



# Standard Test Method for Conducting Transverse and Concentrated Load Tests on Panels used in Floor and Roof Construction<sup>1</sup>

This standard is issued under the fixed designation E2322; 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 ( $\epsilon$ ) indicates an editorial change since the last revision or reapproval.

## 1. Scope

1.1 This test method covers the following procedures for determining the structural properties of segments of floor and roof constructions:

|                          | Section |
|--------------------------|---------|
| Test Specimens           | 5       |
| Loading                  | 6       |
| Deformation Measurements | 7       |
| Report                   | 8       |
| Precision and Bias       | 9       |
| Testing Floors           |         |
| Transverse Load          | 10      |
| Concentrated Load        | 11      |
| Testing Roofs            |         |
| Transverse Load          | 12      |
| Concentrated Load        | 13      |

1.2 This test method serves to evaluate the performance of floors and roofs panels subjected to (1) Uniform loading, and (2) Concentrated static loading, which represent conditions sustained in the actual performance of the element. The standard is not intended for the evaluation of individual structural framing or supporting members (floor joist, rafters, and trusses), or both.

1.3 The text of this standard references notes and footnotes which provide explanatory material. These notes and footnotes, excluding those in tables and figures, shall not be considered as requirements of the standard.

1.4 This standard is not intended to cover concrete floor slabs.

1.5 The values stated in SI units are to be regarded as standard. No other units of measurement are included in this standard.

1.6 *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.*

<sup>1</sup> This test method is under the jurisdiction of ASTM Committee E06 on Performance of Buildings and is the direct responsibility of Subcommittee E06.11 on Horizontal and Vertical Structures/Structural Performance of Completed Structures.

Current edition approved March 1, 2015. Published March 2015. Originally approved in 2003. Last previous edition approved in 2009 as E2322 – 03 (2009). DOI: 10.1520/E2322-03R15.

## 2. Referenced Documents

### 2.1 ASTM Standards:<sup>2</sup>

- C109/C109M Test Method for Compressive Strength of Hydraulic Cement Mortars (Using 2-in. or [50-mm] Cube Specimens)
- E4 Practices for Force Verification of Testing Machines
- E72 Test Methods of Conducting Strength Tests of Panels for Building Construction
- E73 Practice for Static Load Testing of Truss Assemblies
- E196 Practice for Gravity Load Testing of Floors and Low Slope Roofs
- E455 Test Method for Static Load Testing of Framed Floor or Roof Diaphragm Constructions for Buildings
- E575 Practice for Reporting Data from Structural Tests of Building Constructions, Elements, Connections, and Assemblies
- E631 Terminology of Building Constructions
- E661 Test Method for Performance of Wood and Wood-Based Floor and Roof Sheathing Under Concentrated Static and Impact Loads
- E695 Test Method of Measuring Relative Resistance of Wall, Floor, and Roof Construction to Impact Loading
- E1592 Test Method for Structural Performance of Sheet Metal Roof and Siding Systems by Uniform Static Air Pressure Difference

## 3. Terminology

3.1 *Definitions*—Refer to Terminology E631 for definitions of terms used in these test methods.

## 4. Significance and Use

4.1 *Transverse Load*—The procedures outlined will serve to evaluate the performance of floor and roof segments for deflection, permanent set and ultimate capacity. Performance criteria based on data from these procedures can ensure structural adequacy and effective service.

<sup>2</sup> For referenced ASTM standards, visit the ASTM website, [www.astm.org](http://www.astm.org), or contact ASTM Customer Service at [service@astm.org](mailto:service@astm.org). For Annual Book of ASTM Standards volume information, refer to the standard's Document Summary page on the ASTM website.