

SS-S-210A
 July 2, 1975
 SUPERSEDING
 Int. Fed. Spec. SS-S-00210 (GSA-FSS)
 July 26, 1965

FEDERAL SPECIFICATION

SEALING COMPOUND, PREFORMED PLASTIC, FOR EXPANSION JOINTS AND PIPE JOINTS

This specification was approved by the Commissioner, Federal Supply Service, General Services Administration, for the use of all Federal agencies.

1. SCOPE AND CLASSIFICATION

1.1 Scope. This specification covers a cold-applied preformed plastic sealing compound or sealing expansion joints and tongue and groove joints of concrete pipe culvert, storm drain and sewer pipe.

1.2 Classification. The sealing compound shall be of one grade and of the following types and sizes, as specified (see 6.2).

Type I - Rope Form.

Sizes	Diameter	Length
	1/2"	2' 6"
	3/4"	2' 0"
	3/4"	2' 6"
	1"	2' 6"
1	1 1/2"	2' 6"
1	1 1/2"	3' 8"
1	3/4"	3' 8"
	2"	3' 8"

Type II - Flat Tape Form.

Sizes	Thickness	Width
	1/8"	1 1/2"
	1/8"	3"
	1/8"	6"
	1/8"	9"
	3/16"	1 1/2"
	3/16"	3"
	3/16"	6"
	3/16"	9"
	1/4"	1 1/2"
	1/4"	3"
	1/4"	6"
	1/4"	9"
	1/4"	12"

(Lengths of flat tapes shall be 2'6", 3'8', and 4'0" for all foregoing sizes.)

2. APPLICABLE DOCUMENTS

2.1 The following documents, of the issues in effect on date of invitation for bids or request for proposal, form a part of this specification to the extent specified herein.

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Federal Specification:

PPP-B-636 - Boxes, Shipping, Fiberboard.

Federal Standards:

Fed. Test Method Std. No. 141 - Paint, Varnish, Lacquer, and Related
Materials; Methods of Inspection,
Sampling and Testing.

Int. Fed. Test Method Std. No. 210 - Road and Paving Materials, Methods
of Sampling and Testing.

Fed. Std. No. 102 - Preservation, Packaging, and Packing Levels.

Fed. Std. No. 123 - Marking for Shipment (Civil Agencies).

(Activities outside the Federal Government may obtain copies of Federal Specifications, Standards, and Handbooks as outlined under General Information in the Index of Federal Specifications and Standards and at the prices indicated in the Index. The Index, which includes cumulative monthly supplements as issued, is for sale on a subscription basis by the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402.)

(Single copies of this specification and other Federal Specifications required by activities outside the Federal Government for bidding purposes are available without charge from Business Service Centers at the General Services Administration Regional Offices in Boston, New York, Washington, DC, Atlanta, Chicago, Kansas City, MO, Fort Worth, Denver, San Francisco, Los Angeles, and Seattle, WA.)

(Federal Government activities may obtain copies of Federal Specifications, Standards, and Handbooks and the Index of Federal Specifications and Standards from established distribution points in their agencies.)

Military Standards:

MIL-STD-129 - Marking for Shipment and Storage.

MIL-STD-105 - Sampling Procedures and Tables for Inspection by
Attributes.

(Copies of Military Specifications and Standards required by suppliers in connection with specific procurement functions should be obtained from the procuring activity or as directed by the contracting officer.)

2.2 Other publications. The following documents form a part of this specification to the extent specified herein. Unless a specific issue is identified, the issue in effect on date of invitation for bids or request for proposal shall apply.

American Society for Testing and Materials (ASTM) Publications:

D4 - Bitumen.

D6 - Loss on Heating of Oil and Asphaltic Compounds.

D36 - Softening Point of Asphalts and Tar Pitches.

D71 - Specific Gravity of Solid Pitch and Asphalt.

D92 - Flash and Fire Points by Cleveland Open Cup.

D113 - Ductility of Bituminous Materials.

D217 - Cone Penetration of Lubricating Grease.

