

ANSI/MSS SP-114-2018



Corrosion Resistant Pipe Fittings, Threaded and Socket-Welding, Class 150 and 1000

Standard Practice
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This Standard Practice has been substantially revised from the previous 2007 edition. It is suggested that if the user is interested in knowing what changes have been made, that direct page by page comparison should be made of this document and that of the previous edition.

Non-toleranced dimensions in this Standard Practice are nominal unless otherwise specified.

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FOREWORD

This document established a standard for corrosion resistant pipe fittings, threaded and socket-welding. Class 150 and Class 1000, produced for a number of years by various manufacturers to somewhat different dimensions although basically similar in principle.

These fittings were originally developed for use in the paper, food, pharmaceutical, distillery, sanitary, chemical, petro-chemical, and other corrosive and high temperature industry environments. The original design of these fittings was based on the dimensions of ASME B16.3, Malleable Iron Threaded Fittings.

This Standard Practice, originally approved May 1995, was revised in 2001 to include Class 150 and Class 1000 square head plugs, hex head plugs and bushings, locknuts, and threaded and socket-welding unions.

This 2018 edition contains revisions based on (1) MSS C-108 review, and (2) comments and recommendations received during the original 2011 ANSI/MSS Consensus Committee approval process. In particular, the committee approved the inclusion of hexagonal nipples, weld spuds, and union laying length dimensions in this 2018 revision, along with revised drawings, updated data where applicable, and various editorial changes.

In 2018, this revised MSS Standard Practice was subsequently ANSI-approved as a revised American National Standard. This process involved an ANSI/MSS Consensus Committee that was composed of a diverse volunteer group of industry stakeholders with a material interest in the topic of this Standard Practice.

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CORROSION RESISTANT PIPE FITTINGS, THREADED AND SOCKET-WELDING, CLASS 150 AND 1000

1. SCOPE

1.1 This Standard Practice for corrosion resistant pipe fittings threaded and socket-welding, Class 150 and 1000, establishes requirements for the following:

- a) Pressure-temperature ratings
- b) Size and method of designating openings of reducing fittings
- c) Marking
- d) Minimum requirements for materials
- e) Dimensions and tolerances
- f) Threading
- g) Testing

2. PRESSURE-TEMPERATURE RATINGS

2.1 Pressure-temperature ratings for these fittings are shown in Table 1. Ratings are independent of the contained fluid and are the maximum allowable working pressures at the tabulated temperatures. Intermediate ratings may be obtained by linear interpolation between the temperatures shown.

2.2 The temperatures shown for the corresponding pressure rating shall be the material temperature of the pressure retaining structure. It is implied that the material temperature is the same as the fluid temperature. Use of a pressure rating at a material temperature other than that of the contained fluid is the responsibility of the user and subject to the requirements of any applicable code.

2.3 For purposes of this Standard Practice, castings are included for Class 150 fittings only.

2.4 The wall thickness of the fittings covered by this Standard Practice corresponds to ASME B36.19M Schedule 40S pipe. When thinner than Schedule 40S pipe of equivalent material is used, its strength may govern the rating. When Schedule 40S or thicker pipe of equivalent material is used, the strength of the fitting governs the rating. The user bears responsibility when using thinner than Schedule 40S pipe of equivalent material.

2.4.1 In regards to the design, the pressure rating of the fitting shall not exceed those listed in Table 1 at the corresponding temperature.

3. SIZE

3.1 The size of the fittings listed in the following Tables is identified by the corresponding nominal^(a) pipe size (i.e., NPS).

NOTE: (a) The use of the word “nominal” as a modifier of a dimension or size is intended to indicate that the stated dimension or size is used for purposes of designation.