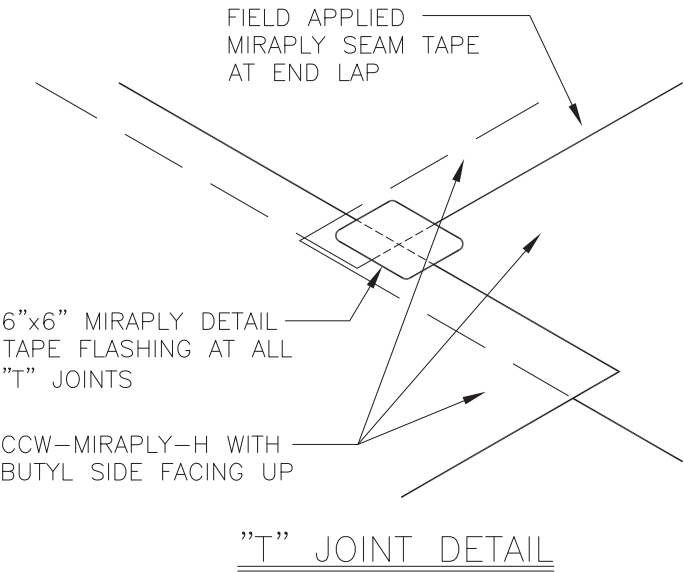
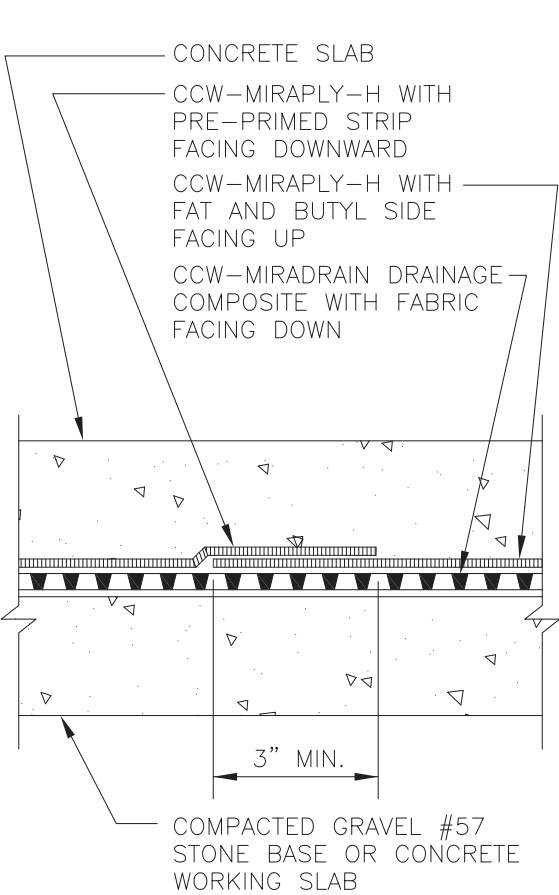
Repair larger areas with a piece of MiraPLY extending beyond damaged areas by approximately 6" in all directions. Apply MiraPLY Seam Tape to the cleaned TPO side of patch. Remove release liner of MiraPLY Seam Tape, then position patch on damaged area and roll patch with a hard rubber roller using firm hand pressure or position patch and apply MiraPLY Detail Tape around all edges of patch and then roll with hard rubber roller using firm hand pressure.

Concrete Placement

Rebar chairs/supports shall be non-spiked and must lay flat to prevent damage during rebar placement.

MiraPLY-H with SeamLOCK Technology Side Lap with FAT Installation

Install sheets of MiraPLY-H with **SeamLOCK** Technology with minimum 3" side overlaps. Ensure the membrane lays flat and no openings are visible. Stagger end laps and extend onto adjoining sheets a minimum of 3". At side laps, simultaneously remove the release liner on the factory applied tape and pre-primed strip then mate the two sheets together. After the seam is fully constructed, roll the seam with a hard rubber roller using firm hand pressure.



