

م / اعلان طلبية شراء (2025/5318)

تعلن شركة مصافي الجنوب (شركة عامة) طلبيات شراء كما في ادناه فعلى الراغبين بالتجهيز التقديم على الطلبيات المعلنة سحب استمارة العروض وكذلك الشروط والمواصفات واي مرفقات اخرى وأملانها (سعر المفرد والمجموع رقما وكتابة مع تثبيت التاريخ وكذلك التوقيع والختم الحي على استمارة العروض وكذلك الشروط والمواصفات وكافة المرفقات) ويرفق مع العرض المستمكات البيانات ادناه:

1-نسخة حديثة مصورة من هوية غرفة التجارة بالنسبة للمكاتب.

2-نسخة مصورة من هوية تصنيف بالنسبة للشركات.

3-نسخة مصورة من هوية الأحوال المدنية أو البطاقة الوطنية. للمدير المفوض

4-نسخة مصورة من بطاقة السكن 5-شهادة تأسيس الشركة

6- تزويدنا بعنوان كامل ودقيق للمجهز او الشركة واقرب نقطه داله ورقم الهاتف ويلتزم مقدم العطاء بتثبيت عنوانه و ايميل فعال كتابه في ورقه مستقله طباعه ومختوم وتقدم تأييد سكن حديث يتضمن مكان الشركة او المكتب.

7-تقديم هوية ضريبية نافذة المفعول عند تقديم العروض وكذلك عند صرف المستحقات

يتم وضع العروض والتمسكات والبيانات اعلاه في مغلف ويعنون الى شركة مصافي الجنوب / قسم العقود والمشتريات ويثبت عليه المعلومات التالية :-

أ- رقم الطلبية وتاريخها .ب- موضوع الطلبية .ج- تاريخ الغلق.

د- أسم الشركة المقدمة مع الختم على طرفي المغلف .

و- مراجعة مقر الشركة الكائن في الشعبة / استعلامات الشركة الخارجية لغرض تسليم العروض في الصناديق المخصصة علما اخر موعد لتسليم العروض قبل الساعة الثانية عشر ظهرا من يوم الغلق .

عملية فساد او احتيال او تواطى سوف تلغى الاستمارة المقدمة ويتم إيقاف التعامل مع تلك 8- في حالة قيام الشركات او المكاتب بأي المكاتب او الشركات ويتم اتخاذ كافة الاجراءات القانونية بحقهم .

9- في حالة مصادفة يوم الغلق عطلة رسمية وعدم وجود دوام لأي سبب كان يؤجل موعد الغلق الى اليوم الذي يليه .

10- يكون تواجد لجنة استلام العروض ايام (الاحد - والثلاثاء - والخميس) من كل اسبوع

11- اعتبار تاريخ التبليغ عن طريق الايميل بداية فتره التجهيز على الإحالة

12- يكون تفرغ المواد داخل المخازن الشركة (واصله داخل المخزن) مع العمال

13- بإمكان المجهزين المخولين الراغبين في الحضور اثناء عملية سحب وفتح العروض الحضور الى مقر الشركة بعد الساعة 12 ظهرا ليوم الغلق .

14- يجب ان يكون هناك عرض فني ليتم المطابقة .

15- على جميع شركات تنفيذ الاعمال مع شركتنا تخصيص مشرف سلامة من قبلكم لديه الخبرة بالعمل في القطاع النفطي (يجب ان يمتلك شهادة في السلامة بالمواقع النفطية)

ت	رقم الطلبية	المواد المطلوبة	تاريخ الغلق
1	2025/5318	مواد إنشائية طابوق حراري جداري + مونه وحسب استمارة العروض المرفقة	2025/5/11

