

CRD-C 527-88

**STANDARD SPECIFICATION FOR JOINT SEALANTS, COLD-APPLIED,
NON-JET-FUEL-RESISTANT. FOR RIGID AND FLEXIBLE PAVEMENTS****1. Scope**

1.1 This specification covers one- and two-component, elastomeric, cold-applied, non-jet-fuel-resistant (non-JFR) sealing compounds for use in sealing joints and cracks in rigid and flexible pavements.

2. Referenced Documents

2.1 CRD-C 522 Methods of Testing Joint Sealants, Cold-Applied, Non-Jet-Fuel-Resistant, for Rigid and Flexible Pavements

3. Materials

3.1 Single-Component Sealants: The sealant material shall be of homogeneous consistency when applied in the joints or cracks. Sealants with an acetic acid curing agent shall not be used. The sealant shall meet the requirements of paragraph 4, "Requirements," and in addition shall have not less than 1-h application or pouring life after opening the sealant container.

3.2 Two-Component Sealants: The sealant shall consist of a base and a curing component which have been formulated for either manual mixing or machine mixing. The components shall be supplied in preproportioned containers. Each component and the resulting sealant shall be of homogeneous consistency. The sealant shall meet the requirements of paragraph 4, "Requirements," and in addition shall have not less than 1 h of application or pouring life after the base and curing components are mixed together.

3.3 Primer: When a primer is recommended by the sealant manufacturer for a specific surface, all tests and applications concerning adhesion shall include the primer applied in accordance with instructions provided by the manufacturer.

4. Requirements

4.1 The sealant shall be a single-component cold-pour or a two-component cold-pour material. The sealant shall cure to form a resilient and adhesive elastomeric compound. The sealant shall effectively seal joints and cracks in pavement against the infiltration of moisture and foreign objects throughout repeated cycles of expansion and contraction, and shall not flow from the joints or be picked up by pneumatic tires at in-place temperatures of

140°F (60°C) or below. The sealant shall have a uniform application consistency suitable for completely filling joints and cracks without inclusion of blisters, bubbles, or discontinuities.

4.2 Performance Requirements:

4.2.1 Application Leveling: The sealant when poured or extruded into a joint on a 1.5 percent incline shall limit flow to a depth variation not greater than 1/16 in. (1.59 mm) when tested as specified in CRD-C 522.

4.2.2 Change in Volume: The change in volume of the cured sealant when exposed to 158°F (70° C) shall not exceed ± 5 percent of the initial volume by water displacement when tested as specified in CRD-C 522.

4.2.3 Swelling: The sealant shall not swell during curing in excess of an average of 1/8 in. (3.2 mm) when tested as specified in CRD-C 522.

4.2.4 Tack-free Time: The tack-free time for the sealant shall be less than 12 h after application when tested as specified in CRD-C 522.

4.2.5 Resilience: When the sealant is tested as specified in CRD-C 522, the resilience shall not be less than 60 percent. The initial penetration shall not exceed 0.20 cm and shall not be less than 0.03 cm.

4.2.6 Compatibility with Bitumen: There shall be no failure in adhesion, formation of an oily exudate at the interface between the sealant and the bituminous concrete, or softening or other deleterious effect on the bituminous concrete when the sealant is tested as specified in CRD-C 522.

4.2.7 Flow: The cured sealant shall show no evidence of flow, cracking, or dimensional change after 5 h of exposure to a temperature of 200°F (93.3°C) when tested as specified in CRD-C 522.

4.2.8 Penetration: The cured sealant shall not exceed a penetration of 0.90 cm when tested as specified in CRD-C 522.

4.2.9 Bond to Portland-Cement Concrete: None of the cured sealant specimens shall develop any surface checking, cracking, separation, or other opening in the sealant or between the sealant and the concrete block, and there shall be no surface

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hardening or loss of rubberlike characteristics in the sealant when tested as specified in CRD-C 522.

4.3 Safety Requirements: The sealant material shall have no adverse effect on the health of personnel when following the manufacturer's instructions on handling, mixing, and placing the sealant.

4.4 Storage Requirements: The sealant materials when stored for 1 yr at 32° to 100°F (0° to 38°C) away from direct sunlight and weather exposure, and tested in accordance with this specification, shall meet all the requirements herein.

5. Quality Assurance

5.1 Responsibility for Testing and Inspection: Unless otherwise specified in the contract or

purchase order, the Contractor shall be responsible for the performance of all testing requirements as specified herein. Except as otherwise specified in the contract or purchase order, the Contractor shall use an approved independent testing facility suitable for the performance of the testing requirements specified herein. The Government reserves the right to perform any of the testing set forth in this specification where such testing is deemed necessary to assure that supplies and services conform to prescribed requirements.

5.2 Rejection: Failure to comply with any of the requirements of this specification shall be cause for rejection of the batch or lot represented.