

**LOUISIANA  
DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT  
SPECIFICATIONS  
LOOP DETECTOR SEALANT**

**DESCRIPTION:**

This sealant is intended to provide environmental protection to the wires that are installed in the roadway for a traffic detection system. The material shall protect the loop wire from moisture, foreign body penetration, fracture and shear forces, and roadway deterioration.

**GENERAL:**

The sealant shall be a one-part elastomeric compound requiring no mixing, measuring or application of heat prior to or during its installation.

The sealant shall, within the required shelf life in original undamaged packaging, cure only in the presence of moisture.

The sealant shall have flow characteristics which ensure complete encapsulation of the wires.

The sealant shall not run out of the detector saw cut in sloped road bed areas during or after application.

The uncured sealant shall be designed to permit clean-up with a cleaner that will not harm workers or the environment.

The sealant shall be designed to enable vehicular traffic to pass over the sawcut that has been filled up to 1/8 inch from the top of the cut immediately after installation without danger of the sealant pulling out of the sawcut during the curing process.

The sealant shall exhibit minimal shrinkage during cure so as not to require any additional material after cure.

The sealant shall be designed for roadway installation when surface temperature is between 40°F and 100°F.

The sealant shall be surface transportable per US DOT Regulation.

The cured sealant shall be land-fill disposable.

**PHYSICAL REQUIREMENTS:**

The sealant shall conform to the requirements given in Table 1020-1. Sealant shall not contain solvents incompatible with asphalt (i.e. toluene, mineral spirits).

**Table 1020-1**  
**Loop Detector Sealants**  
**(Single Component, Self-Leveling)**

<b>Physical Property</b>	<b>Test Method</b>	<b>Self Leveling</b>
Total Solids by weight, %, Min.	ASTM D2834	60
Tack Free Time, hr, Max.	ASTM C679	4
Rheological Properties	ASTM C639 Type 1	Smooth surface
Extrusion Rate, mL/min, Min.	ASTM C1183	50
Hardness shore A, Min.	ASTM D2240	10
Asphalt Compatibility <sup>1</sup>	ASTM D5329	pass
Dielectric Strength, 60 Hz, Short Time test, Electrode 1 in air @ 25°C kV/mm, Min.	ASTM D149	13.8
Flex @-7°C, inch, 90° Bend	ASTM D5329	pass

<sup>1</sup>Not applicable when used to seal portland cement concrete pavement

**ENVIRONMENTAL ASPECTS:**

Properly installed and cured sealant shall exhibit resistance to effects of weather, vehicular abrasion, motor oils, gasoline, antifreeze solution, brake fluid, deicing chemicals, and salt normally encountered, in such a manner that the performance of the vehicle detector loop wire is not adversely affected.

The cured sealant shall be temperature stable and exhibit no degradation in performance throughout the ambient temperature ranges of -40°F to 313°F.

**CERTIFICATION:**

The successful vendor(s) shall provide certification that all materials meet the requirements of this specification with each shipment. Certification will be kept on file by the Department.

**PACKAGING:**

The sealant shall be available in quantities that can be dispensed in 28 – 33 ounce cartridges. Cartridges shall be completely sealed on both ends to prevent exposure to air when properly stored.

Cartridges shall be a one (1) piece design with nozzle permanently attached to cartridge. The nozzle shall be a flat design allowing insertion of nozzle tip into loop slot approximately 1/4 inch in width.

Cartridges shall be packaged and shipped 12 per case.

**SHELF LIFE & RELIABILITY:**

The sealant shall have a twelve (12) month shelf life in undamaged containers after receipt when stored below 80°F.

**WARRANTY:**

All sealant shall be warranted for a minimum one (1) year period beginning at date of receipt by the Department. The vendor shall replace sealant that fails to meet any part of this specification during the warranty period. Replacement quantities are to be rounded up to nearest container size.