Designation: ~~C467 – 14~~ C467 – 14 (Reapproved 2018)

Standard Classification of Mullite Refractories[1]

This standard is issued under the fixed designation C467; 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 classification covers refractory products consisting predominantly of mullite (~~3 Al~~$3Al_2O_3$~~·2 SiO~~·$2SiO_2$) crystals that are formed by either converting any of the sillimanite group of minerals, or synthesizing from appropriate materials in a melt or sinter process.

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 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]

C16 Test Method for Load Testing Refractory Shapes at High Temperatures

C832 Test Method of Measuring Thermal Expansion and Creep of Refractories Under Load

NOTE 1—Chemical analysis of refractory products ~~are~~is determined by a combination of ~~x-ray~~X-ray fluorscence (XRF) and inductively coupled ~~plazma~~plasma (ICP) using standard reference materials (SRM), including various types of minerals and refractory materials which are available from the National Institute of Standards and Technology and other appropriate sources.

~~C832 Test Method of Measuring Thermal Expansion and Creep of Refractories Under Load~~

3. Significance and Use

3.1 The mullite content of an alumina-silica refractory material has an important influence on volume stability, ~~load bearing~~ load-bearing properties, and its satisfactory use in refractory applications. This classification is considered useful for purchase specifications and quality control.

4. Basis of Classification

4.1 The refractory products falling within the scope of this classification are classified by chemical and physical tests to meet the following requirements:

~~Alumina content, %~~	~~56 to 79~~
~~Impurities,[A] max, %~~	~~5~~
~~Deformation,[B] max, %~~	~~5~~
Alumina content, %	56 to 79
Impurities,[A] max, %	5
Deformation,[B] max, %	5

[A] Impurities refer to metal oxides other than those of aluminum and silicon.

[1] This classification is under the jurisdiction of the ASTM Committee C08 on Refractories and is the direct responsibility of Subcommittee C08.92 on The Joseph E. Kopanda Subcommittee for Editorial, Terminology, and Classification.

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[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.