CHEM LINK E-CURB™ PENETRATION SEAL

DIVISION 7- THERMAL AND MOISTURE PROTECTION
SECTION 07 72 00 ROOF ACCESSORIES
SECTION 07 72 13 MANUFACTURED CURBS

PART 1 – GENERAL APPLICATION SPECIFICATIONS FOR ROOF PENETRATIONS

1.01 General Surface Preparation-Requirements

A. The E-Curb Liquid Applied Tie-in Flashing detail shall be installed on granulated APP, granulated SBS, existing gravel surfaced asphalt built-up roof systems, PVC, EPDM, and TPO Membranes.
B. Do not install E-Curbs on wet surfaces. All dust, dirt, loose gravel or any other surface contaminants must be removed from the roof surface.

1.02 Roof Penetrations

A. All mastics, coating, caulking, roof cement, scaled rust, loose paint, asphalt and any other contaminants shall be removed from the roof penetration with a wire brush. The prepared area on the roof penetration shall extend from the base a minimum of 3" above the roof line.

1.03 Penetration Base Seal

A. M-1 Structural Sealant shall be applied around the base perimeter of the roof penetration in order to seal all gaps and voids. Additional M-1 shall be applied to the penetration and neatly troweled covering the entire circumference or outer perimeter of the roof penetration extending from the base up a minimum of 3" above the roof line. The M-1 sealant acts as a primer to enhance the adhesion of the CHEM LINK pourable sealers. Do not use roof cement for a temporary seal or asphalt primer to prime the roof penetrations. These products will act as bond-breaking agents and can negatively affect the pourable sealers due to their solvent content.

1.04 CHEM LINK Pourable Sealers

A. Only CHEM LINK 1-Part Pourable Sealer and Pro Pack shall be used to fill E-Curbs. The entire curb shall be filled to the height of 2" with the pourable sealers. No grout, concrete, granules, gravel, insulation, or any other filler shall be used to in the E-Curb to take up volume.
B. 1-Part Pourable Sealer does not require mixing and is not adversely affected by light rain immediately after installation. Light rain will cause the 1-Part to skin over very quickly forming a rubber-like waterproof skin. 1-Part should not be applied under 30° F (-1° C). The roof surface shall be dry during the installation process of the E-Curbs.
C. Do not apply Pro Pack two-part urethane pourable sealant under 40° F (4° C) or if rain is expectant within four hours after the application time. Parts A & B must be mixed for a minimum of five minutes, until a uniform black color is obtained.

D. DuraSil SL does not require mixing and can be installed where high temperatures up to 400° F (177° C) are required.

Part 2 - Material, Storage and Handling

A. Examine all CHEM LINK packages and containers upon delivery to make sure they not damaged. Do not use any unlabeled products. Notify CHEM LINK Products, LLC. at (800) 826-1681 if any products are damaged or unlabeled.
B. Store CHEM LINK sealants and adhesives in a cool, dry place. If stored in freezing conditions, they should be brought up to room temperature 24 hours before use. The shelf-life of the sealants and adhesive is one year from the batch date that is located on the containers.

2.01 E-Curbs and Accessories

A. E-Curbs are a lighter weight version of a ChemCurb that are made of fiberglass reinforced nylon that features a slip-fit connection that provides for a faster installation. E-Curbs are only available in 3" i.d., 4"i.d., 6"i.d. and 9"i.d. two-piece round sections. All components are 2" high and are installed in the same manner as the standard ChemCurb.
C. 3"i.d. E-Curbs are designed for small pipe penetrations or for single electrical conduits from A/C units, solar panels, surveillance cameras etc. E-Curbs are also commonly installed on metal roofs and copings. Note: Any E-Curb or ChemCurb that is installed on Kynar coated metal, must be bonded to the surface and filled with CHEM LINK DuraLink low modulus sealant or DuraSil silicone sealant. Do not use M-1 Structural Sealant.
D. E-Curb 8" Straights are available in 8" lengths. These components are used to make larger, custom fitted E-Curbs. The half round sections can be snapped onto each end of a straight section to make larger oval shaped curbs that contain multiple roof penetrations.
E. E-Curb 2" Corners are used in conjunction with the straight sections to make large rectangular E-Curbs. There is no maximum size limitation to a custom fit E-Curb. However, it is recommended to allow the M-1 Structural Sealant that is used to bond the curb sections together to cure for one hour to gain strength before filling the curb.

