



PROCESS  
INDUSTRY  
PRACTICES

EDITORIAL CORRECTION  
*April 2022*

***Piping***

**PIP PNSC0001  
ASME B31.3 Metallic Piping  
Fabrication and Examination Specification**

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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**

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# PIP PNSC0001 ASME B31.3 Metallic Piping Fabrication and Examination Specification

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## 1. Scope

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This Practice provides requirements for fabricating and examining piping systems in accordance with ASME B31.3 Process Piping, (hereinafter referred to as the Code). This Practice describes the requirements for both shop and field fabricated piping. Piping fabrication requirements are provided for materials, welding, forming, and heat treatment.

Examination requirements are provided for piping materials, components, fabrication, assembly, and erection. Requirements for examination documentation are provided. Examination methods, acceptance criteria, and requirements for correction of defective work are also provided.

## 2. References

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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 are used herein where appropriate.

### 2.1 Process Industry Practices (PIP)

- PIP PNE00012 - *Piping Examination and Leak Test Guide*
- PIP PNFS0001 - *Pipe Supports Details*
- PIP PNSC0021 - *Specification for Leak Tests of Piping*

### 2.2 Industry Codes and Standards

- American Petroleum Institute (API)
  - API RP 582 - *Recommended Practice Welding Guidelines for the Chemical, Oil and Gas Industries*
- American Society of Mechanical Engineers (ASME)
  - ASME Boiler and Pressure Vessel Code  
Section V - "Nondestructive Examination" (*BPV Code, Section V*)
  - ASME B16.25 - *Buttwelding Ends*
  - ASME B31.3 - (latest edition) *Process Piping (Code)*
- American Society for Testing and Materials (ASTM)
  - ASTM E165 - *Standard Practice for Liquid Penetrant Examination for General Industry*
- American Welding Society (AWS)
  - AWS D10.10: 1999 (R2009) - *Recommended Practices for Local Heating of Welds in Piping and Tubing*
- Piping Fabrication Institute (PFI)
  - PFI Standard ES-3 - *Fabricating Tolerances*