حسين جاسم حميد

نسخة منه الى :-

قسم تقنية المعلومات لغرض النشر بالموقع الالكتروني ...مع التقدير

شعبة الشراء المباشر / شعبة المتابعة...مع الاوليات

لجنة استلام العروض ... للعلم لطفا

مسؤول شعبة الشراء المباشر

مرتضى عبد السالم نعمه

حسين جاسم /صفاء

ترغب الشركة شراء المواد المدرجة ادناه راجين تثبيت الاسعار الفقرات المتوفرة و اعادة الطلب موقع من قبلكم قبل نهاية الدوام الرسم ليوم ملاحظة/ في حال تجاوز مبلغ الاحالة عن 50,000,000 دينار فقط خمسون مليون ،دينار يتوجب تنظيم عقد مع الشركة يتضمن تقديم المستمسكات المطلوبة وفق تعليمات تنفيذ العقود الحكومية رقم 2 لسنة 2014 يرفق مع العرض نسخة من هوية غرفة التجارة مع الهوية الضريبية نافذة

ت	الموصفات	الكمية المطلوبة	المنشأ المطلوب	فتره التجهيز	سعر المفرد بالدينار	الملاحظات
1	مواد إنشائية طابوق حراري جداري + مونه				رقماً	كتابة
	وحسب المواصفات المرفقة				المبلغ الاجمالي رقما	
					المبلغ الاجمالي كتابه	

- ملاحظة/ مدة نفاذية العرض لا تقل عن ثلاث (3) اشهر
- يمنع الحك و الشطب و التصحيح بالاستمارة
- يغلق و يختم الظرف من قبل المجهز

اسم المجهز :
توقيع المجهز :
التاريخ :
ختم المجهز :



يتبع لطفا (2-1)

طلبات تنفيذ الاعمال

1. يلتزم مقدم العطاء الذي تحال عليه الطلبية بتنفيذ الاعمال المحددة مواصفاتها والمنشأ في استمارة طلب الاسعار المرفقة والذي يعتبر جزء لا يتجزأ من هذه الطلبية كما يلتزم بأن تكون كافة المواد جديدة وغير مستعملة الا اذا ورد غير ذلك .
2. تدون اسعار العطاء بالعدد رقماً وكتابة ويكون سعر الوحدة لكل فقرة كما هو مدون في استمارة طلب الاسعار دون تغيير او تعديل ويجب ان تكون الشروط واستمارة الاسعار موقعة و مختومة من قبل مقدم العطاء وفي حالة الاختلاف السعر رقماً وكتابة يعتمد السعر كتابة .
3. لا يجوز الحك او الشطب في استمارة طلب الاسعار وكل تصحيح في الاسعار او غيره يجب اعادة كتابته رقماً وكتابة والتوقيع والختم اذاه .
4. يلتزم مقدم العطاء الذي تحال عليه الطلبية بتنفيذ الاعمال المطلوبة خلال () يوم من تاريخ استلام موقع العمل وبعبءه فأنه يتحمل الغرامة التأخيرية يتم احتسابها لاحقاً حسب المعادلة (مبلغ الطلبية / مدة العقد 10%) على ان لا يتجاوز مجموع الغرامات التأخيرية عن (10%) من قيمة الطلبية وفي حالة التجاوز يحق للشركة تنفيذ الطلبية على حساب المقاول .
5. يتم تسليم المواد بعد فحصها من قبل لجنة فنية مختصة في شركتنا تؤيد صلاحيتها للعمل واذا ظهر عدم صلاحيتها او عدم مطابقتها للمواصفات المطلوبة يلتزم المجهز بتبديل هذه المادة وبنفس المواصفات المطلوبة ولا يترتب على ذلك اي فترة اضافية .
6. يتم توقيع محضر الاستلام النهائي من قبل لجنة الاستلام عند انتهاء فترة الضمان ان وجدت .
7. يتم صرف مستحقات المجهز وفق المواصفات والشروط المطلوبة وموافقة لجنة الاستلام النهائي عليها .
8. الشركة غير ملزمة بقبول او طأ العطاءات .
9. يلتزم مقدم العطاء بتثبيت عنوانه ورقم هاتفه والبريد الالكتروني والتوقيع على كافة الشروط وجداول الطلبية والمخططات .
10. يحق للشركة اهمال اي عطاء لا تتوفر فيه الشروط المطلوبة كما يحق لها الغاء الطلبية دون تحمل اي تبعات مالية او قانونية .
11. في حالة تجاوز مبلغ الاحالة 500000000 مليون يتم توقيع عقد ويتم تقديم كفاءة حسن الاداء البالغة 5% من مبلغ الاحالة من مصرف عراقي معتمد .
12. يلتزم الطرف الثاني (شركة- مقاول -مكتب)بمطلبات سياسه الصحة والسلامة داخل الشركة بجميع الاعمال المكلف بها والمنشورة في الموقع الرسمي لشركتنا .



