

MSS SP-114-2007

**Corrosion Resistant
Pipe Fittings
Threaded and Socket Welding
Class 150 and 1000**

Standard Practice
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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.

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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) Tests

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 Schedule 40 pipe. When thinner pipe of equivalent material is used, its strength may govern the rating. When Schedule 40 pipe of equivalent material is used, the strength of the fitting governs the rating.

**TABLE 1
Pressure-Temperature Ratings**

Temperature (°F)	Class 150 (castings) PSIG	Class 1000 (Wrought) PSIG
-20 to 150	300	1000
200	265	910
250	225	825
300	185	735
350	150 ^(a)	650
400	—	560
450	—	475
500	—	385
550	—	300

NOTE:

(a) Permissible for service temperature up to 366 degrees Fahrenheit, reflecting the temperature of saturated steam at 150 psig.

3. SIZE

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

NOTE:

(b) 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.