

**CITY OF SAN ANGELO**  
**ITEM 433**  
**JOINT SEALANTS AND FILLERS**

**433.1. DESCRIPTION.**

This Item shall govern the material requirements for joint sealants, backing materials and joint fillers.

**433.2. MATERIALS.**

The materials for this item shall conform to the following:

(1) **Joint Sealant Materials.** Joint sealant material shall be the class indicated on the Plans or in the governing specifications. The various classes of sealant described herein shall be in accordance with TxDOT Material Specification D-9-6310. Copies of specification D-9-6310 are available from TxDOT, Director of Materials and Tests, 125 E. 11th Street, Austin, TX 78701-2483.

(2) **Storage.** Class 1 and 2 sealants shall be stored at temperatures between 40°F and 100°F. Class 4 and 5 sealants shall be stored in sealed containers at a temperature of 100°F or below and the material must be used within two (2) months of receipt on the project.

(3) **Classes of Joint Sealants.**

**(a) Class 1. Two Component, Synthetic Polymer, Non-sag.** The components shall be proportioned and mixed in accordance with the manufacturer's recommendations.

**(b) Class 2. Two Component, Synthetic Polymer, Self-leveling.** The components shall be proportioned and mixed in accordance with the manufacturer's recommendations.

**(c) Class 3. Hot Poured Rubber.** This sealant shall be a rubber asphalt compound which when heated shall melt to the proper consistency for pouring and shall solidify on cooling to ambient temperatures.

**(d) Class 4. Non-sag Low Modulus Silicone.** The material shall be a single component formulation not requiring addition of a catalyst.

**(e) Class 5. Self-leveling Low Modulus Silicone.** The material shall be a single component formulation not requiring addition of a catalyst.

**(f) Class 6. Preformed Joint Sealant (PJS).** The preformed joint sealant shall be an extruded elastomeric material having a multi-channeled shape.

**(g) Class 7. Self-leveling, Rapid Curing, Low Modulus Silicone.** The material shall be a two component, rapid curing, self-leveling, low modulus formulation. The components shall be proportioned and mixed in accordance with the manufacturer's recommendations.

The size shown on the Plans shall be the nominal width of the sealant. The uncompressed depth of the seal shall be equal to or greater than the width.

All preformed joint sealants installed by the Contractor shall have been pre-qualified for compliance with the requirements. Each size and configuration of seal produced by a manufacturer must be approved by the City prior to use on City of San Angelo projects. For a sealant manufacturer to pre-qualify and obtain approval of a sealant, detailed dimensions and configuration of each size of sealant and certified test results indicating compliance with TxDOT Material Specification D-9-6310 and any requirements shown on the Plans and specifications shall be submitted to the City.

Submission shall be done sufficiently in advance of work to allow for testing and evaluation of the material.

The City will confirm by visual inspection that the sealant proposed for installation is the same size, configuration and manufacture as shown on Plans. The City will examine the sealant for any undue distortions, such as dissymmetry, warping, thick webs or uneven width, which are likely to impair the performance of the joint. If the magnitudes of the distortions are sufficient to create doubt as to the performance of the sealant, the City may direct that the sealant be replaced or that samples representing the worst of the lot be subjected to further testing to verify their performance.

**(4) Backer Rods and Backing Materials.** These materials shall be capable of holding the fluid sealant in open joints in place. In all cases these materials shall be of such a type that will not bond to the sealant. The backing materials shall meet the requirements of the sealant manufacturer. They shall be compressible type materials, such as closed-cell, resilient foam or sponge rubber stock of vinyl, butyl or neoprene, or expanded polyethylene or polyurethane.

The diameter of the backer rod shall be at least 25 percent larger than the joint reservoir width.

**(5) Joint Fillers.** Joint fillers shall be of the size, shape and type indicated on the Plans and shall conform to the following requirements.

**(a) Timber Boards.** Timber boards shall be obtained from redwood, cypress, gum, southern yellow pine or Douglas fir timber. They shall be sound heartwood and shall be free from sapwood, knots, clustered bird's eye, checks and splits. Occasional sound or hollow bird's-eye, when not in clusters, will be permitted provided the board is free from any other defects that will impair its usefulness as a joint filler. All boards, except redwood and cypress, shall have a creosote or pentachlorophenol treatment conforming to TxDOT Item 492 "Timber Preservative and Treatment", Table 1. When oven dried at 230°F to a constant weight, the weight of the board per cubic foot (minus treatment) shall not be less than 20 pounds or more than 35 pounds.

**(b) Asphalt Boards.** Asphalt boards shall consist of two (2) suitable asphalt-impregnated liners filled with a mastic mixture of asphalt and vegetable fiber and/or mineral fiber. Asphalt boards

shall be smooth, flat and sufficiently rigid to permit installation. When tested in accordance with Test Method Tex-524-C, the horizontal deflection shall not be more than one inch in 3-1/2 inches.

**(c) Preformed Fiber Material.**

**i. Preformed Bituminous Fiber Material.** Preformed bituminous fiber material shall meet the requirements of ASTM D1751.

**ii. Preformed Non-bituminous Fiber Material.** Preformed non-bituminous fiber material shall meet the requirements of ASTM D1751, except that the requirements pertaining to bitumen content, density and water absorption shall be voided.

**(d) Rebonded Neoprene Filler.** Rebonded neoprene filler shall consist of ground closed-cell neoprene particles, rebonded and molded into sheets of uniform thickness of the dimensions shown on the Plans, meeting the requirements of ASTM D1752, Type 1. Certification that the material meets these requirements shall be furnished to the City.

**433.3. MEASUREMENT.**

The work performed, materials furnished and all labor, tools, equipment and incidentals necessary to complete the work.

**433.4. PAYMENT.**

This Item will be paid for by the linear feet as measured in place.