اطلعت على الشروط اعلاه

الاسم :
العنوان الكامل:

رقم الهاتف :

التوقيع :
EMAIL :

ت	المادة المطلوبة	الوحدة	الكمية
١	طابوق حراري جداري	العدد	٣,٠٠٠ / طابوقة
٢	مونه لربط الطابوق الحراري	العدد	٤ / طن





Designation: F1312 - 19 (Reapproved 2023)

An American National Standard

Standard Specification for Brick, Insulating, High Temperature, Fire Clay¹

This standard is issued under the fixed designation F1312; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ϵ) indicates an editorial change since the last revision or reapproval.

This standard has been approved for use by agencies of the U.S. Department of Defense.



1. Scope

1.1 This specification covers two types of thermal insulating brick for industrial or marine boiler furnaces. Type I is a special, 2500 °F (1371 °C) maximum service temperature, insulating firebrick that is used as backup insulation for refractory furnace linings.² Type II is a standard insulating brick that, in general, is used where there may be direct contact with combustion gases, such as forge and stress relieving furnaces.³

1.2 The values stated in inch-pound units are to be regarded as standard. The values given in parentheses are mathematical conversions to SI units that are provided for information only and are not considered standard.

1.3 This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety, health, and environmental practices and determine the applicability of regulatory limitations prior to use.

1.4 This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.

2. Referenced Documents

2.1 ASTM Standards:⁴

D155 Test Methods for Cold Crushing Strength and Modulus of Rupture of Refractories

¹ This specification is under the jurisdiction of ASTM Committee F-22 on Ships and Marine Technology and is the direct responsibility of Subcommittee F-22.01 on General Requirements.

Current edition approved May 1, 2023. Published June 2023. Originally approved in 1990. Last previous edition approved in 2019 as F1312 - 19. DOI: 10.1520/F1312-19R23.

² Type I is a replacement for MIL-B-16008C, Brick, Insulating, High Temperature, Fire Clay.

³ Type II is a replacement for MIL-B-16305B Class B, Brick, Refractory, Insulating.

⁴ For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For Annual Book of ASTM Standards volume information, refer to the standard's Document Summary page on the ASTM website.

D155 Test Methods for Size, Dimensional Measurements, and Bulk Density of Refractory Brick and Insulating Firebrick

D155 Classification of Insulating Firebrick

D155 Test Method for Reheat Change of Insulating Firebrick

D1974/D1974M Practice for Methods of Closing, Sealing, and Reinforcing Fiberboard Boxes

D1974/D1974M Specification for Corrugated and Solid Fiberboard Sheet Stock (Container Grade) and Cut Shapes

D15115/D15115M Practice for Fabrication of Fiberboard Shipping Boxes

D6751/D6751M Specification for Wood-Cleated Panelboard Shipping Boxes

D6751/D6751M Specification for Wood Boxes

2.2 Military Specification:⁵

MIL-B-16008C Liners, Case, and Sheet, Overwrap, Vapor-proof or Waterproof, Flexible

2.3 Military Standards:⁵

MIL-STD-129 Marking for Shipment and Storage

MIL-STD-117 Palletized Unit Load 48 Inch by 48 Inch

4 Way (Partial) Pallet Skids, Runners, or Pallet Type Base

MIL-STD-2072 Standard Practice for Military Packaging

2.4 ASQ Document:⁶

ANSI/ASQ Z1.4 Sampling Procedures and Tables for Inspection by Attributes

3. Classification

3.1 Refractory insulating brick shall be of the following types, as specified (see Section 6): Type I — 2500 °F (1371 °C), Type II — 2800 °F (1538 °C). Type II brick is part of Group No. 28 of Classification C11.1.

