SS-C-00153A(GSA-FSS)
AMENDMENT-2
August 12, 1970
SUPERSEDING
Amendment-1
June 12, 1970

PLAINTIFF'S EXHIBIT
BIR-771

AMENDMENT
TO
INTERIM FEDERAL SPECIFICATION

CEMENT, BITUMINOUS, PLASTIC

This amendment was developed by the General Services Administration, Federal Supply Service, Standardization Division, Washington, D.C. 20406, based upon currently available technical information. The General Services Administration has authorized the use of this amendment as a part of Interim Federal Specification SS-C-00153A(GSA-FSS), dated April 22, 1969.

Delete amendment-1, dated June 12, 1970, in its entirety.

FSC 5610

SS-C-00153A(GSA-FSS)
April 22, 1969
INTERIM REVISION OF
Fed. Spec. SS-C-153
August 1, 1933

INTERIM FEDERAL SPECIFICATION

CEMENT, BITUMINOUS, PLASTIC

This Interim Federal Specification was developed by the General Services Administration, Federal Supply Service, Washington, D.C. 20406, based upon currently available technical information. It is recommended that Federal agencies use it in procurement and forward recommendations for changes to the preparing activity at the address shown above.

The General Services Administration has authorized the use of this Interim Federal Specification as a valid exception to Federal Specification SS-C-153, dated August 1, 1933.

1. SCOPE AND CLASSIFICATION

1.1 Scope. This specification covers bituminous plastic cement for trowel or knife application.

1.2 Classification. The cement shall be furnished in the following types and classes as specified (see 6.2).

Type I - Asphalt base.
  Class A - Summer grade.
  Class B - Winter grade.

Type II - Coal-tar base.

2. APPLICABLE DOCUMENTS

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

Federal Specification:

PPP-P-704 - Pails, Metal: (Shipping, Steel, 1 through 12 Gallon).

Federal Standard:

Fed. Std. 123 - Marking for Domestic Shipment (Civilian Agencies).

(Activities outside the Federal Government may obtain copies of Federal Specification, Standards, and Handbooks as outlined under General Information in the Index of Federal Specifications and Standard 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, D.C. 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, D.C. Atlanta, Chicago, Kansas City, Mo., Fort Worth, Denver, San Francisco, Los Angeles, and Seattle, Washington.)

(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.)

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Military Standards:

MIL-STD-105 - Sampling Procedures and Tables for Inspection by Attributes.
MIL-STD-129 - Marking for Shipment and Storage.
MIL-STD-147 - Palletized and Containerized Unit Loads.

(Copies of Military Specifications and Standards required by contractors 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 otherwise indicated, the issue in effect on date of invitation for bids or request for proposal shall apply.

American Society for Testing and Materials (ASTM) Publications:

D140 - Bituminous Materials, Sampling.
D1310 - Flash Point of Volatile Flammable Materials by Tag Open-Cup Apparatus, Test for.

(Application for copies should be addressed to the American Society for Testing and Materials, 1916 Race Street, Philadelphia, Pa. 19103.)

3. REQUIREMENTS

3.1 Material.

3.1.1 General. The cement shall consist of a nonvolatile bituminous binder, a petroleum solvent, and an inorganic filler.

3.1.1.1 Binder. The binder used in type I cement shall be primarily asphalt, and binder used in type II cement shall be primarily coal tar, but the manufacturer is allowed to add other organic products to either of these binders in order to produce cements having better properties of working and endurance.

3.1.1.2 Solvent. The petroleum solvent shall have a flash point of not less than 80 degree F when tested in accordance with 4.4.1.

3.1.1.3 Filler. The filler shall be a minimum of 50 percent asbestos fiber, with the remainder consisting of other suitable mineral stabilizers.

3.1.2 Type I, asphalt base.

3.1.2.1 Class A, summer grade. Class A asphalt-base cement shall contain not less than 70 percent nonvolatile matter when tested in accordance with 4.4.2. The inorganic filler shall constitute between 15 and 45 percent of the cement by weight when tested in accordance with 4.4.3.

3.1.2.2 Class B, winter grade. Class B asphalt-base cement shall contain not less than 62 percent nonvolatile matter when tested in accordance with 4.4.2. Inorganic filler shall constitute between 12 and 40 percent of the cement by weight when tested in accordance with 4.4.3.

3.1.3 Type II, coal-tar base. Type II cement shall contain not less than 70 percent nonvolatile matter when tested in accordance with 4.4.2. Inorganic filler shall constitute between 15 and 45 percent of the cement by weight when tested in accordance with 4.4.3.

3.2 Condition in container. The cement shall be a smooth, homogeneous mixture, not thickened or livered, and having no degree of separation which cannot be easily overcome by hand stirring.

3.3 Characteristics of application. The cement shall spread readily without drawing or pulling when applied to various materials as described in 4.4.4.

