Installation and replacement procedure for strip seals

SERIES 1000, TYPE C (MTO) SINGLE CELL AND MODULAR JOINTS

1. To remove the existing strip seal, use long-nose vise-grip pliers to grip the seal at one extremity of the joint assembly, near the interior side of the steel retainer and pull upwards and outwards until a length measuring approximately 300 mm long has been pulled out. Repeat the same operation at the other side of the joint. Once the first 300 mm lengths have been withdrawn, the strip seal can be fully removed by continuing to pull lengthwise along the joint assembly. If performed with care, the strip seal can be removed and reinstalled without being damaged.

2. To install a strip seal in a newly installed joint, remove the concrete formwork surrounding the joint assembly and clear all loose concrete debris from the steel retainers. Remove the protective foam rod inserted in the steel retainer openings.

3. Inspect the opening and clean as needed using a steel tool. If there is any laitance in proximity of the edge beams, it will be very difficult to insert the strip seal in place.

4. The joint assembly must be completely watertight after installation as tests are often performed to confirm water tightness. Leaks generally occur at bolted connection between joint sections. A seal weld must be performed after sections are bolted together to ensure the continuity of the edge beam, in compliance with the information found on the shop drawings. These welds must be performed before the strip seal is installed.

5. After making sure that the steel retainers openings are clear of all debris, apply an IPEX type lubricant (supplied by Goodco Z-Tech) along the opening and on the tips of the arrowhead lugs using a paintbrush. Apply lubricant on a section of approximately 3 to 5 m at a time (this lubricant is water-soluble and can dry rapidly in warm temperatures, making it considerably less effective).

6. Press the “V” shape of the strip seal together and insert it into the joint opening. The arrowhead lugs will point directly into the steel retainer openings. There must be a minimum opening of 40 mm between the steel retainers in order allow the installation the strip seal.

7. The strip seal must be locked in place using the proper tools. We highly recommend using the tools supplied by Goodco Z-Tech. Be sure to always use tools with extremities that have been rounded off with a grinder. Never use tools with sharp edges, like a screwdriver, as it could easily damage the strip seal. The seal can be inserted using several tools. The most commonly used tool is a crowbar with a rounded tip. A special tool is also available at Goodco Z-Tech to lock in the strip seal while in a standing position.

8. Begin locking in the strip seal approximately 1 m from the parapet or curb. The seal extremities upwards to the parapet or curb should only be locked in place after the strip seal has been installed along the length of the roadway. Initiating the seal lock-in operation is a relatively difficult step, which is why we recommend that it be performed by two people. Once the first few centimeters of the strip seal have been put in place, the rest of the operation can be performed by a single person using either a crowbar or the tool supplied by Goodco Z-Tech. The arrowhead lugs must be pushed inside the steel retainers inch by inch.

When the strip seal has been properly put in place, the back of the arrowhead lugs will be flush with the exterior of the steel retainers. The strip seal is properly locked in place when it forms a straight and continuous line. The strip seal is not properly locked in place if bulges are visible on the surface.

9. After installation, remove the surplus lubricant and clean properly to prevent the accumulation of debris.