4. Ordering Information

4.1 Orders for material under this specification shall include the following information as necessary to describe the material adequately:

4.1.1 ASTM designation and year of issue.

⁵ Available from DLA Document Services, Building 4/D, 700 Robbins Ave., Philadelphia, PA 19111-5094, <http://quicksearch.dla.mil>.

⁶ Available from American Society for Quality (ASQ), 600 N. Plankinton Ave., Milwaukee, WI 53203, <http://www.asq.org>.



Designation: F1097 – 17 (Reapproved 2022)

An American National Standard



Standard Specification for Mortar, Refractory (High-Temperature, Air-Setting)¹

This standard is issued under the fixed designation F1097; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ϵ) indicates an editorial change since the last revision or reapproval.

1. Scope

1.1 This specification covers dry air-setting refractory mortar for use in laying and bonding refractory brick in ship boiler furnaces and wet air-setting refractory mortar for use in laying refractory brick in stationary boiler furnaces, bright annealing furnaces, controlled atmosphere furnaces, and furnaces heated by electric elements.

1.2 The values stated in inch-pound units are to be regarded as standard. The values given in parentheses are mathematical conversions to SI units that are provided for information only and are not considered standard.

1.3 This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety, health, and environmental practices and determine the applicability of regulatory limitations prior to use.

1.4 This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.

2. Referenced Documents

2.1 ASTM Standards:²

- C24 Test Method for Pyrometric Cone Equivalent (PCE) of Fireclay and High-Alumina Refractory Materials
- C27 Classification of Fireclay and High-Alumina Refractory Brick
- C92 Test Methods for Sieve Analysis and Water Content of Refractory Materials
- C133 Test Methods for Cold Crushing Strength and Modulus of Rupture of Refractories

C198 Test Method for Cold Bonding Strength of Refractory Mortar

C199 Test Method for Pier Test for Refractory Mortars

2.2 *Federal Specifications*³—The following documents shall apply only when one or more of the requirements of Supplementary Requirement S1 are specified in the contract or purchase order (see 4.1.3):

UU-S-48 Sacks, Shipping, Paper

PPP-B-704 Pails, Shipping, Steel (1 through 12 gallon)

2.3 *Military Standards*³—The following documents shall apply only when one or more of the requirements of Supplementary Requirement S1 are specified in the contract or purchase order (see 4.1.3):

MIL-STD-129 Marking for Shipment and Storage

MIL-STD-147 Palletized Unit Loads

2.4 *ASQ/ANSI Standards*:⁴

ASQ/ANSI Z1.4 Sampling Procedures and Tables for Inspection by Attributes

3. Classification

3.1 The refractory mortar shall be of the following types:

3.1.1 Type 1—Dry.

3.1.2 Type 2—Wet.

4. Ordering Information

4.1 Orders for material under this specification shall include the following information, as necessary to adequately describe the material:

4.1.1 ASTM designation and year of issue.

4.1.2 Type required (see 3.1), and

4.1.3 Optional requirements, if any (see Supplementary Requirement S1).

5. Material

5.1 The mortar shall be composed of finely ground heat-resistant clays, minerals, or a mixture of clays and minerals in either a dry or wet condition.

¹ This specification is under the jurisdiction of ASTM Committee F25 on Ships and Marine Technology and is the direct responsibility of Subcommittee F25.07 on General Requirements.

Current edition approved Feb. 1, 2022. Published February 2022. Originally approved in 1991. Last previous edition approved in 2017 as F1097 – 17. DOI: 10.1520/F1097-17R22.

² For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For Annual Book of ASTM Standards volume information, refer to the standard's Document Summary page on the ASTM website.

³ Available from DLA Document Services, Building 4/D, 700 Robbins Ave., Philadelphia, PA 19111-5094. <http://quicksearch.dla.mil>.

⁴ Available from American National Standards Institute (ANSI), 25 W. 43rd St., 4th Floor, New York, NY 10036. <http://www.ansi.org>.



