

DIVISION 7 - FAA - SPECIFICATIONS

SPECIAL PROVISION, SECTION P-605

JOINT SEALANTS FOR PAVEMENTS

Delete entire Section P-605 specification and replace with the following:

605-1.1 DESCRIPTION:

This item shall consist of providing and installing a resilient and adhesive joint sealing filler capable of effectively sealing joints and cracks in pavements.

MATERIALS

605-2.1 JOINT SEALERS:

Joint sealing materials shall meet the requirements of ASTM D 6690 Joint and Crack Sealants, Hot Applied, for Asphalt Pavements.

Each lot or batch of sealing compound shall be delivered to the jobsite in the manufacturer's original sealed container. Each container shall be marked with the manufacturer's name, batch or lot number, the safe heating temperature, and shall be accompanied by the manufacturer's certification stating that the compound meets the requirements of this specification.

605-2.2 HERBICIDE AND SOIL STERILANT CHEMICALS:

The herbicide and soil sterilant shall be a mixture containing one chemical from each of the following groups (except where noted):

GROUP	COMMON NAME	QTY OF ACTIVE INGREDIENT REQUIRED
1	Dalapon Glyphosate	10 lbs. per acre 3 lbs. per acre
2	Bromacil Prometon Hexazinone	6 lbs. per acre 20 lbs. per acre 6 lbs. per acre
3	A non-ionic surfactant containing poloxyethylene ether	2 qts. per 100 gals. sprayable mixture

Listed below are trade names and rates of products, which will provide the quantity of active ingredients, required above. Similar chemicals will be acceptable when approved by the State - DOT Laboratory.

TRADE NAMES			
GROUP	TRADE NAME	RATE PER ACRE	MANUFACTURER
1	Dowpon M.	13.5 lbs.	Dow Chemical Co. Agricultural Prod. Dept. Midland, MI 48650
	Roundup*	3 qts.	Monsanto Co. MAP 800 North Lindbergh St. Louis, MO 63166
2	Hyvar	7.5 lbs.	E.I. DuPont DeNemours & Co., Inc. Sales Order Center Biochemical Dept. Wilmington, Delaware 19898
	Hyvar X-L	3 gals.	
	Velpar	7 lbs.	
	Velpar L	3 gals.	
3	Pramitol 24E	10 gals.	Ciba-Geigy Corp. Agricultural Division Sawmill River Road Ardsley, New York 10502
	Pramitol 80% WP	25 lbs.	
	Ontract WE-2	10 gals.	
	Ontract 800	25 lbs.	
3	Wet Aid	2 qts. per 100 gals. sprayable mixture	Woolfolk Chemical Works, Ltd. P. O. Box 938 Fort Valley, GA 31030
	X-77	2 qts. per 100 gals. sprayable mixture	Chevron Chemical Co. Ortho Division 200 Bush Street San Francisco, CA 94120
	Surfactant WK	2 qts. per 100 gals. sprayable mixture	E.I. DuPont DeNemours & Co., Inc. Sales Order Center Biochemical Dept. Wilmington, Delaware 19898

*When roundup is used the surfactant (Group 3) may be deleted

The chemicals shall be mixed at the specified rates using a minimum of 40 gallons and maximum of 100 gallons of water per acre unless directed otherwise by the Engineer.

605-2.3 EQUIPMENT:

All equipment necessary for the proper accomplishment of the work must have the approval of the Engineer both as to type and mechanical condition before construction will be permitted to begin. The Contractor shall at all times provide sufficient equipment to allow continuous prosecution of the work and to insure equipment is capable of producing satisfactory work in compliance with standards set forth by this Provision. Experienced and capable workers shall operate all equipment.

The field installation equipment for hot poured joint sealant shall be capable of producing and maintaining a homogenous mixture at a uniform temperature without "hot or cool" spots in the mixture. The heating kettle shall be an indirect heating type, constructed as a double boiler. A direct connecting pressure type extruding device with nozzles shaped for insertion into the crack or joint shall be provided.

