



PROCESS
INDUSTRY
PRACTICES

COMPLETE REVISION
October 2023

Structural

PIP STC01015
Structural Design Criteria

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PURPOSE AND USE OF PROCESS INDUSTRY PRACTICES

This Practice has been prepared by harmonizing technical requirements from existing standards of major industrial operators, contractors, and standard development organizations. While this Practice is intended to incorporate the majority of requirements, individual applications may have requirements which take precedence over this Practice. Determinations concerning fitness for purpose or application of this Practice to specific project or engineering situations should not be made solely on information contained in this Practice. All Practices are intended to be consistent with applicable laws and regulations. Should this Practice conflict with 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 this Practice.

Use of trade names should not be viewed as an expression of preference. Other brands having the same specifications are equally correct and may be substituted for those named.

This Practice is subject to revision at any time. For more information refer to PIP ADG001, *Specification for Developing Practices*.

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1. Scope

This Practice describes the minimum requirements for the structural design of process industry facilities at onshore sites.

This Practice is intended to be used in conjunction with *PIP ARC01015*, *PIP ARC01016*, *PIP CVC01015*, *PIP CVC01017*, and *PIP CVC01018*, as applicable.

This Practice does not include design criteria for loads associated with transportation or lifting of modular structures.

This Practice provides triple references to *ASCE/SEI 7-16*, *IBC 2018*, and *IBC 2021*. The applicable code/standard shall be as required by the authority having jurisdiction (AHJ) and as specified in *PIP CVC01017* and *PIP CVC01018*.

Comment: IBC 2018 and IBC 2021 specifically reference ASCE/SEI 7-16 with IBC being on a 3-year revision cycle and ASCE/SEI 7 being on a 6-year revision cycle.

This Practice provides double references to *ACI 318-14 / ACI 318M-14* and *ACI 318-19 (IN-LB) / ACI 318-19 (SI)*. The applicable code shall be as required by the authority having jurisdiction (AHJ) and as specified in *PIP CVC01018*.

Comment: ASCE/SEI 7-16 and IBC 2018 specifically reference ACI 318-14 and ACI 318M-14 whereas IBC 2021 specifically references ACI 318-19 (IN-LB) and ACI 318-19 (SI).

This Practice provides references to *ANSI/AISC 341-16* and *ANSI/AISC 360-16*. The applicable specification/standard shall be as required by the authority having jurisdiction (AHJ) and as specified in *PIP CVC01018*.

Comment: ASCE/SEI 7-16, IBC 2018 and IBC 2021 specifically reference ANSI/AISC 341-16 and ANSI/AISC 360-16.

This Practice references U.S. codes and standards, but it can be applied globally. For projects in other countries, a thorough search of applicable codes and standards is required. Where more stringent than U.S. codes and standards, the local codes and standards shall govern. For projects in countries without applicable codes and standards, the U.S. codes and standards shall govern.

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 ARC01015 - *Architectural and Building Utilities Design Criteria*
- PIP ARC01016 - *Building Data Sheet*