ASME B16.48-2010

(Revision of ASME B16.48-2005)

Line Blanks

AN AMERICAN NATIONAL STANDARD

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Line Blanks

AN AMERICAN NATIONAL STANDARD

ASME
SETTING THE STANDARD

Three Park Avenue • New York, NY • 10016 USA

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The next edition of this Standard is scheduled for publication in 2015. There will be no addenda issued to this edition.

ASME issues written replies to inquiries concerning Interpretations of technical aspects of this Standard. Interpretations are published on the ASME Web site under the Committee Pages at http://cstools.asme.org as they are issued.

Items issued as errata to this edition are published on the ASME Web site under the Committee Pages at http://cstools.asme.org.

The American Society of Mechanical Engineers
Three Park Avenue, New York, NY 10016-5990

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FOREWORD

In July 1993, the ASME B16 Committee gave to its Subcommittee C the assignment to convert the API 590 Steel Line Blanks Standard into an ASME standard. The American Petroleum Institute no longer publishes the API 590 Standard.

These line blanks were designed in accordance with the rules of the ASME B31.3-2002 edition. Materials and relevant footnotes have been added following the ASME format.

Significant additions were made to the 2005 edition that included reference to the use of all materials listed in B16.5 Table 1-A plus Metric units. The added materials of construction included additions to classes of alloy steels, stainless steels, and nickel alloys. The 2005 edition was also metricated over previous editions to include both U.S. Customary units (in parenthesis) and Metric units in the text, Metric units in dimensional tables in the body, and U.S. Customary units in dimensional tables in Nonmandatory Appendix A.

Following the approval of the Standards Committee and ASME, approval for the 2005 edition was granted by the American National Standards Institute on September 19, 2005.

The 2010 edition includes revisions to paragraph numbering and adjustments of appendices. In addition to renumbering of main text, updates have been made to the Materials section and Marking Method. Illustrations for the figure-8 blanks for raised face flange joints have been revised. Finally, the tables for male ring-joint facing figure-8 blanks were revised to support both oval and octagonal ring shapes.

All requests for interpretations or suggestions for revisions should be sent to the Secretary, B16 Committee, The American Society of Mechanical Engineers, Three Park Avenue, New York, NY 10016-5990.

The B16 Committee operates under procedures accredited by the American National Standards Institute (ANSI). Following approval by the Standards Committee and ASME, this revision to the 2005 edition was approved as an American National Standard by ANSI on September 2, 2010 with the designation ASME B16.48-2010.

ASME B16 COMMITTEE
Standardization of Valves, Flanges, Fittings, and Gaskets

(The following is the roster of the Committee at the time of approval of this Standard.)

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General. ASME Standards are developed and maintained with the intent to represent the consensus of concerned interests. As such, users of this Standard may interact with the Committee by requesting interpretations, proposing revisions, and attending Committee meetings. Correspondence should be addressed to:

Secretary, B16 Standards Committee
The American Society of Mechanical Engineers
Three Park Avenue
New York, NY 10016-5990

As an alternative, inquiries may be submitted via e-mail to SecretaryB16@asme.org.

Proposing Revisions. Revisions are made periodically to the Standard to incorporate changes that appear necessary or desirable, as demonstrated by the experience gained from the application of the Standard. Approved revisions will be published periodically.

The Committee welcomes proposals for revisions to this Standard. Such proposals should be as specific as possible, citing the paragraph number(s), the proposed wording, and a detailed description of the reasons for the proposal, including any pertinent documentation.

Interpretations. Upon request, the B16 Committee will render an interpretation of any requirement of the Standard. Interpretations can only be rendered in response to a written request sent to the Secretary of the B16 Standards Committee.

The request for interpretation should be clear and unambiguous. It is further recommended that the inquirer submit his/her request in the following format:

Subject:	Cite the applicable paragraph number(s) and the topic of the inquiry.
Edition:	Cite the applicable edition of the Standard for which the interpretation is being requested.
Question:	Phrase the question as a request for an interpretation of a specific requirement suitable for general understanding and use, not as a request for an approval of a proprietary design or situation. The inquirer may also include any plans or drawings that are necessary to explain the question; however, they should not contain proprietary names or information.

Requests that are not in this format will be rewritten in this format by the Committee prior to being answered, which may inadvertently change the intent of the original request.

