

[INCH-POUND]  
A-A-59177  
20 March 1998  
SUPERSEDING  
HH-M-622D  
18 May 1977

## COMMERCIAL ITEM DESCRIPTION

### MORTAR, REFRACTORY: HEAT-SETTING AND AIR-SETTING WET AND DRY TYPES

The General Services Administration has authorized the use of this commercial item description for all federal agencies.

1. **SCOPE.** This commercial item description (CID) covers heat-setting and air-setting refractory mortars for use in bonding refractory brick.
2. **CLASSIFICATION.** The refractory mortar shall be of the following types and classes. The type and class to be furnished shall be as specified (see 7.2(b)).

Type.     Type I   - Wet air-setting mortar  
              Type II   - Dry air-setting mortar  
              Type III   - Heat-setting mortar

Class.     Class 1 - Super duty  
              Class 2 - High duty  
              Class 3 - Medium duty

Beneficial comments, recommendations, additions, deletions, clarifications, etc., and any other data which may improve this document should be sent to: Supply Defense Center Richmond, ATTN: DSCR-VBD, 8000 Jefferson Davis Highway, Richmond, VA 23297-5610.

AMSC N/A

FSC 9350

DISTRIBUTION STATEMENT A. Approved for public release; distribution is unlimited.

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### 3. SALIENT CHARACTERISTICS

3.1 General requirements. The refractory mortar shall be ground to a particle size such that not more than 0.5 percent shall be retained on a United States Standard Sieve No. 20 and not more than 5.0 percent shall be retained on a United States Standard Sieve No. 40. The particle size shall be tested in accordance with the wet sieve analysis in sections 6 through 9 of ASTM C 92. The mortar shall have a minimum modulus of rupture of 500 pounds per square inch when tested in accordance with ASTM C 198.

3.2 Type I and type II mortars. The type I and type II mortars shall come premixed and ready for use. The maximum water content shall be 25 percent when tested in accordance with ASTM C 92. The mortar shall meet the refractoriness requirements of ASTM C 199 when tested at the minimum temperature specified in table I.

TABLE I. Types I and II refractoriness test temperatures.

Class	Temperature (minimum)
1	2910 °F (1600 °C)
2	2730 °F (1500 °C)
3	2550 °F (1400 °C)

3.3 Type III mortars. The type III mortars shall meet the pyrometric cone equivalent of table II when tested in accordance with ASTM C 24. The type III mortars shall be heated using the heating schedule specified in table II and ASTM C 113.

TABLE II. Type III mortar requirements.

Class	Pyrometric cone equivalent	Heating schedule ASTM C 113
1	Cone No. 31 (3061 °F, 1683 °C)	Schedule F
2	Cone No. 27 (2984 °F, 1640 °C)	Schedule F
3	Cone No. 23 (2921 °F, 1605 °C)	Schedule D

3.4 Storage life. The mortar shall have a minimum storage life of 6 months. The mortar, in a newly opened container and within the 6 month storage period, shall not have stiffened or hardened to such an extent as to prevent its easy removal and mixing.

#### 4. REGULATORY REQUIREMENTS

4.1 Recovered materials. The offeror/contractor is encouraged to use recovered materials to the maximum extent practicable, in accordance with paragraph 23.403 of the Federal Acquisition Regulation (FAR).

4.2 Environmental protection. The item shall meet all applicable Environmental Protection Agency (EPA) restrictions in effect on the date of the contract. These regulations apply to the emission of materials hazardous to the environment or the user's health and shall be adhered to during the manufacturing, service, transportation, storage, and operation/use of the item.

#### 5. QUALITY ASSURANCE PROVISIONS

5.1 Product conformance. The products provided shall meet the salient characteristics of this commercial item description; conform to the manufacturer's own drawings, specifications, standards, and quality assurance practices; and be the same product offered for sale in the commercial market. The Government reserves the right to require proof of such conformance.

6. PACKAGING. Preservation, packing, and marking shall be as specified (7.2(c)).

#### 7. NOTES

##### 7.1 Sources of documents.

7.1.1 Government documents. Copies of Federal documents may be obtained from the Superintendent of Documents, U.S. Government Printing Office, Washington DC 20402.

7.1.2 Non-government documents. The following ASTM standards are available from ASTM, Inc., 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959.

ASTM C 24	Standard Test Methods for Pyrometric Cone Equivalent (PCE) of Fireclay and High Alumina Refractory Materials
ASTM C 92	Standard Test Methods for Sieve Analysis and Water Content of Refractory Materials
ASTM C 113	Standard Test Method for Reheat Change of Refractory Brick
ASTM C 198	Standard Test Method for Cold Bonding Strength of Refractory Mortar
ASTM C 199	Standard Test Method for Pier Test for Refractory Mortars

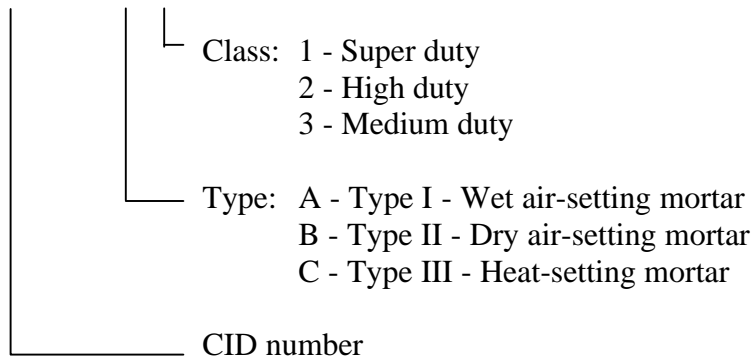
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7.2 Ordering data. Acquisition documents must specify the following:

- a. Title, number, and date of this document.
- b. Type and class of refractory mortar required (see 2).
- c. Preservation, packing, and marking (see 6).

7.3 Part identification number (PIN). The following part identification numbering procedure is for government purposes and does not constitute a requirement for the contractor.

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#### MILITARY INTERESTS:

##### Custodians

Navy - SH  
Air Force - 99

##### Reviewers

Navy - MC, OS

#### PREPARING ACTIVITY:

DLA - GS

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