

Concrete Pavement Joint Sealing Specification

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Concrete Pavement Joint Sealing Specification

1 General

Joint Sealing shall consist of cleaning the joint in preparation for sealing and sealing all contraction and expansion joints in the concrete pavement with a hot applied joint sealing material. The work shall conform to the plan details and as follows.

2 Materials

All joints shall be sealed with a hot applied joint sealant conforming to the Specification for Joint and Crack Sealants, Hot-Applied, for Concrete and Asphalt Pavements, ASSHTO Designation M 324, type II modified to require the bond strength test to be run at – 20 degrees F.. A Certification of Compliance shall be furnished to the engineer prior to application.

3 Construction

All contraction and expansion joints in concrete pavement shall be sealed with a hot poured sealer. All sawed longitudinal joints shall be sealed with hot-poured sealer.

The operation of sealing shall be performed as soon as practicable upon elapse of the curing period and in any event prior to the time traffic of any kind uses the pavement.

Joints shall not be sealed until they have been inspected and approved by the engineer.

Application of the joint sealer shall be made when the joint surfaces are clean and dry.

Immediately before sealing the joint thoroughly clean the joints of all laitance, curing compound and other foreign material. Exposed joint faces shall be cleaned by sandblasting, or by water blasting with sufficient pressure to thoroughly and completely clean the joint. A multiple-pass technique shall be used until the surfaces are free of material that might prevent bonding. For final cleaning immediately prior to installation of the sealer, the joints shall be blown clean with oil-free compressed air. The joint faces must be surface dry when sealant is applied.

The sealing compound shall be heated to the pouring temperature recommended by the manufacturer in an approved kettle or tank, constructed as a double boiler, with the space between the inner and outer shells filled with oil or other satisfactory heat transfer medium. The heating kettle shall be equipped with a mechanical agitator, positive temperature control and an approved dial thermometer for checking temperatures of the compound. The heating kettle, if and when operated on concrete, shall be properly insulated against the radiation of heat to the concrete surface.

The sealing compound shall not be heated above the maximum safe heating temperature. The maximum safe heating temperature shall be determined from tests made on samples from each lot or shipment of the material delivered to the project. When so approved by the engineer, the manufacturer's recommended maximum safe heating temperature may be used in lieu of test determinations where relatively small quantities of sealer are used. Any material heated above the maximum safe heating temperature shall be discarded.

Pouring of joints shall be made when the sealing material is at the required temperature and, insofar as practicable, the sealing compound shall be maintained at a uniform temperature during pouring operations. Pouring shall not be permitted when the temperature of the sealing compound in the applicator, as it is applied to the joint, is more than 10° F below the recommended pouring temperature. Pouring of the molten sealer in the joint opening shall be done with such equipment that the sealer completely fills the joint opening without overflowing on the adjoining surface and when finished, after

shrinkage, the sealer is approximately $\frac{1}{4}$ inch below the adjoining surfaces. In the event satisfactory sealing of a joint is not accomplished in a single pouring, the sealing compound shall be placed in two pourings. At least one-half of the required amount shall be placed in the first pouring, and the second pouring shall follow the first as soon as practicable after the first pouring has attained maximum shrinkage but not later than one hour after the first pouring.

4 Method of Measurement

Joint sealing will be measured in linear feet along the joint in place, complete, and accepted.

5 Basis of Payment

Joint sealing, measured as provided above, will be paid at the contract unit price per linear foot. Payment is full compensation for cleaning the joint, for furnishing and applying the joint sealant, and for all labor, tools, equipment and incidentals required to complete the work.