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Standard Practice for Assessing and Qualifying Candidates as Inspectors of Firestop Systems and Fire-Resistive Joint Systems[1]

This standard is issued under the fixed designation E3038; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ε) indicates an editorial change since the last revision or reapproval.

1. Scope

1.1 This practice is intended to assist an authority having jurisdiction (AHJ) or authorizing authority (AA), or both, in establishing minimum qualifications for candidates who desire to conduct inspections in compliance with Practices E2174 and E2393.

NOTE 1—Authority having jurisdiction (AHJ) is defined in Practices E2174 and E2393.

NOTE 2—Authorizing authority (AA) is defined in Practices E2174 and E2393. Examples of the AA include, but are not limited to, the responsible architect, engineer, building owner, or their representative.

1.2 This practice makes available a procedure for a candidate to provide evidence to the AHJ or AA, or both, of their specialized knowledge and technical competence related to the firestop industry.

1.3 This practice determines the technical proficiency of a candidate based upon a minimum amount of education, experience, and knowledge possessed, which is needed to ensure candidate competence to conduct inspections in compliance with Practices E2174 and E2393.

1.4 The purpose of this practice is to allow the AHJ or AA, or both, to assess the ability of the candidate to comprehend and use inspection documents to conduct inspections in compliance with Practices E2174 and E2393.

NOTE 3—Inspection document is defined in Practices E2174 and E2393. The firestop submittal, when approved for use, should have sufficient details, including, but not limited to, the firestop manufacturer's product data, a design listing of the tested firestop, and when required a judgment (Alternative Means and Methods). The judgment is commonly referred to as an "Engineering Judgment" in the firestop industry. These judgments are not always issued by an engineer or a registered design professional.

1.5 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety, health, and environmental practices and determine the applicability of regulatory limitations prior to use.*

1.6 *The text of this standard references notes and footnotes that provide explanatory material. These notes and footnotes (excluding those in tables and figures) shall not be considered as requirements of the standard.*

1.7 *This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.*

[1] This practice is under the jurisdiction of ASTM Committee E06 on Performance of Buildings and is the direct responsibility of Subcommittee E06.21 on Serviceability.

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2. Referenced Documents

2.1 *ASTM Standards:*[2]

E176 Terminology of Fire Standards
E631 Terminology of Building Constructions
E699 Specification for Agencies Involved in Testing, Quality Assurance, and Evaluating of Manufactured Building Components
E814 Test Method for Fire Tests of Penetration Firestop Systems
E1966 Test Method for Fire-Resistive Joint Systems
E2032 Practice for Extension of Data From Fire Resistance Tests Conducted in Accordance with ASTM E 119
E2174 Practice for On-Site Inspection of Installed Firestop Systems
E2307 Test Method for Determining Fire Resistance of Perimeter Fire Barriers Using Intermediate-Scale, Multi-story Test Apparatus
E2393 Practice for On-Site Inspection of Installed Fire Resistive Joint Systems and Perimeter Fire Barriers
E2750 Guide for Extension of Data from Penetration Firestop System Tests Conducted in Accordance with ASTM E814
E2837 Test Method for Determining the Fire Resistance of Continuity Head-of-Wall Joint Systems Installed Between Rated Wall Assemblies and Nonrated Horizontal Assemblies

2.2 *ISO Standards:*[3]

ISO/IEC 17020 Conformity assessment—Requirements for the operation of various types of bodies performing inspection
ISO/IEC 17065 Conformity assessment—Requirements for bodies certifying products, processes and services
ISO 10295-1 Fire tests for building elements and components—Fire testing of service installations—Part 1: Penetration seals
ISO 10295-2 Fire tests for building elements and components—Fire testing of service installations—Part 2: Linear joint (gap) seals
ISO/DTR 12470-1 Fire-resistance tests—Guidance on the application and extension of results from tests conducted on fire containment assemblies and products—Part 1: Loadbearing elements and vertical and horizontal separating elements

2.3 *UL Standards:*[4]

UL 1479 Standard for Fire Tests of Penetration Firestops
UL 2079 Standard for Tests for Fire Resistance of Building Joint Systems

2.4 *Other Documents:*

FCIA Firestop Manual of Practice[5]
FM 4991 Approval Standard for Firestop Contractors Class Number 4991[6]
AC291 Accreditation Criteria for Special Inspection Agencies[7]
IFC[8] Firestop Inspection Manual[9]
IFC Guidelines for Engineering Judgments[10]
International Building Code [11]

3. Terminology

3.1 *Definitions*—Terms defined in Terminology E631, Terminology E176, and Specification E699 will prevail for terms not defined in this Practice. Terminology E631 definitions shall apply when there is a conflict between Terminology E176, Specification E699, and Terminology E631 definitions.

