PROCESS INDUSTRY PRACTICES

COMPLETE REVISION
December 2017

Coatings

CTSL1000
Application of Internal Linings

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.

PRINTING HISTORY

August 2003	*Issued*	*June 2007*	*Editorial Revision*	*December 2017*	*Complete Revision*
August 2006	*Technical Revision*	*October 2010*	*Reaffirmation with Editorial Revision*		

Not printed with State funds

PIP CTSL1000
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1. Scope

This Practice provides requirements for installing industrial linings. This Practice describes the general requirements for surface preparation, environmental control, and the installation and inspection of liquid-applied internal linings to metal substrates. This Practice does not cover sheet linings and application of linings to piping.

2. References

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 VESV1003 – *Special Fabrication Requirements for Welded Vessels and Tanks to be Lined*

2.2 Industry Codes and Standards

- American Society for Testing and Materials (ASTM)
  - ASTM D3359 – *Standard Test Methods for Measuring Adhesion by Tape Test*
  - ASTM D4285 – *Standard Test Methods for Indicating Oil or Water in Compressed Air*
  - ASTM D4417 – *Standard Test Methods for Field Measurement of Surface Profile of Blast Cleaned Steel*
  - ASTM D4541 – *Standard Test Method for Pull-Off Strength of Coatings Using Portable Adhesion Testers*
  - ASTM E337 – *Standard Test Method for Measuring Humidity with a Psychrometer (the Measurement of Wet- and Dry-Bulb Temperatures)*
- International Organization for Standardization (ISO)
  - ISO 2178 – *Non-Magnetic Coatings on Magnetic Substrates - Measurement of Coating Thickness - Magnetic Method*
  - ISO 2360 – *Non-Conductive Coatings on Non-Magnetic Electrically Conductive Basis Materials - Measurement of Coating Thickness - Amplitude-Sensitive Eddy Current Method*
  - ISO 2409 – *Paints and Varnishes - Cross-Cut Test*
  - ISO 4624 – *Paints and varnishes - Pull-off Test for Adhesion*
  - ISO 4677-2 – *Atmospheres for Conditioning and Testing - Determination of Relative Humidity - Part 2: Whirling Psychrometer Method*
  - ISO 8501-1 – *Preparation of Steel Substrates Before Application of Paints and Related Products - Visual Assessment of Surface Cleanliness - Part 1: Rust Grades and Preparation Grades of Uncoated Steel Substrates and of Steel Substrates After Overall Removal of Previous Coatings*
  - ISO 8503-5 – *Preparation of Steel Substrates Before Application of Paints and Related Products - Surface Roughness Characteristics of Blast-Cleaned Steel Substrates - Part 5: Replica Tape Method for the Determination of the Surface Profile*