ASME procedures provide for reconsideration of any interpretation when or if additional information that might affect an interpretation is available. Further, persons aggrieved by an interpretation may appeal to the cognizant ASME Committee or Subcommittee. ASME does not "approve," "certify," "rate," or "endorse" any item, construction, proprietary device, or activity.

Attending Committee Meetings. The B16 Standards Committee regularly holds meetings, which are open to the public. Persons wishing to attend any meeting should contact the Secretary of the B16 Standards Committee.

ASME B16.48-2010
SUMMARY OF CHANGES

Following approval by the ASME B16 Standards Committee, and after public review, ASME B16.48-2010 was approved by the American National Standards Institute on September 2, 2010.

In this 2010 edition, all paragraphs have been redesignated, all tables have been revised, and cross-references have been updated throughout. All other revisions introduced within the 2010 edition of ASME B16.48 are identified by a margin note, **(10)**.

Page	*Location*	*Change*
2	4.2	Revised in its entirety
	4.3.1	Revised
3	6.1	Last sentence added
	6.2	Revised in its entirety
	7.2	Revised in its entirety
23	Mandatory Appendix I	Former Nonmandatory Appendix A redesignated
42	Mandatory Appendix II	Former Nonmandatory Appendix B redesignated
43	Nonmandatory Appendix A	Former Nonmandatory Appendix C redesignated

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LINE BLANKS

1 SCOPE

This Standard covers pressure–temperature ratings, materials, dimensions, tolerances, marking, and testing for operating line blanks in sizes NPS ½ through NPS 24 for installation between ASME B16.5 flanges in the 150, 300, 600, 900, 1500, and 2500 pressure classes.

2 GENERAL

2.1 Definitions

2.1.1 Figure-8 Blank. A figure-8 blank (also called a spectacle blank) is a pressure-retaining plate with one solid end and one open end connected with a web or tie bar (see Fig. 1).

2.1.2 Paddle Blank. A paddle blank is similar to the solid end of a figure-8 blank. It has a plain radial handle. It is generally used in conjunction with a paddle spacer in large sizes.

2.1.3 Paddle Spacer. A paddle spacer is similar to the open end of a figure-8 blank. It has a plain radial handle. It is generally used in conjunction with a paddle blank.

2.2 References

Codes, standards, and specifications, containing provisions to the extent referenced herein, constitute requirements of this Standard. These reference documents are listed in Mandatory Appendix II.

2.3 Quality Systems

Nonmandatory requirements relating to the product manufacturer's Quality System Program are described in Nonmandatory Appendix A.

2.4 Relevant Units

This Standard states values in both Metric and U.S. Customary units. These systems of units are to be regarded separately as standard. Within the text, the U.S. Customary units are shown in parenthesis or separate tables. Refer to Mandatory Appendix I. The values stated in each system are not exact equivalents; therefore, it is required that each system of units be used independently of the other. Combining values from the two systems constitutes nonconformance with the Standard. Mandatory Appendix I provides dimensions in U.S. Customary units.

2.5 Convention

For the purpose of determining conformance with this Standard, the convention for fixing significant digits where limits and maximum and minimum values are specified, shall be rounded as defined in ASTM Practice E 29. This requires that an observed or calculated value shall be rounded off to the nearest unit in the last right-hand digit used for expressing the limit. Decimal values and tolerances do not imply a particular method of measurement.

2.6 Size

NPS, followed by a dimensionless number, is the designation for nominal blank size. NPS is related to the reference nominal diameter, DN, as defined in ISO 6708. The relationship is typically as follows:

NPS	DN
½	15
¾	20
1	25
1¼	32
1½	40
2	50
2½	65
3	80
4	100

NOTE: For NPS ≥ 4, the related DN = 25(NPS).

2.7 Service Conditions

Criteria for selection of materials suitable for particular fluid service are not within the scope of this Standard.

3 PRESSURE–TEMPERATURE RATINGS

3.1 Pressure Classes

Line blanks covered by this Standard are for the following pressure classes: 150, 300, 600, 900, 1500, and 2500 as listed in ASME B16.5.

3.2 Pressure–Temperature Ratings

3.2.1 Ratings. Ratings are the maximum allowable working gage pressure at the temperature shown in Tables 2 and II-2 of ASME B16.5 for the appropriate material and pressure class. For intermediate temperatures, linear interpolation between temperatures within a pressure class is permitted by ASME B16.5.

3.2.2 System Pressure Testing. Line blanks may be subjected to system tests at a pressure not to exceed