NOTES:

1. Install sheets of MiraPLY-H with a minimum of 3" side overlaps. Ensure the membrane lays flat and no openings are visible. Stagger end laps. Remove the release liner on the FAT and pre-primed strip joining the sheets together simultaneously applying firm hand pressure. After the seam is fully constructed, roll the seam with a hard rubber roller.

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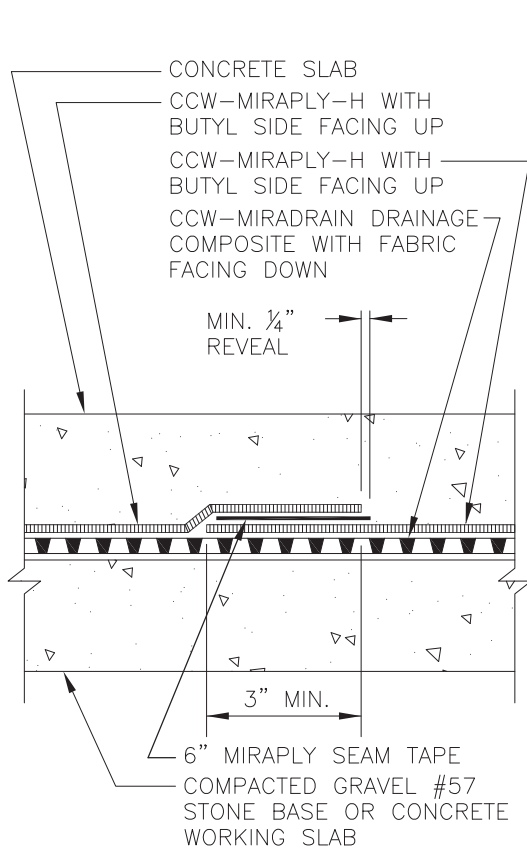
MiraPLY-H with SeamLOCK Technology

End Laps

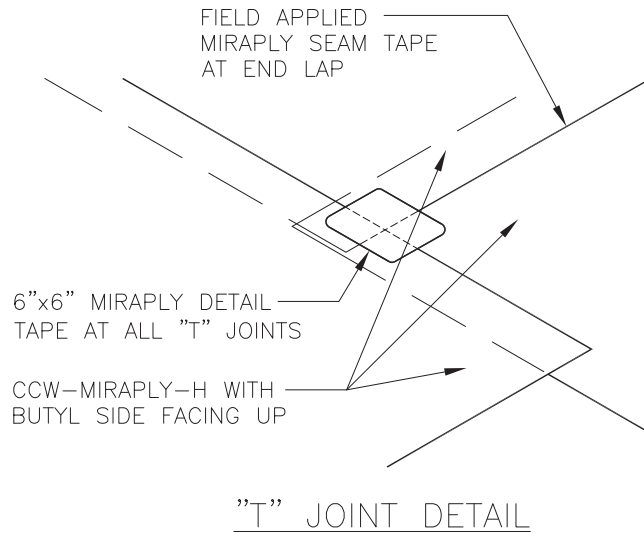
Install sheets of MiraPLY-H with **SeamLOCK** Technology with a minimum 3" end overlap. Ensure the membrane lays flat and no openings are visible. Make sure that the TPO side of the lap is clean, dry and free of contaminants. Position the 6" MiraPLY Seam Tape in the lap area. Roll MiraPLY Seam Tape using a hard rubber roller and firm hand pressure. Remove release liner on the MiraPLY Seam Tape and join the sheets together while simultaneously applying firm hand pressure. After the seam is fully constructed, roll the seam with a hard rubber roller using firm hand pressure.

Please Note:

- Clean seam area by using a clean rag to remove debris.
- If debris cannot be removed with a clean rag then Weathered Membrane Cleaner must be used.
- Weathered Membrane Cleaner coverage rate is approximately 1 gallon per 1,000 lineal feet of seam.
- Caution should be taken because solvent-based cleaners are extremely flammable and installers should read material safety data sheets and observe recommended safety procedures.



