

IAPMO IGC 304-2014^{e1}

Flexible Expansion Joints for DWV and Sewer Piping Systems



IAPMO Standard

IAPMO IGC 304-2014^{e1}

Flexible Expansion Joints for DWV and Sewer Piping Systems

Published: February 2015

Previous editions: May 2014

Published by

International Association of Plumbing and Mechanical Officials (IAPMO)

5001 East Philadelphia Street, Ontario, California, 91761, USA

1-800-854-2766 • 1-909-472-4100

Visit the IAPMO Online Store at: www.IAPMOstore.org

Visit the IAPMO Standards website at: www.IAPMOstandards.org

Copyright © 2014-2015 by

International Association of Plumbing and Mechanical Officials (IAPMO)

All rights reserved.

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

Printed in the United States of America

IAPMO Notes

- (1) *The use of the singular does not exclude the plural (and vice versa) when the sense allows.*
- (2) *The use of IAPMO Standards is completely voluntary; their existence does not in any respect preclude anyone, whether he has approved the standards or not, from manufacturing, marketing, purchasing, or using products, processes, or procedures not conforming to the standards.*
- (3) *This standard was developed using an open process and in accordance with IAPMO Standards Policy S-001, Standards Development Process, which is available on the IAPMO Standards website (www.IAPMOstandards.org).*
- (4) *During its development, this Standard was made available for public review, thus providing an opportunity for additional input from stakeholders from industry, academia, regulatory agencies, and the public at large. Upon closing of public review, all comments received were duly considered and resolved by the IAPMO Standards Review Committee.*
- (5) *This Standard was developed in accordance with the principles of consensus, which is defined as substantial agreement; consensus implies much more than a simple majority, but not necessarily unanimity. It is consistent with this definition that a member of the IAPMO Standards Review Committee might not be in full agreement with all sections of this Standard.*
- (6) *Although the intended primary application of this Standard is stated in its scope, it is important to note that it remains the responsibility of the users of the Standard to judge its suitability for their particular purpose.*
- (7) *IAPMO Standards are subject to periodic review and suggestions for their improvement will be referred to the IAPMO Standards Review Committee. To submit a proposal for change to this Standard, you may send the following information to the International Association of Plumbing and Mechanical Officials, Attention Standards Department, at standards@IAPMOstandards.org or, alternatively, at 5001 East Philadelphia Street, Ontario, California, 91761, and include "Proposal for change" in the subject line:*
 - (a) *standard designation (number);*
 - (b) *relevant section, table, or figure number, as applicable;*
 - (c) *wording of the proposed change, tracking the changes between the original and the proposed wording; and*
 - (d) *rationale for the change.*
- (8) *Requests for interpretation should be clear and unambiguous. To submit a request for interpretation of this Standard, you may send the following information to the International Association of Plumbing and Mechanical Officials, Attention Standards Department, at standards@IAPMOstandards.org or, alternatively, at 5001 East Philadelphia Street, Ontario, California, 91761, and include "Request for interpretation" in the subject line:*
 - (a) *the edition of the standard for which the interpretation is being requested;*
 - (b) *the definition of the problem, making reference to the specific section and, when appropriate, an illustrative sketch explaining the question;*
 - (c) *an explanation of circumstances surrounding the actual field conditions; and*
 - (d) *the request for interpretation phrased in such a way that a "yes" or "no" answer will address the issue.*
- (9) *Attention is drawn to the possibility that some of the elements of this Standard may be the subject of patent rights. IAPMO is not to be held responsible for identifying any or all such patent rights. Users of this Standard are expressly advised that determination of the validity of any such patent rights is entirely their responsibility.*
- (10) *IAPMO does not take any position with respect to the validity of any patent rights asserted in connection with any items mentioned in this Standard, and does not undertake to insure anyone utilizing this Standard against liability for infringement of any applicable patents, nor assumes any such liability. Users of this Standard are expressly advised that determination of the validity of any such patent rights, and the risk of infringement of such rights, are entirely their responsibility.*
- (11) *Participation by federal or state agency representative(s) or person(s) affiliated with industry is not to be interpreted as government or industry endorsement of this Standard.*

IAPMO IGC 304-2014^{e1}

Flexible Expansion Joints for DWV and Sewer Piping Systems

1 Scope

1.1 This Standard covers stainless steel flexible expansion joints intended to absorb movements in drain, waste, and vent and sewer systems caused by thermal expansion and contraction and building structural movements, and specifies requirements for materials, physical characteristics, performance testing, and markings.

Note: *In this Standard, "stainless steel flexible expansion joints intended for drain, waste, and vent and sewer applications" are referred to as "flexible joints".*

1.2 The requirements of this Standard are not intended to prevent the use of alternative materials or methods of construction provided such alternatives meet the intent and requirements of this Standard.

1.3 In this Standard,

- (a) "shall" is used to express a requirement, i.e., a provision that the user is obliged to satisfy to comply with the Standard;
- (b) "should" is used to express a recommendation, but not a requirement;
- (c) "may" is used to express an option or something permissible within the scope of the Standard; and
- (d) "can" is used to express a possibility or a capability.

Notes accompanying sections in the body of the Standard do not specify requirements or alternative requirements; the purpose of notes is to separate from the text explanatory or informative material. Notes to tables and figures are considered part of the table or figure and can be written as requirements.

1.4 SI units are the primary units of record in global commerce. In this Standard, the inch/pound units are shown in parentheses. The values stated in each measurement system are equivalent in application, but each unit system is to be used independently. All references to gallons are to U.S. gallons.

1.5 Proposals for amendments to this Standard will be processed in accordance with the standards writing procedures of IAPMO.

1.6 The user's attention is called to the possibility that compliance with this Standard might require use of an invention covered by patent rights. By publication of this Standard, no position is taken with respect to the validity of any such claim(s) or of any patent rights in connection therewith. If a patent holder has filed a statement of willingness to grant a license under these rights on reasonable and nondiscriminatory terms and conditions to applicants desiring to obtain such a