5.1.1 *Type 1, Dry*—Mortar shall be furnished dry and shall be ready for use as soon as mixed with water. Mortar, after being mixed with water and then dried, shall be capable of being remixed with water.

5.1.2 *Type 2, Wet*—Mortar shall be furnished ready for use at a trowelling consistency and shall be easily mixed with water to a dipping consistency.

6. Performance Requirements

6.1 *Resistance to Heat Soaking*—Mortar shall not soften nor show any evidence of fusion, and the shrinkage shall not be greater than hairline cracks when tested as specified in 11.2.

6.2 *Bonding Strength*—The average modulus of rupture at the brick joint when tested as specified in 11.3 shall be not less than shown in Table 1.

6.3 *Pyrometric Cone Equivalent (PCE)*—The PCE shall be not less than cone 32 (see 11.4).

7. Requirements

7.1 *Fineness*—Mortar shall be ground to such fineness that not more than 5 % shall be retained on a No. 40 ASTM sieve, and not more than 0.5 % shall be held on a No. 30 ASTM sieve (see 11.1).

7.2 *Shelf Life, Type 1*—Mortar shall show no deterioration after 1 year's storage.

7.3 *Shelf Life, Type 2*—At any time within one year of shipment from the supplier, the mortar in a previously unopened container shall not have stiffened to such an extent as to interfere with its easy removal and mixing.

7.4 *Consistency*—Mortar, when tempered with water, shall be of such consistency that it will be suitable for spreading easily with a trowel or for dipping and for laying refractory brick and bonding them together upon drying and upon subsequent heating at furnace temperatures. Mortar shall retain this degree of workability for 2 h.

7.4.1 The mixed mortar shall have sufficient water retention to permit a $\frac{1}{16}$ -in. (2-mm) joint to be made with a trowelling consistency, but not allow the newly laid brick to float out of position.

8. Workmanship

8.1 Workmanship shall be first class in every respect. There shall be no foreign material or caked aggregate lumps in the mortar. Wet mortar shall be easily removed from the container and shall mix easily to a uniform trowelling consistency.

9. Sampling

9.1 An inspection lot for tests and inspections shall consist of all material manufactured at essentially the same time and of the same type offered for delivery at one time.

9.2 For the tests specified in 11.1 through 11.4, the sample unit shall be 15 lb (7 kg) of mortar. No fewer than three sample units shall be randomly selected throughout the lot. No more than one sample shall be drawn from any one container.

9.2.1 The test sample shall be a 45-lb (20-kg) composite of the randomly selected sample units. Two or more determinations as applicable (see Table 2) shall be performed on the composite. There shall be no evidence of failure to meet the specified unit or average requirements.

9.3 The PCE shall be determined on two cones of different samples from each lot. If both cones fail, this shall be cause for rejection without retest. If either cone fails, three additional cones shall be made, each from a different sample. If any one of the three retest cones fails, this shall be cause for rejection.

10. Specimen Preparation

10.1 The entire mortar sample for testing shall be thoroughly mixed to ensure uniformity before any portion is taken for tests. The selected portion of Type 1 (dry) mortar shall be mixed with water to a trowelling consistency for the tests of 11.2 and 11.3. Storage time after water mixing shall be 20 to 30 min.

10.2 For the test specified in 11.3, brick-mortar joints shall be prepared in accordance with Test Method C198, except that refractory bricks, conforming to Classification C27, 60 % High-Alumina, shall be used and shall be cut in half. The two halves of each brick shall be placed in a device suitable for bringing, with a straight motion, the molded ends together with the faces parallel at all times to form a bond.

10.2.1 A small quantity of mortar shall be spread by a trowel on the upper face forming the bond to ensure intimate contact. Sufficient mortar to give a $\frac{1}{8}$ -in. (3-mm) thick layer shall be spread evenly on the lower bond forming face and the upper half shall be lowered until it is $\frac{1}{16}$ in. (2 mm) from the lower half. The excess mortar shall be cut from the joint, flush with the sides of the brick. The unit thus formed shall be removed at once from the bond-forming machine. The bond specimens shall be allowed to air-dry for 20 to 24 h.

