



# Standard Specification for Agencies Engaged in System Analysis and Compliance Assurance for Manufactured Building<sup>1</sup>

This standard is issued under the fixed designation E 541; 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 standard was initiated to meet the needs of regulatory programs for the certification of manufactured building. The various statutes differ somewhat in the responsibilities assigned to the administrative agency responsible for implementing the rules and regulations for manufactured building. The administrative agency may utilize the services and facilities of building-evaluation agencies in carrying out its responsibilities for evaluating manufactured building systems. By providing criteria for evaluating these agencies, this standard's objective is to (1) utilize the voluntary standards system to provide a common base for the various regulatory approaches employed by the authorities having jurisdiction, and (2) make provision for varying degrees of optional technical support for the certification of manufactured building.

1.2 To establish an appropriate degree of intra- and interstate credibility regarding building system evaluations made through governmental or private agencies, the authorities having jurisdiction may wish to utilize an accreditation program for such agencies.

1.3 Building-evaluation organizations examined under this standard may include both governmental and private agencies qualified to act on behalf of the public as designee agents (that is, agencies) of the government office having jurisdiction.

1.4 This standard covers criteria by which the technical resources of agencies, both governmental and private, may be evaluated for their capability to perform the system analysis or compliance assurance function, or combination thereof, in the evaluation and inspection (certification) of manufactured building. Practice E 651 may be used for the evaluation of such agencies.

1.5 These criteria set forth the minimum personnel requirements and the technical and organizational procedures required for agencies engaged in evaluating manufactured building. Other criteria such as independence, financial stability, and objectivity may need to be considered.

1.6 Criteria are included for agencies evaluating innovative as well as conventional building systems, against applicable requirements.

1.7 Agencies involved in testing, quality assurance and evaluating building components can be evaluated by using Practice E 691.

1.8 *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 and health practices and determine the applicability of regulatory limitations prior to use.*

## 2. Referenced Documents

### 2.1 ASTM Standards:

E 651 Practice for Evaluating Capabilities of Agencies Involved in System Analysis and Compliance Assurance for Manufactured Building<sup>2</sup>

E 699 Practice for Evaluation of Agencies Involved in Testing, Quality Assurance and Evaluating Building Components in Accordance with Test Methods Promulgated by ASTM Committee E-6<sup>2</sup>

## 3. Terminology

### 3.1 Definitions:

3.1.1 *administrative agency—(user agency)*—a generic name for the authority having jurisdiction charged with administering the legislation, act, or other responsibility.

3.1.2 *agency—(user agency)*—a generic name for the authority having jurisdiction charged with administering the legislation, act, or other responsibility.

3.1.3 *applicable requirements*—the specific material and performance specifications included in designated codes, standards, and approved documents. They may include special requirements adopted by the administrative agency or other jurisdictions.

3.1.4 *building-evaluation agencies*—a collective term for the group of agencies that perform one or more of the building-evaluation services of systems analysis and compliance assurance.

<sup>1</sup> This standard is under the jurisdiction of ASTM Committee E36 on Laboratory Accreditation and is the direct responsibility of Subcommittee E36.70 on Construction and Building Testing/Inspection Agencies.

Current edition approved Dec. 10, 2001. Published March 2002. Originally published as E 541 – 75. Last previous edition E 541 – 84 (1998)e1.

<sup>2</sup> *Annual Book of ASTM Standards*, Vol 14.02.

3.1.5 *closed construction*—any building, building assembly, or system manufactured in such a manner that concealed parts or processes of manufacture cannot be inspected at the building site without disassembly, damage, or destruction.

3.1.6 *compliance assurance*—the process of appraising the manufacturer's compliance control program in conjunction with monitoring or auditing and inspection of production, implemented to provide objective evidence that the manufactured building conforms to the approved documents.

3.1.7 *compliance assurance manuals*—a collective term for the group of agencies that perform one or more of the building-evaluation services of systems analysis and compliance assurance.

3.1.7.1 *Discussion*—In conventional construction the compliance assurance function roughly corresponds to field inspection of construction to ensure that the building is constructed in accordance with the approved plans.

3.1.8 *compliance control manual*—a document prepared by the manufacturer detailing the methods, procedures, and systems employed in the compliance control program.

3.1.9 *compliance control program*—the manufacturer's system, including directly related quality and process controls, for assuring compliance with applicable codes and standards and approved documents.

3.1.10 *criteria*—the minimum standards or limits on which judgments may be based.

3.1.11 *manufactured building*a—any building or mobile home that is of closed construction and that is made or assembled in manufacturing facilities, on or off the building site, for installation, or assembly and installation, on the building site. Manufactured building also means any building of open construction for which certification is sought by the manufacturer and that is made or assembled in manufacturing facilities away from the building site, for installation, or assembly and installation, on the building site.

3.1.12 *open construction*—any building, building assembly, or system manufactured in such a manner that all portions can be readily inspected at the building site without disassembly, damage, or destruction.

3.1.13 *service equivalent*—the experience that an individual has accumulated in the engineering or architectural discipline(s) involved that serves as a substitute for academic requirements. In general, 8 years of experience in engineering or architectural practice indicative of growth in engineering or architectural competency and responsibility are considered an alternative to the engineering or architectural education requirements.

3.1.14 *system analysis*—the process employed to determine whether a proposed manufactured building conforms to applicable requirements.

3.1.14.1 *Discussion*—In conventional construction the system analysis function roughly corresponds to plan review and approval by the authority having jurisdiction.

## 4. Requirements and Criteria for System Analysis Agencies

4.1 The system analysis agency is responsible for determining whether a building system, including the design, materials, and fabrication process, is in conformance with applicable

requirements. The agency shall be capable of performing the following steps, where applicable, in the system analysis function:

4.1.1 Project management.

4.1.2 Preliminary meeting.

4.1.3 Submission of documents.

4.1.4 Staffing.

4.1.5 Evaluation of prescribed systems.

4.1.6 Evaluation of performance specifications.

4.1.7 Evaluation of innovative systems.

4.1.8 Evaluation of compliance assurance manuals.

4.1.9 Evaluation of installation documents.

4.1.10 Factory visit (this may be included in compliance assurance function).

## 5. Documents of the System Analysis Function

5.1 The criteria herein are based on the following basic documents:

5.1.1 Product description document.

5.1.2 Compliance assurance manual.

5.1.3 Installation document.

5.2 The first and third documents are prepared by the manufacturer and submitted for processing through the system analysis agency.

5.3 The manufacturer's compliance control program is submitted for review by the compliance assurance agency. This program forms the basis for preparation of, and is incorporated into, a compliance assurance manual containing a description of the building, required production tests, compliance procedures, and any other information that is needed to guide and assist the compliance assurance agency in determining that production units continue to comply with requirements.

## 6. General Procedure for System Analysis

6.1 *Task*—To provide a description of the general procedures for system analysis, which includes as a minimum the activities described in 6.2.

6.2 *Requirements*:

6.2.1 Drawings, calculations, test reports and specifications of manufactured building shall be reviewed by the agency's engineering staff and details compared with provisions of applicable requirements. The construction of assemblies or components, or both, including material identification, shall be compared with published descriptions of listed, approved, or recognized designs where applicable.

6.2.2 Where production has been instituted, and subsequent to the review of drawings and specifications, qualified personnel from the system analysis agency (or compliance assurance agency) shall visit the factory of the producer of manufactured building to:

6.2.2.1 Compare the actual construction with the drawings and specifications.

6.2.2.2 Examine and record all features required by the codes and standards if not included in the drawings and specifications.