

# *LymTal* International, Inc.

## **ISO-FLEX SINUSOIDAL STRIP SEAL 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 gap opening for the specified seal on this project.

The blockout shall be formed in compliance with detail 1887-01. Blockouts must be in alignment on each side of the joint gap and within the specified width and depth dimensions.

The expansion joint blockout and opening should be sandblasted to remove laitance, loosely bonded material and any other contaminant, which may inhibit bonding of the system to the concrete.

### **2. Installation**

Prior to installation the steel strip seal rails must be sandblasted to remove rust and other contaminants that may inhibit adhesion to the elastomeric concrete header. This is most easily accomplished while preparing the concrete blockout.

The steel rails should then be laid out and cut to length fitting the installation location. The mill length (23 FT) steel rails must then be field welded to each other. Follow field weld detail 2059-00 to ensure proper preparation and weldment.

Having the steel cut to length and welded into a continuous run, it is time to set the strip seal system to the blockout. Anchorage is accomplished by use of the steel setting devise assemblies provided at 4 Ft spacing. Reference detail 2058-00 for dimensions and layout. **IT IS CRITICAL THAT THE HOLES ARE DRILLED SUCH THAT THE STRIP SEAL STEEL RAILS DO NOT CANTILEVER PAST THE BLOCKOUT BASE. THEY MUST BE FULLY SUPPORTED IN THE ELASTOMERIC CONCRETE HEADER.**

With the steel rails laid in the blockout locate and drill the anchor holes for the setting devise hardware. Install the Red Head anchors and thread on the lower hex nut. Place the setting assembly over the anchor and thread on the top side hex nut.

With the steel rails set on the setting assemblies, adjust the hex nuts top and bottom, in order to bring the rails to the proper flush elevation with the traffic surface. Use a straight edge to ensure proper elevation and a smooth traffic surface.

With the steel rails set and aligned, blow out the blockout one last time in preparation for priming. Before beginning it is recommended that the top surface of the steel rails be taped off with duct tape. Also the back edge of the concrete interfacing the blockout should be taped and protected with plastic or roofing paper to keep the adjacent concrete clean and neat.

The primer utilized is Iso-Flex Primer #10. This is a 2-part quart unit of material. Open the Part A quart paint can which is short filled and pour in the Part B metal bottle component into the quart can. Tap on the lid and shake for a minute to mix the components. Using a disposable paint brush paint the primer on the base and vertical edges of the concrete blockout. DO NOT prime the steel surfaces, leave them in their sandblasted raw steel condition.

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Once primed, install foam into the joint gap in order to create a bulkhead for placement of the Iso-Flex 900 Elastomeric Concrete. Refer to detail 2058-00 for location of foam material.

With the foam in-place the Iso-Flex 900 elastomeric concrete can now be mixed and placed.

Take a clean 5-gallon pail and one unit of Iso-Flex 900 liquid components “A” and “B”. Pour into a pail and briefly mix with a heavy-duty drill and paddle. Immediately and progressively add the pre-measured graded aggregate (part “C”) and incorporate into the liquid until all components are fully mixed. Ensure that there are no dry pockets of aggregate and that the finished product is a consistent black color with no evidence of color streaking. This will take 2-3 minutes.

Immediately pour the elastomeric concrete into the blockout. Be sure to vibrate and consolidate the elastomeric concrete to ensure that it flows under and completely fills the blockout. Trowel to a smooth and glossy finish from the upper outer edge of the steel to the blockout corner.

**Note:** The Iso-Flex 900 Elastomeric Concrete has a short pot life; it must be mixed quickly and immediately placed in the blockout, packed and troweled to a smooth finish.

## **3. Cure Time**

The installation can be opened to traffic once the Iso-Flex 900 has fully cured (Typically 8 to 12 hours).

## **4. Clean Up**

Remove the tape from the seal and concrete and dispose of properly.

Wipe the seal with an organic solvent to remove any remaining nosing.

## **5. Rubber Seal Installation**

With the elastomeric concrete header now fully cured the rubber strip seal gland can be installed. This is accomplished by tucking the “ears” of the seal into the steel strip seal rails. Utilize the Iso-Flex lube-adhesive to ease this process.

The lube-adhesive is packaged in 20 oz. sausages. The lube can be cut open or can be gunned onto a board so that it can be painted on to the edges of the rubber seal ears and on to the leading edge surfaces of the steel rail that will engage the rubber seal. Once the seal and the steel are lubricated the seal can be tucked into the steel rail. This is accomplished using pry bars or large screw drivers. The tip of these items must be dulled with a grinder in order to prevent damage to the rubber seal. Working your way down the length of joint the seal is tucked in by first inserting the bottom ear in the steel rail and then rotating the top ear to lock it into place.

With the rubber all tucked and completely installed, a solvent can be used to clean up excess lube-adhesive that may have gotten on to the rubber or steel surfaces.

## **5. Splicing**

Butt splices of the Iso-Flex rubber strip Seal can be easily completed in the field by using a heat fusing process. First, make sure the ends of the seal to be spliced have fresh, straight cuts. After the Iso-Flex Splicing Iron is preheated, hold it between each end of the joint. When each surface shows about a 3/16" bead of melted material quickly remove the splicing iron and hold the joint ends together until they bond (about 3-5 minutes). Do not move, bend, stretch or stress the splice before the recommended bond time.

Directional changes are pre-manufactured at LymTal for simple butt splicing in the field.