11. Test Methods

11.1 *Fineness*—The fineness test shall be made in accordance with Test Methods C92.

11.2 Heat Soak

11.2.1 A pier of refractory brick, conforming to Classification C27, super-duty, laid up with the test mortar shall be prepared and heated at 2910°F (1588°C) for 5 h in accordance with Test Method C199.

11.2.2 The cooled pier shall be examined for evidence of shrinkage, softening, or fusion of the mortar. One or more mortar joints shall be broken and the freshly broken mortar surface shall be viewed from various angles. Any shininess or light flash at the mortar surface shall be considered an indication of excessive fusion.

11.3 Bonding Strength

11.3.1 Five bond specimens (see 10.2) shall be placed in an oven operating at 230°F (110°C) for at least 16 h; five bond specimens shall be held at each of the other test temperatures

TABLE 1 Bonding Strength of Mortar

Temperatures, °F (°C)	Average Modulus of Rupture, psi (kPa), min
230 (110)	200 (1400)
1000 (538)	100 (700)
2000 (1093)	100 (700)

- 4.1.2 Type insulating firebrick required.
- 4.1.3 Dimensions required (see 7.1), and
- 4.1.4 Optional requirements, if any (see Supplementary Requirements S1, S2, and S3).

5. Materials and Manufacture

5.1 Bricks shall be composed of heat-resistant materials which have been burned or fired to produce the desired density, strength, low heat conductivity, and structure.

6. Physical and Mechanical Properties

6.1 The average bulk density shall not exceed 45.0 lb/ft³ (720 kg/m³) for Type I brick. The bulk density shall be a maximum of 60 lb/ft³ (993.1 kg/m³) for Type II brick (see 10.1).

6.2 The modulus of rupture shall average not less than 100 psi (700 kPa) for Type I brick. The modulus of rupture shall average not less than 175 psi (1206.6 kPa) and not more than two of the ten bricks tested shall show less than 150 psi (1034.6 kPa) for Type II brick (see 10.3).

6.3 Bricks shall show an average linear reheat change of not more than 1 % when heated at 2450 °F (1343 °C) for Type I bricks. Bricks shall show an average linear reheat change of not more than 2 % when heated at 2750 °F (1510 °C) for Type II brick (see 10.4).

7. Dimensions and Permissible Variations

7.1 Insulating brick shall be furnished in the dimensions specified (see 7.2). Standard size brick shall be 9 in. by 4½ in. by 2½ in. (229 mm by 114 mm by 64 mm), 9 in. by 4½ in. by 2 in. (229 mm by 114 mm by 51 mm), or 9 in. by 4½ in. by 1½ in. (229 mm by 114 mm by 32 mm), as specified.

7.2 *Dimension Tolerances*—Length, width, and thickness dimensions of brick shall have the tolerances as specified in (see 7.2).

8. Workmanship, Finish, and Appearance

8.1 Bricks shall be of homogeneous structure, and shall be free from cracks, laminations, segregations, void defects, or soft centers. All corners and edges shall be sufficiently strong to prevent excessive crumbling or chipping when handled or shipped.

TABLE 1 Dimension Tolerances

Dimension-inches (millimetres)	Tolerances-inch (millimetres)
9 (229 mm)	±3/32 in. (3 mm)
2 (51 mm) to 4½ (114 mm) inclusive	±1/16 in. (2 mm)
1½ (32 mm)	±1/32 in. (1 mm)

9. Sampling

9.1 For purposes of sampling, an inspection lot for examination and tests shall consist of all material of the same size and shape offered for delivery at one time.

9.2 The sample unit for the tests of Section 10 shall be one brick.

9.3 The sample size (the number of sample units) for the tests of Section 10 shall be as specified in Table 2.

10. Test Methods

10.1 *Testing of the End Item*—The end item shall be tested for the applicable characteristics as shown in Table 2 from each lot presented for examination for each size and shape of brick.

10.2 *Dimensions and Bulk Density*—Dimensions and bulk density shall be determined in accordance with the test method specified in Test Methods C134.