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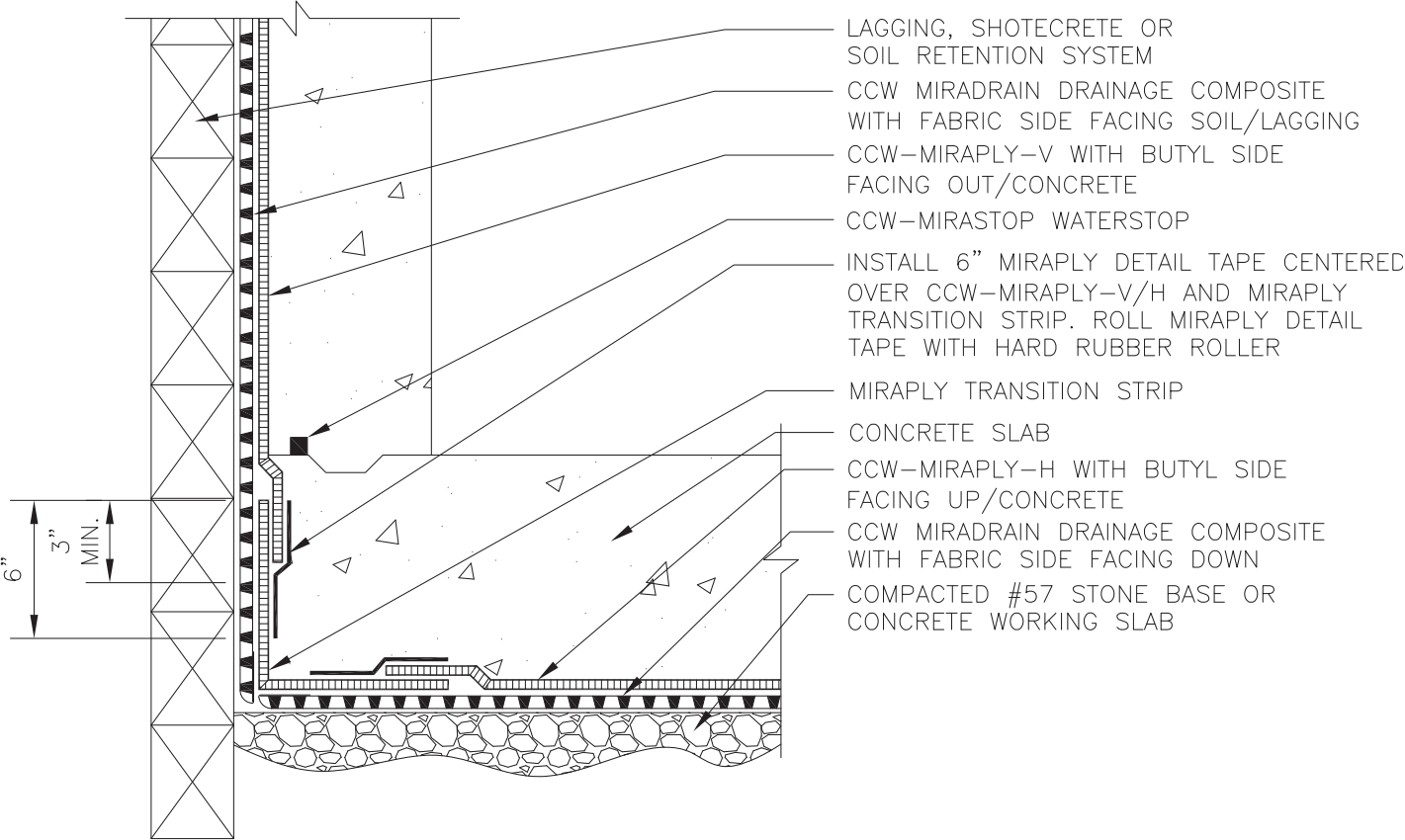


NOTES:

1. Install sheets of MiraPLY-H with a minimum 3" end overlap. Ensure the membrane lays flat and no openings are visible. Position the 6" MiraPLY Seam Tape in the lap area. Roll MiraPLY Seam Tape using a hard rubber roller and firm hand pressure. Remove release liner on the MiraPLY Seam Tape and join the sheets together while simultaneously applying firm hand pressure. After the seam is fully constructed, roll the seam with a hard rubber roller.