(Application for copies should be addressed to the American Society for

Testing and Materials, 1916 Race Street, Philadelphia, PA 19103.)

National Motor Freight Traffic Association, Inc., Agent:

National Motor Freight Classification.

(Application for copies should be addressed to the American Trucking Associations, Inc., Tariff Order Section, 1616 P Street, N.W., Washington, DC 20036.)

Uniform Classification Committee, Agent:

Uniform Freight Classification.

(Application for copies should be addressed to the Uniform Classification Committee, Room 1106, 222 South Riverside Plaza, Chicago, IL 60606.)

3. REQUIREMENTS

3.1 Description. The sealing compound furnished under this specification shall be produced from blends of refined hydrocarbon resins and plasticizing compounds reinforced with inert mineral filler, and shall contain no solvents, irritating fumes or obnoxious odors. The compound shall not depend on oxidizing, evaporating, or chemical action for its adhesive or cohesive strength. It shall be supplied in either extruded rope-form of suitable cross-section or flat tape form and of such sizes as to fill the joint space when the pipes are laid.

3.2 Chemical Composition. The chemical composition of the sealing compound shall meet the requirements shown in Table I when tested as specified in 4.5.

TABLE I

Components	Minimum	Maximum
Bitumen (Hydrocarbon Plastic Content) % by weight	50	70
Inert Mineral Filler % by weight	30	50
Volatile Matter % by weight	--	2.0

3.3 Physical properties The physical properties of the sealing compound shall meet the requirements shown in Table II when tested as specified in 4.5.

TABLE II

Property	Analysis
Specific Gravity @ 77 deg. F. (25 deg. C.)	1.20 to 1.35
Ductility @ 77 deg. F. (25 deg. C.) Min.	5.0 cm
Softening Point @ 77 deg. F. Min.	320 deg. F.
Flash Point, C.O.C. Min.	600 deg. F.
Fire Point, C.O.C. Min.	625 deg. F.
Penetration	
77 deg. F. (25 deg. C.) (150 gs.) 5 sec.	50 to 120

3.4 Adhesion and hydrostatic pressure. The sealing compound shall not leak at the joints for a period of 24 hours when tested as specified in 4.5.2.

3.5 Sag or flow resistance (vertical or overhead joint). No sagging shall be detected when tested as specified in 4.5.3.

3.6 Chemical resistance. The sealing compound when immersed separately in a 5 percent solution of caustic potash, a 5 percent solution of hydrochloric acid, a 5 percent solution of sulfuric acid and a saturated

hydrogen sulfide solution for 30 days at ambient room temperature shall show no visible deterioration.

3.7 Workmanship. Workmanship shall be in accordance with good commercial practice for this type of commodity.

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4. QUALITY ASSURANCE PROVISIONS

4.1 Responsibility for inspection. Unless otherwise specified in the contract or purchase order, the supplier is responsible for the performance of all inspection requirements as specified herein. Except as otherwise specified in the contract or order, the supplier may use his own or any other facilities suitable for the performance of the inspection requirements specified herein, unless disapproved by the Government. The Government reserves the right to perform any of the inspections set forth in the specification where such inspections are deemed necessary to assure that supplies and services conform to prescribed requirements.

4.2 Sampling. Sampling shall be performed in accordance with Methods 101.11 and 101.21 of Interim Federal Test Method Standard No. 210 Road and Paving Materials.

4.3 Inspection. Inspection shall be performed in accordance with Method 1011 of Federal Test Method Standard No. 141.

4.4 Inspection of preparation for delivery requirements. An inspection shall be made to determine that the packing and marking comply with the requirements in section 5 of this specification. Defects shall be scored in accordance with Table III. The sample unit shall be one shipping container fully prepared for delivery. Sampling shall be in accordance with MIL-STD-105. The lot size shall be the number of shipping containers in the end item inspection lot. The inspection level shall be II with an acceptable quality level (AQL) of 4.0 defects per hundred units.

