



PROCESS
INDUSTRY
PRACTICES

TECHNICAL REVISION
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Refractory

PIP RFSM2000
Monolithic Refractory Installation Specification

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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Table of Contents

<p>1. Scope2</p> <p>2. References2</p> <p> 2.1 Process Industry Practices2</p> <p> 2.2 Industry Codes and Standards2</p> <p>3. Definitions3</p> <p>4. Requirements3</p> <p> 4.1 General3</p> <p> 4.2 Monolithic Refractory Lining Anchors and Metal Fiber Reinforcement4</p> <p> 4.3 Surface Preparation and Coating4</p> <p> 4.4 Prequalification of Materials and Installation Personnel5</p> <p> 4.5 Water Quality and Testing6</p> <p> 4.6 Water-Contaminated Refractory6</p> <p> 4.7 Preparation for Lining Installation6</p> <p> 4.8 Application Conditions8</p> <p> 4.9 Mixing of Castable Refractory9</p> <p> 4.10 Dry Gunning12</p> <p> 4.11 Wet Gunning16</p> <p> 4.12 Casting19</p> <p> 4.13 Ramming21</p> <p> 4.14 Interruption of Application23</p> <p> 4.15 Curing23</p>	<p> 4.16 Heat Dryout 25</p> <p> 4.17 Repairs 26</p> <p> 4.18 Shipping and Storage 28</p> <p> Appendix A – Lining Thickness Tolerance 29</p> <p> Appendix B – Dryout Guidelines for Monolithic Castable and Plastic Refractories 30</p>
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1. Scope

This Practice provides requirements for the installation of monolithic refractory linings in process equipment and piping. Included are preparation, installation, curing, and repair of the linings. This Practice also covers heat dryout of newly installed or repaired linings.

2. References

Applicable parts of the following Practices and industry codes and standards 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.

2.1 Process Industry Practices (PIP)

- PIP CTSL1000 – *Application of Internal Linings*
- PIP RFEF2000 – *Refractory Design Guide (under development)*
- PIP RFIA1000 – *Refractory Anchor and Accessory Installation Details*
- PIP RFSA1000 – *Refractory Anchor and Accessory Specification*
- PIP RFSM1000 – *Monolithic Refractory Material Specification*
- PIP RFTA1000 – *Refractory Anchor and Accessory Installation Qualification, Inspection, and Testing*
- PIP RFTM1000 – *Monolithic Refractory Installation Qualification, Inspection, and Testing*

2.2 Industry Codes and Standards

- American Petroleum Institute (API)
 - API Standard 936 – *Refractory Installation Quality Control– Inspection and Testing Monolithic Refractory Linings and Materials*
- ASTM International (ASTM)
 - ASTM C71- *Standard Terminology Relating to Refractory*
 - ASTM C309 – *Standard Specification for Liquid Membrane-Forming Compounds for Curing Concrete*
 - ASTM D4285 – *Standard Test Method for Indicating Oil or Water in Compressed Air*
- The Society for Protective Coatings (SSPC)
 - SSPC-SP3 – *Power Tool Cleaning*
 - SSPC-SP7/NACE No. 4 – *Brush-Off Blast Cleaning*