



Standard Specification for Pipeline Expansion Joints of the Packed Slip Type for Marine Application¹

This standard is issued under the fixed designation F 1007; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ε) indicates an editorial change since the last revision or reapproval.

1. Scope

1.1 This specification covers the design, manufacturing, and testing of packed slip-type expansion joints used in pipelines for accommodating axial thermal growth or contraction from the pipeline carrying fluid.

1.2 The values stated in inch-pound units are to be regarded as the standard. The values given in parentheses are for information only.

2. Referenced Documents

2.1 ASTM Standards:

A 53/A 53M Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless²

A 216/A 216M Specification for Steel Castings, Carbon, Suitable for Fusion Welding, for High-Temperature Service³

A 285/A 285M Specification for Pressure Vessel Plates, Carbon Steel, Low- and Intermediate-Tensile Strength⁴

B 650 Specification for Electrodeposited Engineering Chromium Coatings on Ferrous Substrates⁵

2.2 ANSI Standards:⁶

B16.5 Steel Pipe Flanges and Flanged Fittings

B16.25 Buttwelding Ends

B31.1 Power Piping

2.3 ASME Standards:⁷

Section V Nondestructive Examination

Section VIII, Division 1 Pressure Vessels

Section IX Welding and Brazing Qualifications

2.4 AISI Standard:

C-1018 Carbon Steel⁸

3. Classification

3.1 The expansion joints shall be of the following types, styles, classes, and forms:

3.1.1 *Type 1*—Injectable semiplastic packing type, designed for injecting packing under full-line pressure.

3.1.2 *Style I*—Internally externally guided with guides integral with stuffing box.

3.1.3 *Style II*—Internally externally guided with guides integral with stuffing box and with low-friction inserts at the guide surfaces.

3.1.4 *Class I*—Single joint, single slip.

3.1.5 *Class II*—Double joint, double slip.

3.1.6 *Form I*—Weld end.

3.1.7 *Form II*—Flanged end.

3.1.8 *Form III*—Other.

4. Ordering Information

4.1 Expansion joints shall meet all the requirements of the latest issue of this specification. Where possible, the expansion joint shall be the manufacturer's standard commercial product. Additional or superior features that are not prohibited by this specification but which are a part of the manufacturer's standard product, shall be included with the expansion joint being offered. A standard commercial product is a product that has been sold or is currently being offered for sale on the commercial market through advertisements or manufacturer's catalogs, or brochures, and represents the latest production model.

4.2 Purchase order or inquiry for expansion joints to this specification shall specify the following:

4.2.1 Title, number, and latest revision of this specification.

4.2.2 Style, class, and form required.

4.2.3 Materials, other than standard as specified (see Section 8).

4.2.4 Service conditions shall specify the following:

4.2.4.1 Maximum and minimum operating temperature (°F).

¹ This specification is under the jurisdiction of Committee F25 on Ships and Marine Technology and is the direct responsibility of Subcommittee F25.11 on Machinery and Piping Systems.

Current edition approved July 25, 1986. Published September 1986.

² *Annual Book of ASTM Standards*, Vol 01.01.

³ *Annual Book of ASTM Standards*, Vol 01.02.

⁴ *Annual Book of ASTM Standards*, Vol 01.04.

⁵ *Annual Book of ASTM Standards*, Vol 02.05.

⁶ Available from American National Standards Institute (ANSI), 25 W. 43rd St., 4th Floor, New York, NY 10036.

⁷ Available from American Society of Mechanical Engineers (ASME), ASME International Headquarters, Three Park Ave., New York, NY 10016-5990.

⁸ Available from American Iron and Steel Institute (AISI), 1101 17th St., NW, Suite 1300, Washington, DC 20036.