PIP RFEG1000
Guidelines for Use of Refractory Practices
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**

This Practice provides guidance for the use of PIP refractory Practices for the execution of a refractory lining project.

2. **References**

Applicable parts of the following Practices 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 will be used herein when appropriate.

**Process Industry Practices (PIP)**

- PIP CTSL1000 – Application of Internal Linings
- PIP RFEG2000 – Refractory Design Guide (under development)
- PIP RIA1000 – Refractory Anchor and Accessory Installation Details
- PIP RSFA1000 – Refractory Anchor and Accessory Specification
- PIP RFSB1000 – Brick Refractory Material Specification
- PIP RFSB2000 – Brick Refractory Installation Specification
- PIP RFSF1000 – Ceramic Fiber Refractory Material Specification
- **PIP RFSF2000** – Ceramic Fiber Refractory Installation Specification
- PIP RSFM1000 – Monolithic Refractory Material Specification
- PIP RSFM2000 – Monolithic Refractory Installation Specification
- PIP RFTA1000 – Refractory Anchor and Accessory Installation Qualification, Inspection, and Testing
- PIP RTB1000 – Brick Refractory Installation Qualification, Inspection, and Testing
- PIP RTF1000 – Ceramic Fiber Refractory Installation Qualification, Inspection, and Testing
- PIP RTM1000 – Monolithic Refractory Installation Qualification, Inspection, and Testing

3. **Application of Practices**

3.1 Refractory Practices are system, not equipment, specific. Systems having special requirements may not be covered by the refractory Practices.

3.2 **PIP RFEG2000** should be consulted to design a refractory system (extent, material, anchorage, installation, quality control, etc.).

3.3 The following Practices provide means for certifying and prequalifying refractory types and support systems:

   a. **PIP RSFM1000** – monolithic lining
      
      Includes Appendix A, Materials Compliance Requirements

   b. **PIP RFSB1000** – brick lining
Includes Appendix A, Brick Compliance Requirements and Appendix B, Refractory Mortar Compliance Requirements

c. *PIP RFSA1000* – anchors and accessories used in the previous three lining systems

3.4 The following Practices provide methods for installing refractory lining and support systems:

a. *PIP RFSM2000* – monolithic lining

b. *PIP RFSB2000* – brick lining

c. *PIP RFSA1000* – anchors and accessories used in the previous three lining systems

d. *PIP RFSA1000* – anchors and accessories used in the previous three lining systems

3.5 The following Practices provide procedures for qualification, inspection, and testing of the installation of lining and support systems:

a. *PIP RFTM1000* – monolithic lining

b. *PIP RFTB1000* – brick lining

c. *PIP RFTF1000* – ceramic fiber lining

d. *PIP RFTA1000* – anchor and accessories used in the previous three lining systems

3.6 The following forms, appended to refractory Practices, should be used to monitor the material, installation and quality control, and to verify completeness of each phase of the refractory installation:

a. *PIP RFTM1000-F* – monolithic lining

b. *PIP RFTB1000-F* – brick lining

c. *PIP RFTF1000-F* – ceramic fiber lining

d. *PIP RFTA1000-F* – anchor and accessories used in the previous three lining systems

3.7 *PIP CTSL1000* provides requirements for the application of coatings specified for the prevention of corrosion of the steel shell behind the refractory lining.

3.8 The purchaser should use the data sheets in accordance with *PIP RFEG2000* for the specification of the refractory system.