3.2 *Definitions of Terms Specific to This Standard:*

3.2.1 *candidate, n*—the individual ~~or company~~ seeking the designation and recognition as a firestop industry inspector.

[2] For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

[3] Available from International Organization for Standardization (ISO), ISO Central Secretariat, Chemin de Blandonnet 8, CP 401, 1214 Vernier, Geneva, Switzerland, http://www.iso.org.

[4] Available from Underwriters Laboratories (UL), UL Solutions Headquarters, 333 Pfingsten Rd., Northbrook, IL 60062, http://www.ul.com.

[5] Available from Firestop Contractors International Association, 4415 W. Harrison Street, Suite 540, Hillside, IL 60162, https://www.fcia.org/FCIA-MANUAL-OF-PRACTICE.

[6] Available from FM Global, 270 Central Ave., Johnston, RI 02919-4949, http://www.fmapprovals.com/approval-standards.

[7] Available from International Accreditation Service, 3060 Saturn Street, Suite 100, Brea, CA, 92821-1732, https://www.iasonline.org/resources/accreditation-criteria-for-special-inspection-agencies-ac291/.

[8] International Firestop Council, 2660 S. Utica Ave., Tulsa, OK 74114

[9] Available from http://www.firestop.org/inspection-guidelines.html.

[10] Available from http://www.firestop.org/engineering-judgement-guidelines.

[11] International Building Code is a registered trademark of and available from International Code Council (ICC), 500 New Jersey Ave., NW, 6th Floor, Washington, DC 20001, http://www.iccsafe.org.

3.2.2 *firestop industry, n*—the field of work related to firestop systems and fire-resistive joint systems.

3.2.2.1 *Discussion*—

Fire-resistive joint systems are well known as described in Test Method E1966. However, Test Methods E2307 and E2837 also address specific types of fire-resistive joint systems called perimeter joint protections (also known as perimeter fire barriers), and continuity head-of-wall joint systems, respectively.

3.2.3 *firestop industry inspector, n*—the individual ~~or company~~ possessing the credentials set forth in this Practice, and who is authorized by the AHJ or AA, or both, to conduct an inspection under Practices E2174 and E2393, or both.

4. Summary of Practice

4.1 This Practice sets forth the minimum qualifications required to be eligible as a candidate to conduct inspections under Practices E2174 and E2393.

4.2 This Practice sets forth the information that needs to be documented by the candidate and a procedure to submit that information directly or indirectly to the AHJ or AA, or both.

5. Significance and Use

5.1 This Practice is intended to provide a means for the AHJ or AA, or both, to verify evidence of a candidate's experience, knowledge, and qualifications.

5.2 This Practice is not intended to set forth individual credentials for an AHJ or AA, or both.

5.3 This Practice is not intended to establish any performance criteria of firestop systems or fire-resistive joint systems.

NOTE 4—The performance criteria of a firestop system or fire-resistive joint system is found in many national and international test methods. Some of these methods include, but are not limited to, Test Method E814, UL 1479, ISO 10295-1, Test Method E1966, UL 2079, ISO 10295-2, Test Method E2307, Test Method E2837, etc.

6. Procedure

6.1 The candidate shall be acceptable to the AHJ or AA, or both. The candidate shall meet at least one requirement in 6.2, Prerequisites, and all of the requirements contained in 6.3, Inspector Qualifications.

6.2 *Prerequisites*—The candidate shall meet and provide documentation for at least one of the following requirements, which is acceptable to the AHJ or AA, or both:

6.2.1 Have a minimum of two years of experience in building construction within the firestop industry conducting inspections under the direction of an inspector; or

6.2.2 Have a minimum of two years of experience in the firestop industry conducting quality control; or

NOTE 5—Some methods used to assess quality control entities and systems include, but are not limited to: Specification E699 that provides a means for evaluating agencies conducting quality control; ISO/IEC 17065 that affords a method to accredit organizations that oversee quality control processes; ISO/IEC 17020 used to establish bodies performing inspection, etc.

