



PROCESS  
INDUSTRY  
PRACTICES

COMPLETE REVISION  
*November 2020*

***Refractory***

## **PIP RFSF1000 Ceramic Fiber Refractory Material Specification**

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## PURPOSE AND USE OF PROCESS INDUSTRY PRACTICES

In an effort to minimize the cost of process industry facilities, this Practice has been prepared from the technical requirements in the existing standards of major industrial users, contractors, or standards organizations. By harmonizing these technical requirements into a single set of Practices, administrative, application, and engineering costs to both the purchaser and the manufacturer should be reduced. While this Practice is expected to incorporate the majority of requirements of most users, individual applications may involve requirements that will be appended to and take precedence over this Practice. Determinations concerning fitness for purpose and particular matters or application of the Practice to particular project or engineering situations should not be made solely on information contained in these materials. The use of trade names from time to time should not be viewed as an expression of preference but rather recognized as normal usage in the trade. Other brands having the same specifications are equally correct and may be substituted for those named. All Practices or guidelines are intended to be consistent with applicable laws and regulations including OSHA requirements. To the extent these Practices or guidelines should conflict with OSHA or other applicable laws or regulations, such laws or regulations must be followed. Consult an appropriate professional before applying or acting on any material contained in or suggested by the Practice.

This Practice is subject to revision at any time.

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## 1. Scope

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This Practice describes the requirements for the certification and prequalification of ceramic fiber refractory materials used to construct refractory linings in fired heaters and other process equipment. It provides a basis for selection, purchase, and quality control of ceramic fiber refractory materials. Included are material property, testing, documentation, storage, packaging, and shipping requirements of the following types of ceramic fiber refractories:

- a. Alkaline earth silicate ceramic fiber
- b. Refractory ceramic fiber
- c. Polycrystalline wool

This Practice does not include mineral wool, fiberglass, and other non-refractory fiber insulation, or rigid block refractory insulation materials.

## 2. References

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Applicable parts of the following Practices, industry codes and standards, and references shall be considered an integral part of this Practice. The edition in effect on the date of contract award shall be used, except as otherwise noted. Short titles are used herein where appropriate.

### 2.1 Process Industry Practices (PIP)

- PIP RFSA1000 – *Refractory Anchor and Accessory Specification*

### 2.2 Industry Codes and Standards

- ASTM International (ASTM)
  - ASTM C201 – *Standard Test Method for Thermal Conductivity of Refractories*
  - ASTM C795 - *Standard Specification for Thermal Insulation for Use in Contact with Austenitic Stainless Steel*
  - ASTM C892 – *Standard Specification for High-Temperature Fiber Blanket Thermal Insulation*
  - ASTM E1172 – *Standard Practice for Describing and Specifying a Wavelength Dispersive X-Ray Spectrometer*
  - ASTM E1184 – *Standard Practice for Determination of Elements by Graphite Furnace Atomic Absorption Spectrometry*
  - ASTM E1479 – *Standard Practice for Describing and Specifying Inductively Coupled Plasma Atomic Emission Spectrometers*

### 2.3 Other References

- *Official Journal of the European Communities*, Commission Directive 97/69/EC