Air compressors used for cleaning joints shall be equipped with suitable traps capable of removing all surplus water and oil in the compressed air. The compressor shall be capable of delivering compressed air at a continuous pressure of at least 90-psi.

CONSTRUCTION METHODS

605-3.1 TIME OF APPLICATION:

Joints shall be sealed as soon after completion of the curing period as feasible and before the pavement is opened to traffic, including construction equipment. The pavement temperature shall be above 50 °F (10 °C) at the time of installation of the poured joint sealing material.

605-3.2 PREPARATION OF JOINTS:

- A. Soil Sterilization: A minimum of 20 days prior to scheduling routing, cleaning, filling and sealing of joints and cracks, the Contractor shall apply a mixture of herbicide and soil sterilant chemicals to vegetated areas of pavements. After 10 days, a second application of chemicals shall be applied and the cleaning operations delayed until authorized by the Engineer.
- B. Routing: Cracks having an average width opening less than 1 inch shall be routed to provide a minimum sealant reservoir of 1 inch wide and $\frac{3}{4}$ to 1 inch deep.
- C. Cleaning: Joints and cracks containing visible soil and vegetation, joints and cracks routed, and other joints and cracks as directed by the Engineer shall be blown out using a power blower or air compressor to a depth satisfactory to the Engineer. Joints and cracks shall be free of vegetation, dirt, dust, moisture, and other foreign material. The pavement surface shall be kept clean to avoid reentry of soil or other foreign material into the joints and cracks.

605-3.3 INSTALLATION OF SEALANTS:

- A. Filling: After joints and cracks have been satisfactorily cleaned, the filler material shall be pumped or poured into the joints and cracks having a depth of one inch or greater. Normally cracks of this depth will be $\frac{3}{4}$ inch or greater in width; however, joints greater than one inch in depth may be encountered with insufficient width to receive the filler material. These joints shall be widened as required.

The joints or cracks shall be filled from the bottom to a level which will provide a recess of approximately $\frac{1}{8}$ inch below the pavement surface after filler material has settled. The filler material shall be allowed sufficient time to cure before joints and cracks are sealed. The Engineer shall determine when material has sufficiently cured. Spillage or overflow of material onto pavement surface shall be cleaned to the satisfaction of the Engineer.

- B. Sealing: Joints and cracks shall be inspected for proper width, depth, alignment and preparation, and must have the approval of the Engineer before sealing is allowed. The pre-packaged sealant mixture shall be placed in the field installation equipment and heated in accordance with the manufacturer's recommendations. The sealant shall not be heated to more than 20°F below the safe heating temperature. The safe heating temperature can be obtained from the manufacturer's shipping container. The sealant shall be applied uniformly at the manufacturer's recommended application temperature from bottom of joint or crack without formation of entrapped air or voids.

605.3.4 ACCEPTANCE:

In addition to meeting the requirements of this special provision, the manufacturer must also show evidence of successful field installation and performance under similar environmental and project conditions. Even though a sealant meets all requirements, to perform adequately in actual use shall be just cause for rejection.

605-4.1 METHOD OF MEASUREMENT:

Crack sealing shall be measured by the linear foot of sealant in place, completed, and accepted.

605-5.1 BASIS OF PAYMENT:

Payment for joint sealing material shall be made at the contract unit price per linear foot. The price shall be full compensation for furnishing all materials, for all preparation, delivering, and placing of these materials, and for all labor, equipment, tools, and incidentals necessary to complete the item.

Payment will be made under:

- Item P-605-5.1 Crack Sealing (Taxiway) – Per linear foot
- Item P-605-5.2 Crack Sealing (Apron) – Per linear foot

TESTING REQUIREMENTS

- ASTM D 412 Test Methods for Vulcanized Rubber and Thermoplastic Elastomers – Tension
- ASTM D 1644 Test Methods for Non Volatile Content of Varnishes

MATERIAL REQUIREMENTS

- ASTM D 6690 Joint and Crack Sealants, Hot-Applied for Concrete and Asphalt Pavements

END OF SPECIAL PROVISION, SECTION P-605