6.2.3 Have a minimum four years of full-time (or at least 6160 h) experience in the selection or installation, or both, of firestop systems or fire-resistive joint systems, or both; or

NOTE 6—"Full-time" is considered "working the full number of hours considered normal or standard."[12] One can reasonably estimate that there are ≈250 working days per year.[13] The number of working days less a maximum of 30 days for allotted "days off," which is commonly referred to as vacation

[12] See http://www.merriam-webster.com/dictionary/full-time.
[13] See http://www.workingdays.us/workingdays_holidays_2016.htm.

and sick time, provides 220 working days per year. A typical work day varies for men and women but using seven hours a work day is conservative.[14]

NOTE 7—Experience can be documented in many ways. These methods are just a few examples. One way to document experience is by a letter from an employer, past or present. Another way to document experience is by letters from an organization(s) that engaged the services of the candidate reporting the time spent performing the selection or installation, or both, of firestop systems or fire-resistive joint systems, or both. One more way to document experience is a collection of project records.

6.2.4 Hold license as a registered design professional with two years of experience in the firestop industry.

NOTE 8—Typically, a registered design professional is an individual who is registered or licensed to practice their respective design profession as defined by the statutory requirements of their country's professional registration laws required for construction undertakings within certain jurisdictions.

6.3 *Firestop Industry Inspector Qualifications*—The candidate qualified under this Practice shall meet all of the following requirements:

6.3.1 *Firestop Industry Examination*—Score a minimum of 80 % on an examination, which is acceptable to the AHJ or AA, or both, and contains subject matter directly related to the firestop industry and to inspections conducted under the scopes of Practices E2174 and E2393.

NOTE 9—Examinations related to the firestop industry are offered by many independent third-party national and international organizations. Some of these organizations and programs that contain firestop industry examinations include, but are not limited to, the following: IAS Certificate of Accreditation[15] based on AC291, Accreditation Criteria for Special Inspection Agencies; IFC Recommended Training and Education for Third-Party Firestop Inspectors program;[16] and firestop installer programs such as the FM 4991 DRI program;[17] and UL Qualified Firestop Contractor Program;[18] etc. Sources of knowledge and preparation for such firestop industry examinations are essential. Some of these sources that contain such firestop industry information include, but are not limited to, the Practice E2032, Guide E2750, International Building Code, ISO/DTR 12470-1, FCIA Firestop Manual of Practice, IFC Firestop Inspection Manual, and IFC Guidelines for Engineering Judgments, etc.

6.3.2 *Training*—Perform one of two options.

6.3.2.1 *Option 1*—Attend at least two hours of educational training seminars directly related to firestop systems or fire-resistive joint systems, or both, conducted by at least four different organizations; either (*a*) manufacturers of firestop industry products or (*b*) firestop industry trade associations, or a combination of both (*a*) and (*b*).

6.3.2.2 *Option 2*—Attend a 6-h educational program that is acceptable to the AHJ or AA, or both, and planned with the explicit purpose of educating parties specifically interested in the firestop industry.

7. Conflicts of Interest

7.1 The candidate shall be able to assure compliance with the following:

7.1.1 The candidate shall be completely independent and divested from the installer, contractor, manufacturer, or supplier of any material being inspected.

7.1.2 The candidate shall not be a competitor of the installer, contractor, manufacturer, or supplier of any material being inspected.

7.1.3 The firm which employs the candidate shall be completely independent and divested from the installer, contractor, manufacturer, or supplier of any material being inspected.

NOTE 10—Some organizations, operating within government controlled facilities, are regulated and overseen by a national government's agencies, for example, United States Department of Defense (DOD), United States Department of Energy (DOE), and United States Federal Aviation Administration (FAA), etc. These organizations may have both inspections controlled by an internal quality assurance department and installations performed by the contracting department within the same organization, which is regulated by one or more national government agencies. The AHJ is the national

[14] See http://www.bls.gov/news.release/atus.nr0.htm.
[15] Confirm that the Scope of Accreditation on Certificate of Accreditation includes firestop systems (Test Method E814), fire-resistive joint systems (Test Method E1966), perimeter joint protections (Test Method E2307), and continuity head-of-wall joint systems (Test Method E2837).
[16] See http://www.firestop.org/inspection.html.
[17] See http://www.fmapprovals.com.
[18] See https://marks.ul.com/about/ul-listing-and-classification-marks/promotion-and-advertising-guidelines/qualified-firestop-contractor-program-marking-general-and-specific-guidelines/.