10.3 *Modulus of Rupture*—The modulus of rupture shall be determined in accordance with the test method specified in Test Methods C133.

10.4 *Reheat Change*—The reheat change shall be determined in accordance with Test Method C210, except that the Type I test specimens shall be maintained at a temperature of 2450 °F (1343 °C) for 24 hours. Type II test specimens shall be maintained at a temperature of 2750 °F (1510 °C) for 24 hours.

11. Inspection

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

12. Product Marking

12.1 Bricks shall be marked with the manufacturer's brand name and Type I or II in accordance with this specification by indelible stamping or stenciling.

13. Packaging

13.1 Bricks shall be packed in containers which will ensure acceptance by common carrier and safe delivery to destination at the lowest applicable rate. Containers shall comply with commercial carrier regulations.

14. Keywords

14.1 brick; insulating brick; fire clay



TABLE 2 Instructions for Testing

Characteristic	Specification Reference		Requirements Applicable to		Number Determinations per Unit	Results Reported as		
	Requirement	Test Method	Individual Unit	Lot Average		Pass or Fail	Numerically to Nearest ¹	Sample Size
Density	4.1	10.1	...	X	1	...	0.1 lb/ft ³	10
Modulus of rupture	6.1	10.2	...	X	1	...	psi	10
Reheat change	7.1	10.3	...	X	1	...	0.1 %	3

¹ Test reports shall include all values on which average results are based.

SUPPLEMENTARY REQUIREMENTS

The following supplementary requirements (see Supplementary Requirements S1, S2, and S3) shall apply only when specified in the contract or purchase order (see 1.1.4).

S1. Referenced Documents

S1.1 The following documents shall apply only when one or more of the requirements of Supplementary Requirements S2 or S3 are specified in the contract or purchase order (see 1.1.4):

S1.1.1 ASTM Standards:⁴

Practice C109/C109M

Specification C109

Specification C109/C109M

Practice C138/C138M

Specification C138

Specification C138/C138M

S1.1.2 Military Specification:⁵

MIL-L-10547

S1.1.3 Military Standards:⁵

MIL-STD-129

MIL-STD-147

MIL-STD-2073-1

S1.1.4 ASQ Document:⁶

ANSI/ASQ Z1.4

S2. Special Government Requirements

S2.1 Examinations and Test Requirements:

S2.1.1 *Examination of End Item for Defects in Appearance, Workmanship, and Dimensions*—An examination shall be made in accordance with Table S2.1 to determine that the appearance, workmanship, and dimensions of the end item comply with the requirements of this specification.

S2.1.1.1 The sample unit shall be one brick.

S2.1.2 *Examination of Preparation for Delivery*—An examination shall be made in accordance with Table S2.2 and Table S2.3 to determine that the packing and markings comply with the requirements of Table S2.3 of this specification.

S2.1.2.1 The sample unit shall be one shipping container, fully packed, selected just before the closing operation.

S2.1.3 Examination of palletized unit loads, as applicable. Unless palletization is not required (see S3.5), an examination in accordance with Table S2.1 and Table S2.2 shall be made to determine that palletized unit loads comply with the requirements of MIL-STD-147.

S2.1.3.1 The sample unit shall be one palletized load.

S2.1.4 For the test specified in 10.4, the sample size for examination of dimensions shall be governed by S2.1.2.1.

S2.2 Inspection Levels:

S2.2.1 The inspection levels for determining the sample size shall be in accordance with ANSI/ASQ Z1.4 and Table S2.1.

S2.2.2 Requirements of 4.1.1 should state when the Acceptance Quality Limits (AQL) of 2.5 can be used for workmanship and dimensions, Inspection Level S-3 and S-4 (see Table S2.1), and AQL of 4.0 can be used for examination of preparation for delivery and of examination of palletized unit loads (see S2.1.2 and S2.1.3), Inspection Level S-2 (see Table S2.1).

