

SECTION 114

CONCRETE JOINT SEALER

114.1 DESCRIPTION

Sealant for joints in portland cement concrete.

114.2 MATERIALS

- A. Hot Poured Elastic Joint Sealer:** The sealant shall conform to the requirements of ASTM D6690 Type II or Type IV or be on the SDDOT Approved Products List for joint sealants for asphalt over long jointed concrete pavement.

Hot poured elastic joint sealer meeting the requirements of ASTM D6690 Type IV shall not weigh more than 9.35 pounds per gallon.

Test methods shall conform to ASTM D5329, except the fine aggregate used in preparing the concrete test blocks shall conform to Section 105. The Contractor shall furnish a Certificate of Compliance for hot poured elastic joint sealer not listed on the SDDOT Approved Products List.

- B. Low Modulus Silicone Sealant:** Shall be furnished in a one-part silicone formulation. The sealant must be on the list of approved products maintained by the SDDOT and must meet the following requirements:

Test	Limit	Test Method
Tack Free Time	20-75 minutes	MIL S 8802
Specific Gravity	1.010-1.515	ASTM D792 (Method A)
Durometer Hardness Type A: [Cured 7 days at 77°F ±3° and 45% to 55% R.H.]	10-25 0°F	ASTM D2240
Tensile Stress: [150% elongation, 7 days at 77°F ±3° and 45-55% R.H.]	45 psi maximum	ASTM D412 (Die C)
Elongation: [7 day cure at 77°F ±3° and 45-55% R.H.]	1000% minimum	ASTM D412 (Die C)
Shelf Life	6 months minimum from date of manufacture	
Ozone and Ultra Violet Resistance	No chalking, cracking or bond loss after 5000 hours	

Movement Capability and Adhesion [7 day cure in air 77°F ±3°]	No adhesive or cohesive failure, *1 all 3 specimens must exceed 500% extension at 0°F	
Bond to Concrete Mortar Concrete Briquettes [air cured 7 days at 77°F ±3°]	50 psi minimum 0°F	AASHTO T 132*2

*1 Prepare the specimens using 1" x 2" x 3" concrete blocks made in accordance with ASTM D 5329, except the fine aggregate shall conform to Section 800. A sawed face shall be used for bond surface. Seal 2 inches of block leaving 1/2 inch on each end of specimen unsealed. The depth of sealant shall be 3/8 inch and the width 1/2 inch. Subject the sealant to movement at a rate of 2 inches per minute until failure.

*2 Briquettes molded in accordance with AASHTO T 132 sawed in half and bonded with approximately 10 mils of sealant and tested using clips meeting AASHTO T 132. Briquettes shall be dried to constant weight in oven 100°C ± 5°. They shall be tested in tension at a loading rate of 0.3 inches per minute.

The backer rod shall be a non-moisture absorbing, closed cell, resilient material meeting the requirements of ASTM D5249 approximately 25% larger in diameter than the width of the joint to be sealed. The backer rod shall be compatible with the sealant and no bond or reaction shall occur between the rod and the sealant.

114.3 METHOD OF MEASUREMENT

Concrete joint sealer shall be incidental to various concrete construction bid items. There will be no separate measurement for concrete joint sealer.

114.4 BASIS OF PAYMENT

Concrete joint sealer shall be incidental to various concrete construction bid items. There will be no separate payment for concrete joint sealer.

END OF SECTION