

ITEM 438

PREFORMED JOINT SEAL

438.1 Description. This item shall govern for the furnishing and installation of preformed materials, to be placed in armored bridge deck joints for the purpose of preventing the passage of water and other materials through the joint.

438.2 Materials. The joint seal shall be an extruded, multi-channeled elastomeric shape, conforming to ASTM Designation D2628. The size shown on the plans shall be the nominal width of the seal. The uncompressed depth of the seal shall be equal to or greater than the width.

When tested in accordance with ASTM D2628, the pressure measured shall be no less than 3 psi at 85 percent, nor more than 100 psi at 50 percent of the nominal width.

Lubricant-adhesive shall be a one part moisture curing polyurethane and hydrocarbon solvent mixture with the following physical properties:

Table I

Average Net Weight Per Gallon	8.00 pounds (10%)
Solids Content	65-74 percent by weight
Adhesive Content	5° F to 120° F
Film Strength (ASTM D412)	1200 psi
Elongation	350 percent

The manufacturer shall furnish certification as to compliance with these physical requirements.

438.3 Inspection and Testing. The Engineer shall conform that the seal proposed for installation is of the size, configuration and meets the requirements of this specification. In addition, the Engineer shall examine the seal for any undue distortions such as dissymmetry, to impair the performance of the joint. If the magnitude of the distortions are sufficient to create doubt as to the performance of the seal, the Engineer may direct that the seal be replaced, or that samples representing the worst of the lot be subjected to further testing, at the expense of the Contractor, to verify the performance.

438.4 Construction Requirements. Just prior to installing the seal, the joint faces shall be abrasive blast cleaned, blown out with high pressure air and lubricant adhesive applied to the joint faces. The sides of the seal shall be cleaned with xylol solvent, lubricant adhesive applied to the sides and installed into the joint opening with an approved compression installation tool as recommended by the manufacturer. Installation by hammering, use of sharp tools or stretching of the seal will not be permitted.

The Contractor shall furnish the fabricator of the armor joint with the actual depth of the seal to be furnished so that the stop for the bottom of the seal will be placed in the correct position (actual depth plus one inch). In no case shall the top of the seal, after installation, be closer than one-half of an inch to the roadway surface.

The seal shall be installed in the joint in one continuous piece for the full joint including vertical and horizontal angle changes. One shop splice for each 40-feet of length will be permitted but no field splice will be allowed. Failure of a splice at any time prior to final acceptance of the work will be cause for rejection and replacement of the entire seal.

The bottom portion of the seal may be cut or portions removed to facilitate vertical bending only. Any authorized cutting shall be to smooth lines and rounded curves. The word top shall be printed on each seal at intervals not to exceed 25-feet.

Uniform joint openings of the proper width and with parallel joint faces shall be provided. Joint openings shall be adjusted for the difference between 70° F and the temperature of the superstructure at the time the opening is set. The amount of adjustment shall be approximately one-sixteenth of an inch per 10° F. temperature difference per 90 feet of length expanding through the joint. Adjustments in joint opening shall not be made for reasons other than temperature at setting.

438.5 Measurement. For each size of seal specified, measurement will be made by the **linear foot**, along the centerline of the joint and at the surface of the roadway, curb, sidewalk, and up the roadway surface.

438.6 Payment. Payment shall be made at the contract unit price bid per **foot**, for the size of seal specified.

END OF ITEM 438