S2.3 First Article Testing (FAT):

S2.3.1 Unless otherwise specified in the contract or purchase order, FAT shall be done in accordance with conformance requirements of Sections 4 through 10 to determine if

TABLE S2.1 Examination of End Item

Examine	Defect
Appearance and Workmanship	Material not as specified. Not free from cracks, laminations, segregations, and void surface defects. Corners or edges chipped or crumbled affecting serviceability. Shape of brick not as required.
Standard Brick	Specified dimensions 2 in. (51 mm) or greater vary by more than $\pm 1/16$ in. (2 mm) from dimension specified. Specified dimensions less than 2 in. (51 mm) vary by more than $\pm 1/32$ in. (1 mm) from dimension specified.
Special Shape Brick	Length, width, or thickness varies by more than $\pm 1/16$ in. (2 mm) from size specified.





TABLE 2 Testing Requirements

Characteristic	Specification Reference		Number of Determinations per Composite	Results Reported as	
	Requirement	Test Method		Pass or Fail ^A	Numerically to Nearest ^B
Type 1 and Type 2, as applicable					
Fineness					
Retained on No. 40 ASTM sieve	7.1	11.1	2	...	0.1 %
Retained on No. 30 ASTM sieve	7.1	11.1	2	...	0.1 %
Resistance to heat soaking					
Melting	6.1	11.2	2	X	...
Shrinkage	6.1	11.2	2	X	...
Bonding strength	6.2				
After heating at					
230°F (110°C)		11.3	avg of 5	...	psi
1000°F (538°C)		11.3	avg of 5	...	psi
2000°F (1093°C)		11.3	avg of 5	...	psi
Pyrometric cone: ^C					
Type 1	6.3	11.4	2	...	cone number

^A If failure is indicated, report description of failure or numerical point of failure as applicable.

^B Test report shall include all values on which results are based.

^C See 9.3.

(1000°F, 2000°F (538°C, 1093°C)) for 5 h and then allowed to cool in the closed furnace for 12 to 18 h. The time required to reach test temperatures shall be 3 h. The bond shall not be broken until the specimens have reached approximately room temperature.

11.3.2 The modulus of rupture of the test specimens shall be determined in accordance with Test Methods C133, except that the load shall be applied at the rate of 1000 lb/min (450 kg/min).

11.3.2.1 In conducting this test, bring the upper bearing edge to bear on the joint itself.

11.4 *Pyrometric Cone Equivalent*—The PCE shall be determined in accordance with Test Method C24.

12. Inspection

12.1 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 use his own facilities or any commercial laboratory acceptable to the purchaser. The purchaser reserves the right to perform any of the inspections set forth in the specification where such inspections are deemed necessary to ensure supplies and services conform to prescribed requirements.

13. Packaging

13.1 Packing of the mortar shall be sufficient to afford adequate protection against deterioration and physical damage during shipment from the supply source to the first receiving activity for immediate use and may conform to the supplier's commercial practice.

14. Keywords

14.1 bonding strength; mortar; refractory mortar

SUPPLEMENTARY REQUIREMENTS

The following supplementary requirements shall apply only when specified in the contract or purchase order (see 4.1.3).

S1. Special Government Requirements

S1.1 *Quality Conformance Inspection*:

S1.1.1 Sampling for quality conformance inspection shall be performed in accordance with the provisions set forth in ASQ/ANSI Z1.4, except where otherwise indicated.

S1.1.2 Examination of the end item shall be made in accordance with the classification of defects, inspection levels, and quality levels specified in S1.1.2.1 through S1.1.2.3. The lot size, for the purpose of determining the sample size in accordance with ASQ/ANSI Z1.4, shall be expressed in units of filled containers for the examinations in S1.1.2.1 and S1.1.2.2.

S1.1.2.1 Examination of the end item container for defects in appearance, workmanship, closures, and marking (see Table S1.1). The sample unit for this examination shall be one filled container.

S1.1.2.2 Examination of end item container for defects in net contents. The sample unit for this examination shall be one filled primary container. The average net contents shall be not less than the specified or indicated quantity.

S1.1.2.3 Inspection levels for examinations. The inspection levels for determining the sample size shall be as specified in Table S1.2.