

ISO-FLEX DURA-BLOCK EXPANSION JOINT INSTALLATION PROCEDURES

1. Preparatory Work

The expansion joint blockout and stem openings shall be a consistent width and depth along the entire length. They shall be the required widths and depths for the specified system on this project. Refer to LymTal International Drawing No. 2056-01 and 1301-02 for specific sizing/dimension information.

Edge spalling, sharp projections and concrete voids shall be repaired prior to proceeding with the joint installation. All concrete repair materials used should have reached full cure as specified by the manufacturer.

The Dura-Block joint "D" Series seal element shall be unrolled and allowed to lie in a relaxed position. Once relaxed, the seal should be cut to length and any splices can be made (See below section on "Splicing").

The vertical and horizontal faces of the expansion joint blockout should be cleaned to remove laitance, loosely bonded material, and any other contaminants that may inhibit bonding of the bedding and edge void sealants to the concrete.

The blockout should be clean and dry for system installation. Tape off the adjoining surfaces in order to protect and maintain a neat appearance of the surrounding area.

2. Installation

In preparation for installation of the Dura-Block expansion joint it is important to understand that there are two liquid accessories used in the process. First of all there is the Iso-Flex 910 Tack Coat (2-Part urethane, 1.5 Gal Units). This 910 Tack Coat is used for the bedding of the seal wings as well as for the filling of the bolt holes once the anchors are completely tightened. To ensure proper allocation of the 910 Tack Coat it should be noted that the bedding aspect of the installation assumes that one Unit of 910 will handle 15 feet of joint, both sides included. Knowing this, calculate and set aside the proper number of units for the bedding portion of the installation. Then set the remaining units aside for the filling of bolt holes that will occur later in the installation process. The other liquid component is the 825 Sealant. This sealant is provided in 20 oz sausage packs and it is used exclusively for the Edge Void Sealant.

Once you have tools and materials organized at the joint being installed you can install the "D" series seal into the joint gap. Next open and begin to mix the first unit of 910 Tack Coat. This is done by pouring the two components into a clean and dry pail. Mix with an electric drill motor and mixing paddle. Mix for approximately 2-3 minutes, and until the mix is of a consistent color and texture.

This 910 Tack Coat Bedding material goes UNDER the flat wing flange of the "D" series seal. Next, flip up the wing flange of the seal so the bedding can be gunned out. Using a bulk caulking gun with a tapered tip cut to 1/2", run out 3/8" beads of the 910 Tack Coat.

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Gun out the material in a zig zag pattern **UNDER** the wing flange, and along the blackout base. Recall that the coverage is 15 Ft of joint, both sides per 1.5 Gallon unit.

Do this on both sides of the joint gap opening.

With the “D” series seal now in place, start at one end of the joint location and begin to place the 6 Ft. anchor panels. Layout of the anchor panels is important for a good installation. Place the panels into the joint, laying them on top of the seal flange. The anchor panels need to be placed so the bolt hole cavities are located away from the joint gap. The panels are properly placed when the anchor hole is 2.5” away from the joint gap edge and the “D” series seal. Ensure that the tongue end aligns, and fit into the opposing groove end of each panel. **Be sure the panels are properly placed in the blackout. DO NOT ALLOW ANCHOR PANELS TO CANTILEVER INTO THE JOINT GAP OPENING.** Walk down the panels to assure that the panels and seal wings are pressed firmly into place.

With the panels loose laid in the blackout it is important to wedge the panels away from the concrete blackout edge in order to form the ¼” gap for the edge void sealant. As the Anchor Panels are wedged over into position it is important to compress the top portion of the “D” series seal to a point that is equivalent to the lower portion that is compressed into the joint gap opening.

Beginning at one end of the joint length, begin to drill the anchor holes in the first set of opposing anchor panels.

This joint system utilizes anchor bolts produced by DeWalt (Engineered by Powers). The specific anchor is the **Screw-Bolt+** Cat. No. PFM1411580. This is a 5/8” hex head bolt with a 4” thread length. The anchors require that the pilot hole be drilled with a standard 5/8” diameter drill Bit. Drill bits are the responsibility of the installing contractor. Any additional information for Powers Fasteners can be found at www.anchors.dewalt.com.

Utilizing a standard 5/8” concrete drill bit, drill the anchor holes into the concrete deck (through the rubber flange) to a depth of 4”. Vacuum out the loose concrete dust.

With all of the anchor holes properly located in the first opposing set of anchor panels, begin to install anchors. When using electric or pneumatic impact wrenches be sure to feather the trigger in order to avoid over tightening or stripping of the anchor. Utilize a hand torque wrench for final tightening.

Repeat this process down the length of the joint by drilling and anchoring each succeeding set of anchor panels. Force each ensuing panel firmly against the already installed panel so that the tongue and groove sections are tight. Having done so, tighten down the hardware on this panel. This process is to be repeated correspondingly for both sides of the joint gap working down the full length of the joint.

The Screw-Bolt+ anchors should be torqued to 60 Ft-LBS Max.

Anchor panels should be laid out in such a way to ensure that the final piece is a minimum of two feet in length so that it has at least two anchor locations holding it in place. Anchor panels can be field cut using a cutoff saw.

Once all of the panels are in place re-torque each bolt to ensure a snug fit.

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With the system now in place, mix and install Iso-Flex 910 Tack Coat sealant and fill the bolt hole cavities. For the edge void areas utilize the Iso-Flex 825 sealant material provided in 20 oz sausages. Edge voids are assumed to be ¼" in width.

3. Clean Up

Remove any tape and/or protective paper from the concrete and dispose of properly.

Wipe the system with an organic solvent to remove any dirt or deposited sealant materials.

4. Splicing

Butt splices of the Iso-Flex Dura-Block "D" series seal can be easily completed in the field by using a heat fusing process. The anchor panels are simply cut in the field and butted together. A cutoff saw is best for this as the anchor panel has a heavy steel reinforcement.

There is no means of fusing the anchor blocks together as they are an EPDM rubber material.

For the seal element, the first step is to make sure that the ends of the seal to be spliced have fresh, straight cuts. Utilizing a Heat Splicing Iron that is preheated to 400°F - 425°F., hold it between each end of the prepared "D" series seal. When each surface shows about a 1/8" bead of melted material (approx. 3-4 Minutes) quickly remove the splicing iron, aligning the joint ends and press together until they bond (about 3-5 minutes). Allow the splice to cool for 15 minutes before proceeding. Do not move, bend, stretch or stress the splice for 2 hours.

Directional changes of the seal element can also be pre-manufactured. This then leaves only simple butt splicing for completion in the field.

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5. Recommended Equipment & Tools

- Hand Blower
- Visqueen or Roofing Paper
- Duct Tape
- 3/8" Drill Motor
- Small Jiffy Paddle
- 1/2" Drill Motor
- 5/8" Drill Bits
- Electrical Extension Cords and Hand Tools
- Margin Trowels
- 2" Disposable Brushes
- Bulk Caulking Guns and Tips
- Miter Box & Saw
- Heat Splicing Iron and Fixture
- Socket Wrenches
- Torque Wrench
- Solvent Toluene or MEK (For Clean Up)
- Rags
- Personal Safety Equipment: Glasses, Gloves, etc.

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