PROCESS INDUSTRY PRACTICES

TECHNICAL CORRECTION
December 2016

Piping

PIP PNC00005
Design of *ASME B31.3* Metallic Piping Systems

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

November 1996	*Issued*	*January 2009*	*Complete Revision & Renumbering*	*December 2016*	*Technical Correction*
February 2002	*Complete Revision*	*October 2015*	*Complete Revision*		

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1. Introduction

1.1 Purpose

This Practice provides requirements for designing metallic piping systems to *ASME B31.3, Process Piping* (hereinafter referred to as the *Code*).

1.2 Scope

This Practice provides requirements for piping systems arrangement, design conditions, components, and joints. This Practice shall be used in conjunction with the *Code*.

The requirements of this Practice are more stringent than the *Code* for the purpose of standardization and not because the *Code* is considered unsafe.

Piping systems designed in accordance with other piping codes are not included in this Practice.

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 will be used herein where appropriate.

2.1 Process Industry Practices (PIP)

- PIP PCCIA001 - *Instrument Air Systems Design Criteria*
- PIP PNC00001 - *Pipe Support Criteria for ASME B31.3 Metallic Piping*
- PIP PNE00003 - *Process Unit and Offsites Layout Guide*

  PIP PNE00004 – *Steam Trap Guidelines*
- PIP PNC00004 - *Piping Stress Analysis Criteria for ASME B31.3 Metallic Piping*
- PIP PNE00012 - *Piping Examination and Leak Test Guide*
- PIP PNSC0001 - *ASME B31.3 Metallic Piping Fabrication and Examination Specification*
- PIP PNSC0011 - *Installation of ASME B31.3 Metallic Piping*
- PIP PNSC0021 - *Leak Testing of Piping Systems*
- PIP PNSC0035 - *Steam Tracing Specification*
- PIP REIE686 - *Recommended Practices for Machinery Installation and Installation Design*
- *PIP Piping Material Specifications*

2.2 Industry Codes and Standards

- American Petroleum Institute (API)
  - API 6D - *Specification for Pipeline and Piping Valves*
  - API 570 - *Piping Inspection Code: In-Service Inspection, Rating, Repair, and Alteration of Piping Systems*
  - API 602 - *Steel Gate, Globe, and Check Valves for Sizes NPS 4 (DN 100) and Smaller for the Petroleum and Natural Gas Industries*