Horizontal/Vertical Transition Installation

Start the installation at an inside corner of the vertical to horizontal slab to wall transition. Unroll MiraPLY Transition Strip parallel to the wall. Fold and roll the transition strip to create a sharp transition at vertical to horizontal angle change to prevent bridging. Fasten transition strip along vertical surface, extending 12" up the wall and 12" out onto the horizontal base. Make sure membrane is tight into angle without voids. Unroll MiraPLY-H parallel with wall lapping onto the MiraPLY Transition Strip a minimum of 3". Position the F.A.T. away from the wall to allow for lapping of adjacent rolls. Unroll and install the next sheet of MiraPLY-H with **SeamLOCK** technology and align parallel to and overlapping onto preceding sheet of MiraPLY-H with **SeamLOCK** technology a minimum of 3". Construct laps by removing seam liners simultaneously while applying hand pressure. Roll seams with firm hand pressure using a hard rubber hand roller. Install MiraPLY-V with TPO side facing the soil retention system (lagging, sheet pile, shotcrete, etc.) lapping onto the MiraPLY Transition Strip a minimum of 3". Remove release liner from MiraPLY Transition Strip while simultaneously applying pressure at the MiraPLY-V & H overlaps. Overlay seams with an application of MiraPLY Detail tape centered over the laps on both vertical and horizontal laps. Roll seam and overlayment strips by applying firm hand pressure with hard rubber hand roller.



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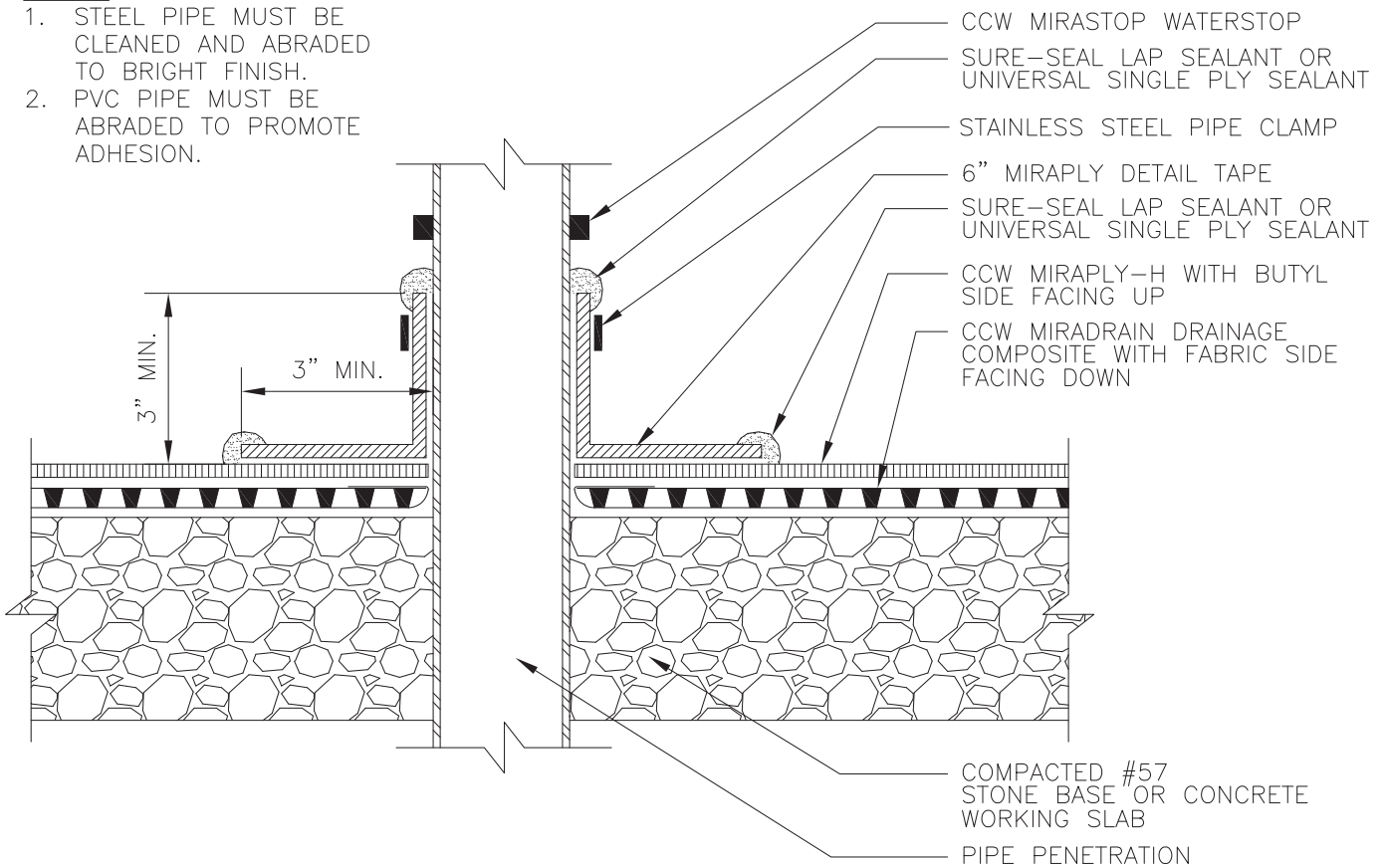
MiraPLY-H with SeamLOCK Technology

