

**ASME B16.9-2007**  
(Revision of ASME B16.9-2003)

# **Factory-Made Wrought Buttwelding Fittings**

**AN AMERICAN NATIONAL STANDARD**



The American Society of  
Mechanical Engineers

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Three Park Avenue • New York, NY 10016

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# CONTENTS

Foreword .....	iv
Committee Roster .....	v
Correspondence With the B16 Committee .....	vi
<b>1 Scope</b> .....	<b>1</b>
<b>2 Pressure Ratings</b> .....	<b>1</b>
<b>3 Size</b> .....	<b>2</b>
<b>4 Marking</b> .....	<b>2</b>
<b>5 Material</b> .....	<b>2</b>
<b>6 Fitting Dimensions</b> .....	<b>2</b>
<b>7 Surface Contours</b> .....	<b>3</b>
<b>8 End Preparation</b> .....	<b>3</b>
<b>9 Design Proof Test</b> .....	<b>3</b>
<b>10 Production Tests</b> .....	<b>4</b>
<b>11 Tolerances</b> .....	<b>4</b>
<b>Figure</b>	
1 Maximum Envelope for Welding End Transitions .....	18
<b>Tables</b>	
1 Dimensions of Long Radius Elbows .....	5
2 Dimensions of Long Radius Reducing Elbows .....	6
3 Dimensions of Long Radius Returns .....	7
4 Dimensions of Short Radius Elbows .....	7
5 Dimensions of Short Radius 180-deg Returns .....	8
6 Dimensions of 3D Elbows .....	8
7 Dimensions of Straight Tees and Crosses .....	9
8 Dimensions of Reducing Outlet Tees and Reducing Outlet Crosses .....	10
9 Dimensions of Lap Joint Stub Ends .....	13
10 Dimensions of Caps .....	14
11 Dimensions of Reducers .....	15
12 Welding Bevels and Root Face .....	17
13 Tolerances .....	19
<b>Mandatory Appendices</b>	
I Inch Tables .....	21
II References .....	35
<b>Nonmandatory Appendix</b>	
A Quality System Program .....	36

# FOREWORD

In 1921, the American Engineering Standards Committee, later the American Standards Association (ASA), organized Sectional Committee B16 to unify and further develop national standards for pipe flanges and fittings (and, later, for valves, gaskets, and valve actuators). Cosponsors of the B16 Committee were The American Society of Mechanical Engineers (ASME), the Heating and Piping Contractors National Association [now the Mechanical Contractors Association of America (MCAA)], and the Manufacturers Standardization Society of the Valve and Fittings Industry (MSS). Cosponsors were later designated as cosecretariat organizations.

Standardization of welding fittings was initiated in 1937 by a subgroup (designated Subgroup 6) of Subcommittee 3. After consideration of several drafts, a standard was approved by the Committee, cosponsors, and ASA, and published with the designation ASA B16.9-1940.

Revisions were made in 1950 and 1955 to add sizes up to NPS 24 and to complete coverage of fittings in some sizes. These revisions were approved and published as ASA B16.9-1951 and ASA B16.9-1958. With the subgroup now designated Subcommittee 6 (later Subcommittee F), further revisions were begun to clarify the intent of the standard, to add angularity tolerances, and to include fittings of different types (long radius reducing elbows and crosses) and smaller sizes (NPS  $\frac{1}{4}$  and NPS  $\frac{1}{2}$ ). This revision was published as ASA B16.9-1964 after ASA approval.

After reorganization of ASA, first as the United States of America Standards Institute (USASI), then as the American National Standards Institute (ANSI), with the Sectional Committee being redesignated as an American National Standards Committee, another revision increasing the size range to NPS 48 and revising the text for clarity was approved and published as ANSI B16.9-1971.

In 1975, Subcommittee F began a major revision to bring the standard up to date with current practice and usage. Common fractions were expressed as decimals (but without intending higher precision) and metric dimensional equivalents were added. Provisions for step-wise change of radius for NPS  $\frac{3}{4}$  long radius elbows and 180-deg returns were introduced. Following Standards Committee, cosecretariat, and ANSI approval, the revision was published as ANSI B16.9-1978. It was updated by a corrective addendum, B16.9a-1981, issued in February 1982.

In 1982, American National Standards Committee B16 was reorganized as an ASME Committee operating under procedures accredited by ANSI. In ASME/ANSI B16.9-1986, the text was revised and inch dimensions were established as the standard.

In 1991, the Subcommittee reviewed the document and made a number of revisions that were included in ASME B16.9-1993. Dimensions for short pattern lap joints were also added.

In ASME B16.9-2001, short radius elbows and returns were added, which included all dimensions and tolerances of ASME B16.28-1994. Metric units were provided as an independent but parallel alternative standard to U.S. Customary units and a Quality System Program appendix was added.

In 2003, the Subcommittee reviewed the document and made a number of revisions. The scope of the standard was changed to permit fabricated lap joint stub ends employing circumferential or intersection welds.

In 2006, the Subcommittee reviewed the document and made a number of additions and revisions. Segmental elbow requirements were added as were 3D elbow dimensions. Reference documents were updated.

This Standard was approved as an American National Standard on May 18, 2007.

# 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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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 which 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.

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