IAPMO/ANSI ES1000-2020

Standard for

Building Code Compliance of Spray-Applied Polyurethane Foam

Approved American National Standard

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IAPMO/ANSI ES1000, Standard for Building Code Compliance of Spray-Applied Polyurethane Foam
Published: August 2020

Published by
International Association of Plumbing and Mechanical Officials (IAPMO)
4755 East Philadelphia Street, Ontario, California, 91761
1-800-854-2766 • 1-909-472-4100

Visit the IAPMO Online Store at: www.IAPMOstore.org
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Printed in the United States of America

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Preface

This is the first edition of **IAPMO/ANSI ES1000**, **Standard for Building Code Compliance of Spray-Applied Polyurethane Foam.** This Standard was developed by the IAPMO ES1000 Technical Subcommittee and approved by the IAPMO Building Standards Committee in accordance with the *ANSI Essential Requirements: Due process requirements for American National Standards* and the *IAPMO Policies and Procedures for Consensus Development of American National Standards*. This Standard was approved as an American National Standard on August 14, 2020.

Notes:

(1) The use of the singular does not exclude the plural (and vice versa) when the sense allows.

(2) This standard was developed in accordance with the IAPMO procedures accredited as meeting the criteria for American National Standards and it is an American National Standard. The IAPMO Standards Committee that approved this Standard was balanced to assure that individuals from competent and concerned interests had an opportunity to participate. During its development, this Standard was made available for public review, thus providing an opportunity for additional input from industry, academia, regulatory agencies, and the public at large.

(3) This Standard was developed by 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 relevant IAPMO Standards Committee can be included in the committee roster and yet not be in full agreement with all sections of this Standard.

(4) 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.

(5) IAPMO Standards are subject to periodic review and suggestions for their improvement will be referred to the relevant IAPMO Standards 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 4755 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.*

(6) 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 4755 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.*

(7) Interpretations are processed in accordance with IAPMO's accredited standards development procedures. IAPMO issues written replies to inquiries concerning interpretation of technical aspects of this Standard.

(8) IAPMO accepts responsibility only for those interpretations of this Standard issued in accordance with the accredited IAPMO policies and procedures, which precludes the issuance of interpretations by individuals.

(9) IAPMO does not "approve," "rate," or "endorse" any item, construction, proprietary device, or activity.

(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.

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Building Code Compliance of Spray-Applied Polyurethane Foam

1 Scope

1.1 General

This standard provides a method for determining building code compliance for Spray-applied Polyurethane Foam (SPF) used for insulation, roofing, and sealant applications, associated materials and building assemblies incorporating SPF and associated materials. It is intended to serve as the basis for evaluation reports that are prepared to assist building officials in determining when materials and assemblies meet the prescriptive requirements or intent of the building code.

This standard includes:

(a) General building code requirements;
(b) Test methodology for special approval and alternative methods and assemblies for selected applications where building codes are not specific;
(c) Material physical property requirements;
(d) Test laboratory qualifications and requirements;
(e) Test report requirements;
(f) Requirements for third-party quality control agencies and procedures;
(g) Certification requirements; and,
(h) Test sample preparation and witnessing.

1.2 Materials and Assemblies

This standard applies to the following SPFs and associated materials:

(a) Plural-component SPFs applied through any pressure delivery system;
(b) Single-component SPFs applied through any pressure delivery system;
(c) SPF roofing assemblies;
(d) Selected interior applications (i.e. underside of roof deck, walls, ceilings, etc.);
(e) Air-sealing applications;
(f) Coatings used in conjunction with above-deck SPF roofing assemblies; and,
(g) Fire-protective coatings and coverings used with SPF insulation assemblies.

1.3 Evaluation

Evaluation of products under this standard may recognize building code compliance of the materials only or building code compliance of the system including materials and assemblies.

1.3.1 Evaluation of Materials Only

Recognition of materials compliant with building code requirements requires the following evaluation:

(a) Physical properties of materials per Section 8 of this standard.
(b) Application of quality assurance procedures such as those in Appendix B of this standard.
(c) For SPF only, general recognition of assemblies per Section 5 of this standard.