2.02 1-Part Pourable Sealer / Pro Pack

A. 1-Part Pourable Sealer is a solvent free, self-leveling single component pourable sealer that cures from atmospheric moisture rather than moisture evaporation within the sealant. 1-Part eliminates mixing errors, labor and waste. Unused portions left in containers can be re-sealed and used again within a few days. The quart tubes of 1-Part can be sealed by inserting the cut off nozzle tip (point first), back into the tube. The half gallon pouches should have the air squeezed out before screwing the cap back in place. 1-Part Pourable Sealer is available in 10.1 oz. and 28 oz. cartridges and ½ gallon foil pouches that are complete with nozzles.
1-Part is odor free and is ideal for use on schools, hospitals, office buildings and food processing plants. 1-Part is extremely flexible and is recommended for use in E-Curbs that are subjected to vibration and excessive stress exerted from machinery screens.

1-Part is required for use in E-Curbs and ChemCurbs installed on granulated modified bitumen systems due to poor granule adhesion. 1-Part enhances the surface bond of the granules.

B. 1-Part Pourable Sealer forms a watertight rubber-like skin within five minutes. Total curing times vary depending on ambient temperature and humidity, but ChemCurb remains 100% watertight until the sealer forms a solid block of rubber. Note: Do not disturb or poke at the bonds while 1-Part is curing. Bond strength continues to build during the curing process.

C. Pro Pack must be mixed for a minimum for five minutes until a uniform black color is obtained. Do not apply Pro Pack two-part urethane pourable sealant if rain is expectant within four hours after the application time. Do not apply Pro Pack under 40° F (4° C).

D. DuraSil SL is odor free and is ideal for use on schools, hospitals, office buildings and food processing plants where a high temperature sealer is required. DuraSil SL is extremely flexible and is recommended for use in DuraSil SL is required for use in E-Curbs and ChemCurbs installed on granulated modified bitumen systems due to poor granule adhesion. DuraSil SL enhances the surface bond of the granules.

Part 3 - Roof Surface Preparation

3.01 Granulated S.B.S. and A.P.P. Modified Bitumen

All dust, dirt, grease, water, ice and any other surface contaminants must be removed completely from the roof surface. The roof membrane substrate must be clean and dry. Do not install E-Curbs on smooth APP. Due to the "non-oily" surface of granulated modified bitumen membranes, E-Curbs can be applied directly to the granulated surface. Brush away any loose granules before installing the E-Curb. Note: Due to poor granule adhesion, 1-Part Pourable Sealant should be used exclusively to fill E-Curbs that are installed on all granulated membranes.

3.02 Existing Gravel Surfaced Asphalt and Coal Tar Built-Up Roofs

Spud the gravel smooth until the top ply felts are exposed if possible. If roof restaurants, coatings, roof cement or hot asphalt was applied to the roof surface around the roof penetration, all such materials must be removed by whatever means are necessary.
Sweep away all dust, dirt and debris from the application area before installing the E-Curb. Do not use asphalt primer to prime the roof surface or the roof penetration.

3.03 Membrane Systems EPDM, PVC, TPO

Clean surrounding penetration area with membrane cleaner or isopropyl alcohol to ensure all dirt, dust and contaminations is removed from membrane.
NOTE: Prime TPO membrane with TPO Primer prior to installing the E-Curb System
NOTE: Do not use E-Curb System on Hypalon roofing membranes.

Part 4 - Application of the E-Curb

4.01 Application

A. After the surface preparation on the roof penetrations has been completed, a bead of M-1 Structural Sealant shall be applied around the base of all penetrations that are inside the E-Curb. Apply additional M-1 to the penetrations, starting at the base and extending a minimum of 3"above the roof. Tool the M-1 smooth, covering the entire circumference of the penetration/s. The M-1 serves as a primer and enhances the bond of the pourable sealer to the surface of the roof penetration. Do not use roof cement for sealing the base of the penetrations. Do not use asphalt primer to prime the penetration.

B. Hold the first section (or curved section) of the E-Curb "flat side up", and apply a ¼" bead of M-1 Structural Sealant to the bottom perimeter and another bead down the center of the curb section. Place the freshly treated section into place on the prepared surface, and press it down firmly. If the roof surface is not uniform (spudded gravel BUR), additional M-1 may be applied to obtain a proper bond to the roof surface.

C. Apply M-1 to the second section (or succeeding straight and corner sections for large E-Curbs) as described in Section 3.01. Press the sections together and down firmly. Apply additional M-1 to any voids. Note: Always maintain a distance of 1" between penetrations and the inside edge of the E-Curb in order to obtain a proper seal.

D. When the entire E-Curb is assembled and pressed into place, a bead of M-1 Structural Sealant shall be applied around the outside base of the ChemCurb. All joints and seams shall be tooled to a smooth finish with the applicator stick that is included with each E-Curb case. When installing E-Curbs on granulated membranes, some additional M-1 shall be applied to the granulated roof surface around the ChemCurb and tooled thin (1/2" wide) to lock in the roof granules.