3.4 Effects of temperature.

3.4.1 Behavior at 60 degrees C (140 degree F). Cement shall show no blistering and not more than 1/4 inch of sagging or slipping when tested in accordance with 4.4.5.1.

3.4.2 Behavior at 0 degrees C (32 degrees F). There shall be no cracking of the cement and no separation of cement and metal when tests and conducted in accordance with 4.4.5.2.

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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, the supplier may utilize his own facilities or any commercial laboratory acceptable to 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 Lot. Unless otherwise specified (see 6.2), a lot shall consist of all the cement from the samp production batch which is offered for delivery at one time.

4.3 Sampling. Sampling for inspection and tests shall be in accordance with MIL-STD-105. Sampling methods used shall be as described in ASTM D140.

4.4 Test methods.

4.4.1 Flash point of solvent. The solvent shall be tested according to ASTM D1310 to determine its flash point (see 3.1.1.2).

4.4.2 Percentage of nonvolatile matter. Transfer about 10 grams of the sample into a previously weighed flat-bottomed metal dish approximately 3 inches in diameter. Weigh dish and contents. Heat the dish and its contents in an oven at 105 to 110 degrees C (221 to 230 degrees F) for a period of 24 hours. Allow the dish to cool to room temperature and weigh the dish and contents. Compute the percentage of nonvolatile matter using the following formula (see 3.1.2 and 3.1.3):

$$\text{Percentage of nonvolatile matter} = \frac{C-A}{B-A} \times 100$$

Where: A = weight of the dish.
B = weight of dish and original sample.
C = weight of dish and sample after heating.

4.4.3 Percentage of inorganic filler. Transfer from 5 to 10 grams of the sample into a previously weighed porcelain crucible. Weigh the crucible and contents to the nearest 0.01 gram. Heat the crucible and its contents at a low heat (not above a dull red) until all carbon is consumed. Reweigh the crucible and residue and compute the percentage of inorganic material as follows (see 3.1.2 and 3.1.3):

$$\text{Percentage of inorganic filler} = \frac{Z-X}{Y-X} \times 100$$

Where: X = weight of crucible.
Y = weight of crucible and original sample.
Z = weight of crucible and residue after heating.

4.4.4 Preparation of test panels. Prepare specimens of smooth-surfaced asphalt prepared roofing (heavyweight), asphalt saturated flashing felt, and clean plate steel approximately 4 by 6 inches in size. Trowel cement onto each of the three specimens to a thickness of 1/16 to 1/8 inch (see 3.3). Embed a thread in the coating of each of the three test samples, not more than 2 inches from the top edge of the sample, measuring the exact distance from the top.

4.4.5 Tests for reaction to high and low temperatures.

4.4.5.1 Test for behavior at 60 degrees C (140 degrees F). Place the test panels prepared in 4.4.4 in a horizontal position in a well ventilated room at a temperature not below 15 degrees C (59 degrees F), but not in the direct rays of the sun, for a period of 60 minutes. Then, suspend the panels vertically in an oven at a temperature of 60 degrees C (140 degrees F) for a period of 5 hours. Remove the panels from the oven and examine for blistering. Then, measure the distance from the top to the embedded thread and compare with the measurement recorded in 4.4.4 in order to determine the amount of slippage (see 3.4.1).

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4.4.5.2 Test for behavior at 0 degrees C (32 degrees F). Cool the steel test panel used in 4.4.5.1 to room temperature and then immerse it in a water bath at 0 degrees C (32 degrees F) for a period of 1 hour. Immediately upon removing the panel from the bath, bend it around a mandrel which is 1 inch in diameter, at a uniform bend rate requiring approximately 2 seconds to complete. Dry the panel thoroughly and examine it for conformance to the requirements of 3.4.2.

4.5 Inspection of preparation for delivery. An inspection shall be made to determine that the packaging, packing and marking requirements comply with section 5.

5. PREPARATION FOR DELIVERY

5.1 Packing. Packing shall be level A, B or C as specified (see 6.2).

5.1.1 Level A and B. Five gallons of cement shall be packed in a 29 gage metal pail conforming to PPP-P-704, Type II or III. The wire bail shall be zinc coated or otherwise protectively coated to resist corrosion. All exterior surfaces of the level B pail shall have a commervial coating. When specified pails shall be palletized in accordance with MIL-STD-147.

5.1.2 Level C. Cement shall be packed to insure carrier acceptance and safe delivery at destination at the lowest rates, in containers complying with the rules and regulations applicable to the mode of transportation.

5.2 Marking. In addition to markings required by the contract or order the unit and shipping containers shall be marked in accordance with Fed. Std. No. 123 or MIL-STD-129.

6. NOTES

6.1 Intended use. The cement covered by this specification is intended for use in the construction of plastic flashings for bituminous roofing, for repair of bituminous and metal roofing, and as an expansion joint material for concrete and masonry construction.

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

(a) Title, symbol, and date of this specification.
(b) Type and class required (see 1.2).
(c) Size of lot if different from 4.2.
(d) Level of packing required (see 5.1).

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