TABLE III. Classification of preparation for delivery defects

Examine	Defects
Markings (exterior and interior)	Omitted; incorrect; illegible; improper size, location, sequence, or method of application.
Materials	Any component missing, or damaged.
Workmanship	Inadequate application of components such as incomplete closure of container flaps, loose strapping, inadequate stapling. Distortion of container.

4.5 Tests.

4.5.1 The following tests shall be made in accordance with the methods shown in Table IV and as described hereinafter. Each test shall be run in triplicate and if more than one specimen fails the test, the lot represented by that specimen shall be rejected.

TABLE IV. Test methods

Test
Bitumen
Inert Mineral Filler
ASTM D4
Int. Fed. Test Method Std. No. 210

Volatile Matter	ASTM	D6
Specific Gravity	ASTM	D71
Ductility	ASTM	D113
Softening Point	ASTM	D36
Flash Point	ASTM	D92
Fire Point	ASTM	D92
Cone Penetration	ASTM	D217

4.5.2 Adhesion and hydrostatic pressure. Mount a vertical column using 2 1/2 sections of 3 foot 6 inch bell and spigot or tongue and groove pipe. Seal the 1/2 section to a concrete slab with the sealing compound and follow with the other two sections. Immediately fill the pipe sections with water to obtain an approximate 6 foot head pressure. Mount a horizontal column using 3 sections of 12 inch to 36 inch tongue and groove pipe and apply the sealing compound to seal the tongue and groove joints, the metal end plates, bolts and washers. Draw multiple pipe section together until a 1/8 inch to 3/16 inch squeeze-out is observed at all joints. Immediately fill pipes with water, slowly applying hydrostatic pressure in increments of 2 pounds per square inch every minute until 10 psi is reached.

4.5.3 Sag or flow resistance (vertical or overhead joints). Fill a wooden form 1 inch wide and 6 inches long flush with sealing compound and place in an oven at 135 deg. F, in a vertical position for 5 days.

5. PREPARATION FOR DELIVERY

5.1 Packing. Packing shall be level A, B or C as specified.

5.1.1 Level A. The compound of like description furnished in sizes, lengths and quantities as specified (see 6.2) shall be packed in a close-fitting box conforming to PPP-B-636, class weather resistant. The box shall be closed and strapped in accordance with the appendix to the box specification.

5.1.2 Level B The compound shall be packed in accordance with 5.1.1, except the fiberboard box shall be class domestic and the closure shall be in accordance with method II of PPP-B-636.

5.1.3 Level C. The compound shall be packed to insure carrier acceptance and safe delivery at destination in containers complying with the National Motor Freight Classification rules or the Uniform Freight Classification rules.

5.2 Marking.

5.2.1 Civil agencies. In addition to markings required by the contract or order, the shipping containers shall be marked in accordance with Fed. Std. No. 123.

5.2.2 Military activities. In addition to markings required by the contract or order, the shipping containers shall be marked in accordance with MIL-STD-129.

6. NOTES

6.1 Intended use The cold-applied preformed plastic sealing compound covered by this specification is intended for sealing expansion joints and tongue and groove concrete pipe.

6.2 Ordering data. Purchasers should select the preferred options permitted herein, and include the following information in procurement documents:

- (a) Title, number, and date of this specification.
- (b) Lengths, sizes and quantities of compound required (see 1.2).
- (c) Level of packing required (see 5.1).
- (d) whether civil or military marking is required (see 5.2).

Preparing Activity:

GSA-FSS

Orders for this publication are to be placed with General Services Administration, acting as an agent for the Superintendent of Documents. See Section 2 of this specification to obtain extra copies and other documents referenced herein.

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REINSTATEMENT
December 16, 1981
SUPERSEDING
CANCELLATION NOTICE
October 31, 1978

FEDERAL SPECIFICATION

SEALING COMPOUND, PREFORMED PLASTIC,
FOR EXPANSION JOINTS AND PIPE JOINTS

This notice as approved by the Commissioner, Federal Supply Service,
General Services Administration.

This notice is issued to reinstate Federal Specification SS-S-210A,
dated July 2, 1975.

Cancellation notice dated October 31, 1978, is hereby canceled.

FSC 8030