



PROCESS  
INDUSTRY  
PRACTICES

TECHNICAL REVISION  
*August 2018*

**Coatings**

**PIP CTCE1000  
External Coating System  
Selection Criteria**

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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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### **PUBLISHING HISTORY**

<i>February 2001</i>	<i>Issued</i>	<i>July 2006</i>	<i>Reaffirmation with Editorial Revision</i>	<i>August 2013</i>	<i>Editorial Revision</i>
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<i>July 2005</i>	<i>Technical Correction</i>	<i>November 2012</i>	<i>Reaffirmation with Editorial Revision</i>		



# PIP CTCE1000 External Coating System Selection Criteria

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## Data Forms

**CTCE1000-D001** – Documentation Requirements Sheet

*The following data forms shall be part of this Practice only if indicated on the purchaser's completed Documentation Requirements Sheet.*

**CTCE1000-D002** – Coating Type Code Definitions

**CTCE1000-D011** – Severe Environment Selection Criteria (US Customary Units)

**CTCE1000-D011M** – Severe Environment Selection Criteria (SI Units)

**CTCE1000-D012** – Severe/Seacoast Environment Selection Criteria (US Customary Units)

**CTCE1000-D012M** – Severe/Seacoast Environment Selection Criteria (SI Units)

**CTCE1000-D013** – Offshore Environment Selection Criteria (US Customary Units)

**CTCE1000-D013M** – Offshore Environment Selection Criteria (SI Units)

**CTCE1000-D014** – Moderate Environment Selection Criteria (US Customary Units)

**CTCE1000-D014M** – Moderate Environment Selection Criteria (SI Units)

**CTCE1000-D021** – Severe Environment Selection Criteria Purchaser Defined (US Customary Units)

**CTCE1000-D021M** – Severe Environment Selection Criteria Purchaser Defined (SI Units)

**CTCE1000-D022** – Severe/Seacoast Environment Selection Criteria Purchaser Defined (US Customary Units)

**CTCE1000-D022M** – Severe/Seacoast Environment Selection Criteria Purchaser Defined (SI Units)

**CTCE1000-D023** – Offshore Environment Selection Criteria Purchaser Defined (US Customary Units)

**CTCE1000-D023M** – Offshore Environment Selection Criteria Purchaser Defined (SI Units)

- CTCE1000-D024** – Moderate Environment  
Selection Criteria Purchaser Defined (US  
Customary Units)
- CTCE1000-D024M** – Moderate Environment  
Selection Criteria Purchaser Defined  
(SI Units)
- CTCE1000-D025** – Purchaser Defined  
Environment Selection Criteria (US  
Customary Units)
- CTCE1000-D025M** – Purchaser Defined  
Environment Selection Criteria (SI Units)

## 1. Scope

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This Practice describes the criteria for the selection of industrial coating systems for insulated and uninsulated substrates of structural steel, equipment, vessels, tanks, and piping. This Practice does not include criteria for the selection of industrial coating systems for internal linings, underground substrates, maintenance coating, architectural coatings, or color selection.

## 2. References

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Applicable parts of the following Practice 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 are used herein where appropriate.

### 2.1 Process Industry Practices (PIP)

- PIP CTSE1000 - *Application of External Coatings*

### 2.2 Industry Codes and Standards

- American National Standards Institute (ANSI)
  - ANSI Z535.1 - *Safety Colors*
- NACE International
  - NACE Standard SP0198-2017 - *Control of Corrosion under Thermal Insulation and Fireproofing Materials - A Systems Approach*
  - NACE 96 Paper No. 477 - *Updated Protective Coating Costs, Products and Service Life*. Gordon H. Brevoort, Kirk R. Shields, and Michael F MeLampy

## 3. Definitions

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*moderate environment*: Industrial and chemical plant area subject to moderate external corrosion

*offshore environment*: Facilities and structures built in and above seawater

*severe environment*: Heavy industrial and chemical plant area subject to aggressive external corrosion

*severe/seacoast environment*: Within five miles of coast/sea water and in the presence of heavy industrial plants subject to aggressive external corrosion

## 4. Requirements

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- 4.1 Coating materials shall be in accordance with this Practice.
- 4.2 Unless otherwise approved by the owner, coating materials used in the same system shall be provided by the same coating manufacturer.
- 4.3 Unless otherwise approved by the owner, coating systems shall be selected in accordance with the Selection Criteria Sheets, *PIP CTCE1000-D011* through *CTCE1000-D025*.