Slab Penetrations (Option 1)

All penetrations must be secured to prevent any movement. Penetrations must be clean, dry and free from rust. Make sure that the butyl side of the membrane is clean, dry and free of contaminants. Cut a 4' x 4' piece of MiraPLY-H with **SeamLOCK** Technology and cut a hole in the center the size and shape of the penetration. Slide the 4' x 4' sheet over the penetration. Apply 6" minimum MiraPLY Detail Tape, 3" minimum onto the penetration and then 3" minimum onto the MiraPLY-H with **SeamLOCK** Technology. Install a stainless steel pipe clamp to secure MiraPLY Detail Tape to the pipe. To ensure a watertight bond, roll MiraPLY Detail Tape with a hard rubber roller and firm hand pressure. Apply Sure-Seal Sealant or Universal Single Ply Sealant to all edges of MiraPLY Detail Tape. Wrap penetration with CCW MiraSTOP Waterstop with a minimum 3" concrete coverage.

NOTES:

1. STEEL PIPE MUST BE CLEANED AND ABRADED TO BRIGHT FINISH.
2. PVC PIPE MUST BE ABRADED TO PROMOTE ADHESION.



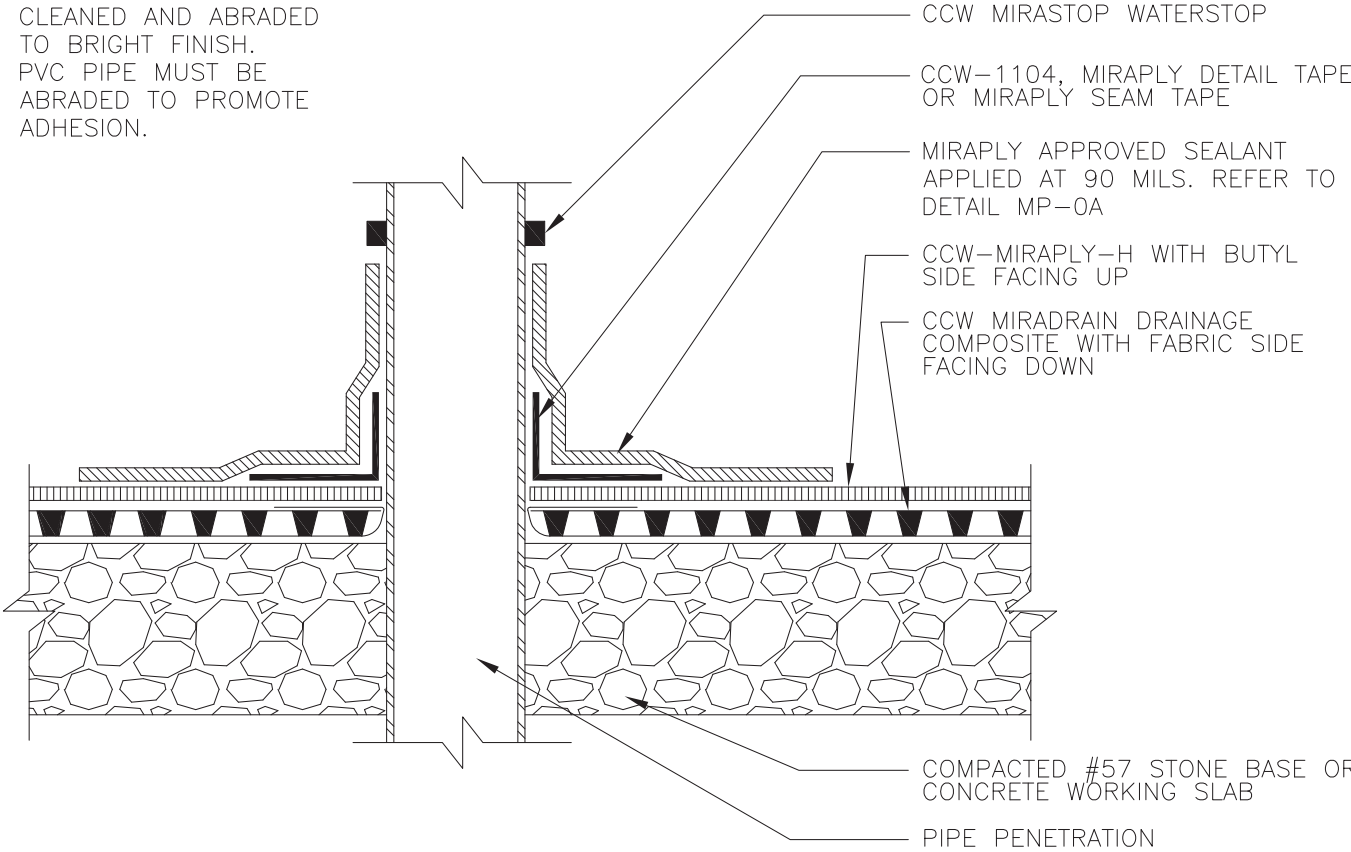
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Slab Penetrations (Option 2)

All penetrations must be secured to prevent any movement. Penetrations must be clean, dry and free from rust. Make sure that the Butyl side of the membrane is clean, dry and free of contaminants. Cut a 4' x 4' piece of MiraPLY-H with **SeamLOCK** Technology and cut a hole in the center the size and shape of penetration. Slide the 4' x 4' sheet over the penetration. Use CCW-1104 or MiraPLY Detail Tape to detail inside angle change to eliminate gaps and keep MiraPLY approved sealant in place. Apply a 90-mil layer of MiraPLY approved sealant 3" up penetration and 6" onto MiraPLY-H with **SeamLOCK** Technology. Wrap penetration with CCW MiraSTOP Waterstop with a minimum 3" concrete coverage.

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Warnings and Hazards

- Protect membrane from torch welding or cutting slag
- Do not use spiked rebar chairs
- Do not leave exposed for more than 60 days
- Installation below 25°F require special tools and techniques. Consult Technical Services for details.
- Concrete forms must remain in place a minimum of 3 days after concrete is poured

Storage

Store in the original packaging until use. Protect from UV exposure and weather. Store between 40°F or above 100°F.

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.