

ASME B16.18-2012

[Revision of ASME B16.18-2001 (R2005)]

# Cast Copper Alloy Solder Joint Pressure Fittings

---

**AN AMERICAN NATIONAL STANDARD**



The American Society of  
Mechanical Engineers

**ASME B16.18-2012**  
[Revision of ASME B16.18-2001 (R2005)]

# **Cast Copper Alloy Solder Joint Pressure Fittings**

---

**AN AMERICAN NATIONAL STANDARD**



**The American Society of  
Mechanical Engineers**

Three Park Avenue • New York, NY • 10016 USA

Date of Issuance: February 22, 2012

The next edition of this Standard is scheduled for publication in 2017.

ASME issues written replies to inquiries concerning interpretations of technical aspects of this Standard. Periodically certain actions of the ASME B16 Committee may be published as Cases. Cases and interpretations are published on the ASME Web site under the Committee Pages at <http://cstools.asme.org/> as they are issued, and will be published within the next edition of the standard.

Errata to codes and standards may be posted on the ASME Web site under the Committee Pages to provide corrections to incorrectly published items, or to correct typographical or grammatical errors in codes and standards. Such errata shall be used on the date posted.

The Committee Pages can be found at <http://cstools.asme.org/>. There is an option available to automatically receive an e-mail notification when errata are posted to a particular code or standard. This option can be found on the appropriate Committee Page after selecting “Errata” in the “Publication Information” section.

ASME is the registered trademark of The American Society of Mechanical Engineers.

This code or standard was developed under procedures accredited as meeting the criteria for American National Standards. The Standards Committee that approved the code or standard was balanced to assure that individuals from competent and concerned interests have had an opportunity to participate. The proposed code or standard was made available for public review and comment that provides an opportunity for additional public input from industry, academia, regulatory agencies, and the public-at-large.

ASME does not “approve,” “rate,” or “endorse” any item, construction, proprietary device, or activity.

ASME does not take any position with respect to the validity of any patent rights asserted in connection with any items mentioned in this document, and does not undertake to insure anyone utilizing a standard against liability for infringement of any applicable letters patent, nor assumes any such liability. Users of a code or standard are expressly advised that determination of the validity of any such patent rights, and the risk of infringement of such rights, is entirely their own responsibility.

Participation by federal agency representative(s) or person(s) affiliated with industry is not to be interpreted as government or industry endorsement of this code or standard.

ASME accepts responsibility for only those interpretations of this document issued in accordance with the established ASME procedures and policies, that precludes the issuance of interpretations by individuals.

No part of this document may be reproduced in any form,  
in an electronic retrieval system or otherwise,  
without the prior written permission of the publisher.

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

Copyright © 2012 by  
THE AMERICAN SOCIETY OF MECHANICAL ENGINEERS  
All Rights Reserved  
Printed in U.S.A.

# CONTENTS

Foreword .....	v
Committee Roster .....	vii
Correspondence With the B16 Committee .....	viii
Summary of Changes .....	ix
<b>1 Scope</b> .....	<b>1</b>
<b>2 General</b> .....	<b>1</b>
<b>3 Pressure–Temperature Ratings</b> .....	<b>1</b>
<b>4 Fitting Size and Ends</b> .....	<b>1</b>
<b>5 Marking</b> .....	<b>1</b>
<b>6 Material</b> .....	<b>2</b>
<b>7 Metal Thickness</b> .....	<b>2</b>
<b>8 Inspection Tolerance</b> .....	<b>2</b>
<b>9 Threaded Ends</b> .....	<b>2</b>
<b>10 Configuration of Threaded Ends</b> .....	<b>3</b>
<b>11 Production Testing</b> .....	<b>3</b>
<b>Figure</b>	
1 Method of Designating Openings of Fittings .....	4
<b>Tables</b>	
1 Internal Pressure–Temperature Ratings for Cast Copper Alloy Fittings, psi (kPa) .....	6
2 Inspection Tolerances .....	7
3 Dimensions of Solder Joint Ends .....	8
4 Dimensions of Elbows, Tees, and 45-deg Elbows .....	9
5 Dimensions of Reducing 90-deg Elbows .....	11
6 Dimensions of Reducing Tees .....	12
7 Dimensions of Couplings .....	15
8 Dimensions of Caps and Plugs .....	17
9 Dimensions of Fitting Reducers .....	17
10 Dimensions of Solder Joint Elbows and Tees With Pipe Thread Ends (Straight Sizes) .....	18
11 Dimensions of Solder Joint Elbows and Tees With Pipe Thread Ends (Reducing Sizes) .....	20
12 Dimensions of Solder Joint Adapters and Fitting Adapters With Pipe Thread Ends (Straight and Reducing Sizes) .....	22
13 Dimensions of Return Bends (Straight Sizes) .....	23
14 Dimensions of Supply and Return Tees .....	23
15 Dimensions of Baseboard Tees (F × F × C) .....	23
16 Dimensions of Tees .....	23
17 Dimensions of Baseboard Tees (C × F × C) .....	24
18 Dimensions of Flush Bushings (FTG × C) .....	24
19 Dimensions of Flush Bushings (FTG × F) .....	24

**Mandatory Appendices**

I	Metric (SI) Tables .....	25
II	References .....	44

**Nonmandatory Appendices**

A	Strength of Solder Joints .....	45
B	Fitting Rating .....	47
C	Quality System Program .....	48