ASME B31.1-2026
(Revision of ASME B31.1-2024)

Power Piping

ASME Code for Pressure Piping, B31

AN INTERNATIONAL PIPING CODE®

The American Society of Mechanical Engineers

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The American Society of Mechanical Engineers
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ANNOUNCEMENT
TO USERS OF THE ASME B31.1 POWER PIPING CODE

Please be advised that piping property and material strength data for materials currently listed in both the ASME B31.1 Power Piping Code and ASME Boiler and Pressure Vessel Code (BPVC), Section II, Part D will be removed from ASME B31.1. This change is planned for the 2028 edition. Upon completion of the change, ASME B31.1 will direct the user to ASME BPVC, Section II, Part D for both U.S. Customary and metric data for materials approved for ASME B31.1 construction. Piping property and material strength data for materials not currently listed in ASME BPVC, Section II, Part D will remain in ASME B31.1 This change will ensure consistency of piping property and material strength data, support increased integrity of the data, and reduce redundancy in maintenance of the data between multiple codes.

Upon completion of this change, the user will refer to the tables provided in ASME BPVC, Section II, Part D as follows:

Data	ASME B31.1 Power Piping Code	ASME BPVC, Section II, Part D
Allowable stress values	Tables A-1 through A-10	Tables 1A, 1B, and 3
Coefficient of thermal expansion	Tables B-1 and B-1 (SI)	Tables TE-1 through TE-5
Moduli of elasticity	Tables C-1, C-1 (SI), C-2, and C-2 (SI)	Tables TM-1 through TM-5
Poisson's ratio	Paragraph 119.6.3	Table PRD

FOREWORD

The general philosophy underlying this Power Piping Code is to parallel those provisions of Section I, Rules for Construction of Power Boilers, of the ASME Boiler and Pressure Vessel Code, as they can be applied to power piping systems. The allowable stress values for power piping are generally consistent with those assigned for power boilers. This Code is more conservative than some other piping codes, reflecting the need for long service life and maximum reliability in power plant installations.

The Power Piping Code as currently written does not differentiate among the design, fabrication, and erection requirements for critical and noncritical piping systems, except for certain stress calculations and mandatory nondestructive tests of welds for heavy wall, high-temperature applications. The problem involved is to try to reach agreement on how to evaluate criticality, and to avoid the inference that noncritical systems do not require competence in design, fabrication, and erection. Someday such levels of quality may be definable, so that the need for the many different piping codes will be overcome.

There are many instances where the Code serves to warn a designer, fabricator, or erector against possible pitfalls; however, the Code is not a handbook and cannot substitute for education, experience, and sound engineering judgment.

Nonmandatory Appendices are included in the Code. Each contains information on a specific subject and is maintained current with the Code. Although written in mandatory language, these Appendices are offered for application at the user's discretion.

The Code never intentionally puts a ceiling limit on conservatism. The designer is free to specify more rigid requirements if the designer feels such requirements are justified. Conversely, a designer who is capable of applying a more complete and rigorous analysis consistent with the design criteria of this Code may justify a method different from that specified in the Code and still satisfy the Code requirements.

The Power Piping Committee strives to keep abreast of the current technological improvements in new materials, fabrication practices, and testing techniques; and it endeavors to keep the Code updated to permit the use of acceptable new developments.

ASME B31.1-2026 was approved by the American National Standards Institute on August 3, 2026.