

870. 1 REQUIREMENTS

A. Hot Poured Elastic Joint Sealer: The sealant shall conform to the requirements of ASTM D 3405 or ASTM D3405 with the following modifications:

Penetration at 77° F ----- 90-150

Bond at -20° F, Std. Specimen,
3 cycles, 200% Extension ----- Passes

Sealant material shall not weigh more than 9.35 lbs./gal.

Test methods shall conform to ASTM D 5329, except the fine aggregate used in preparing the concrete test blocks shall conform to Section 800. The Contractor shall furnish a certificate of compliance for hot poured elastic joint sealer not listed on the approved products list.

B. Low Modulus Silicone Sealant: 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 Department, and must also meet the following requirements:

TEST	LIMIT	TEST METHOD
Tack Free Time	20-75 minutes	MIL S 8802
Specific Gravity	1.010-1.515	ASTM D 792 (Method A)
Durometer Hardness Type A: [Cured 7 days at 77° F ±3° (25° C ±2°) and 45% to 55% R.H.]	10-25 0° F (-18° C)	ASTM D 2240
Tensile Stress: [at 150% elongation, 7 day cure at 77° F ±3° (25° C ±2°) and 45-55% R.H.]	45 psi (310 kPa) max.	ASTM D 412 (Die C)
Elongation: [7 day cure at 77° F ±3° (25° C ±2°) & 45-55 R.H.]	1000% min.	ASTM D 412 (Die C)
Shelf Life	6 month minimum from date of manufacture	
Ozone & Ultra Violet Resistance	No chalking, cracking or bond loss after 5000 hrs.	

TEST	LIMIT	TEST METHOD
Movement capability and adhesion [7 day cure in air 77° F ±3° (25° C ±2°)]	No adhesive or cohesive failure, * all 3 specimens must exceed 500% extension at 0° F (-18° C)	
Bond to Concrete Mortar Concrete briquettes [air cured 7 days at 77° F ±3° (25° C ±2°)]	50 psi (345 kPa) min. 0° F (-18° C)	AASHTO T 132**

The backer rod shall be a nonmoisture absorbing, resilient material approximately 25 percent 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.

* Prepare the specimens using 1" x 2" x 3" (25 mm x 50 mm x 75 mm) 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 two inches (50 mm) of block leaving 1/2 inch (13 mm) on each end of specimen unsealed. The depth of sealant shall be 3/8 inch (10 mm) and the width 1/2 inch (13 mm). Subject the sealant to movement at a rate of two inches (50 mm) per minute until failure.

** Briquettes molded in accordance with AASHTO T 132 sawed in half and bonded with approximately 10 mils (0.25 mm) 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 (7.6 mm) per minute.