

Class 150LW Corrosion Resistant Flanges and Cast Flanged Fittings

Standard Practice
Developed and Approved by the
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Non-tolerance dimensions in this Standard Practice are nominal unless otherwise specified.

This Standard Practice has been substantially revised from the previous 2012 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 2012 edition.

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FOREWORD

The subject matter of this Standard Practice was formerly a part of MSS SP-42, *Corrosion Resistant Cast Flanged Valves, Flanges and Flanged Fittings*. MSS SP-42 now covers valves only.

The 1978 edition of this Standard Practice was delayed beyond the normal review interval in consideration of extensive revisions being developed for MSS SP-42. Following publication of the re-written SP-42-1978, in which the flange thickness for most sizes were made the same as those in ANSI B16.5 for Class 150 flanges, it was determined that a commercial need remained for flanges and flanged fittings of reduced weight, and that this Standard Practice should continue to serve that need. The committee decided; however, that pressure-temperature ratings should be reduced to limit pressure stresses to levels consistent with those applied in ANSI B16.5, Class 150 flanges. While pressure stresses are generally less significant than bolting and piping stresses in these flanges, the new ratings, in combination with the gasket selection recommended herein, serve to limit the assembly bolting loads required. It is intended that the reduction in ratings should substantially reduce the likelihood of misapplication of these flanges and fittings.

The 1982 and 1986 editions were required to update the referenced standards list in Section 2 and included metric conversions.

The 1991 edition was required to update the referenced standards list and delete the metric equivalents.

The 1995 reaffirmed edition of this Standard Practice was required to update the referenced standards list and reaffirm the document.

The 2000 edition incorporated standard metric dimensions, include forged and plate materials for flanges, and update referenced standards.

The 2003 edition of this Standard Practice was made to incorporate larger sizes of flanges and fittings (NPS 14, 16, 18, 20, and 24) to accommodate the needs of the user community.

The 2007 edition corrected some dimensions and to updated the referenced standards.

The 2012 edition of this Standard Practice updated the referenced standards (e.g., Section 7 and Annex A), clarified markings in Section 8.1(e), and provided various editorial and conforming changes.

This 2021 edition of SP-51, in addition to various editorial and formatting updates, includes: (1) updated dimensions in Table 2 to correspond to ASME B16.5, (2) deletion of references to “DN” sizing from text and tables (excepting certain circumstances) to align with ASME B16.5, (3) clarified and updated Section 2, and (4) updated referenced standards in Annex A.

PREFACE

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The MSS Technical Committee 110, *Steel Flanges and Flanged Fittings*, has primary responsibility for this Standard Practice and included the following members at the time of approval:

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MSS Standard Practices (SPs) related to or referenced in this publication:

MSS SP-6	<i>Terminology for Valves, Fittings, and Their Related Components</i>
MSS SP-9	<i>Spot Facing for Bronze, Iron, and Steel Flanges</i>
ANSI/MSS SP-25	<i>Standard Marking System for Valves, Fittings, Flanges, and Unions</i>
ANSI/MSS SP-96	<i>Terminology for Valves, Fittings, and Their Related Components</i>

American National Standards Published by MSS, an ANSI-accredited Standards Developer:

ANSI/MSS SP-25	<i>Standard Marking System for Valves, Fittings, Flanges, and Unions</i>
ANSI/MSS SP-44	<i>Steel Pipeline Flanges</i>
ANSI/MSS SP-55	<i>Quality Standard for Steel Castings for Valves, Flanges, Fittings, and Other Piping Components – Visual Method for Evaluation of Surface Irregularities</i>
ANSI/MSS SP-58	<i>Pipe Hangers and Supports – Materials, Design, Manufacture, Selection, Application, and Installation</i>
ANSI/MSS SP-96	<i>Terminology for Valves, Fittings, and Their Related Components</i>
ANSI/MSS SP-114	<i>Corrosion Resistant Pipe Fittings Threaded and Socket Welding Class 150 and 1000</i>
ANSI/MSS SP-122	<i>Plastic Industrial Ball Valves</i>
ANSI/MSS SP-134	<i>Valves for Cryogenic Service, including Requirements for Body/Bonnet Extensions</i>
ANSI/MSS SP-135	<i>High Pressure Knife Gate Valves</i>
ANSI/MSS SP-138	<i>Quality Standard Practice for Oxygen Cleaning of Valves and Fittings</i>
ANSI/MSS SP-144	<i>Pressure Seal Bonnet Valves</i>

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