   E-Curbs should have a small amount of M-1 applied to the slip joint on the curb to prevent leakage of the pourable sealer.

E. Fill the entire E-Curb with either 1-Part Pourable Sealer or Pro Pack. As per the mixing instructions on the CHEM LINK Pro Pack, mix parts "A" and "B" for a minimum of 5 minutes, until they become a uniform solid black color. Pour the pourable sealer into the E-Curb until it is completely flush with the top of the E-Curb.

4.02 Roof with Multiple E-Curbs

On a roof that has many E-Curbs to be installed, it can be faster to install the sections of several E-Curbs and then fill them all at once. This can help reduce the possibility of having unused Pro Pack or 1-Part Pourable Sealer left in a container. Make sure all temporary seals around the roof penetrations were sealed with M-1 Structural Sealant. Do not use roof cement for temporary seals.

4.03 **Multiple Large E-Curbs**

It is recommended to assemble large rectangular E-Curbs and allow the M-1 to cure for at least ½ hour before filling with 1-Part or Pro Pack. This gives the M-1 time to gain strength on the bonded curb sections in order to accommodate the hydrostatic pressure of multiple gallons of pourable sealer.
Note: If the penetration is for a hot pipe the entire E-Curb installation procedure should be completed using only the DuraSil and DuraSil SL. The surface of the metal must be cleaned with a clean rag and denatured alcohol prior to installation. Seal the pipe penetration and bond the E-curb with DuraSil and fill the penetration with DuraSil SL in the place of M-1 and 1-Part.

4.04 Positive Slope Installation

It is imperative to maintain the 2"depth of the sealer inside the entire E-Curb on steep slope roofs. This can be accomplished by filling the entire E-Curb (while packing the sealant tightly with a trowel), with CHEM LINK's low modulus DuraLink sealant. Hand tool the DuraLink to a smooth finish, flush with the top of the E-Curb.
The base of the roof penetration shall still be sealed with M-1 Structural Sealant and the vertical portion of the penetration shall be primed with M-1 Structural Sealant after normal surface preparations are completed.
Note: If the roof is a Kynar coated metal roof, the entire E-Curb installation procedure should be completed using only the DuraLink or DuraSil sealant. The surface of the metal must be cleaned with a clean rag and denatured alcohol prior to installation.

Part 5 - Existing Roof Warranties

When installing E-Curbs on an existing roof, it is necessary to determine if there is a contractor or manufacturer's warranty in force on the roof. Installing an E-Curb without prior authorization from the building owner, contractor, or roofing manufacturer, may void any warranties that have been issued on the roof area. Proper authorization is required prior to the installation of E-Curbs on all existing roof systems.

Part 6 - Extended Limited Materials Warranty

Upon receiving the completed warranty card and when applied in accordance with the CHEM LINK Products, LLC application instructions using only CHEM LINK Product, LLC materials, CHEM LINK Products, LLC warrants its E-Curb System for up to 20 years from the date of installation against leaks.
Our liability under this warranty, and buyer's sole and exclusive remedy, will be to provide Chem Link replacement product free of charge. CHEM LINK Products, LLC shall not be liable for: cost of labor to apply the product; damage to roofing, other structures, or interior contents of buildings; or for any other damages, whether direct, incidental, or consequential.
This warranty is in lieu of all other warranties, expressed and implied, including the warranties of merchantability and fitness for a particular purpose and warranties in tort. CHEM LINK

Products, LLC also disclaims any liability under any non-warranty theory of liability, including, but not limited to contractual, tort, or liability.
Neither the scope of the warranty nor liability the warranty may be extended except in writing executed by a duly elected officer of CHEM LINK Products, LLC of Schoolcraft, Michigan.

Part 7 - Policies

CHEM LINK Products, LLC reserves the right to change or modify, at its discretion, and without prior notice, any of the specifications, requirements, or information in the preceding text. This revision of 5/11/12 supersedes all literature, catalogs and previous manuals.
CHEM LINK Products, LLC, as a manufacturer, is not involved in the design or construction of buildings or structures. CHEM LINK Products, LLC will not accept responsibility for the performance of its products when damage is caused by, construction faults, defects in workmanship, improper building design, including but not limited to, excessive expansion or defective structural decking. CHEM LINK Products, LLC is also not responsible for any interior damages caused by water leakage into the building.
The design responsibility remains with the consultant, engineer, architect, contractor, or building owner. The guidelines described herein are solely for guidance purposes. These guidelines should not be considered to be all-inclusive.

END OF SECTION