



## Standard Guide for Specifying and Evaluating Performance of Single Family Attached and Detached Dwellings—Functionality<sup>1</sup>

This standard is issued under the fixed designation E 2351; 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.

### INTRODUCTION

This standard guide, L-Functionality is part of a set which together presents a complete performance standard guide for specifying and evaluating single family attached and detached dwellings. The complete set in the series, when finished, is to include the attributes given in Table 1.

The series provides a framework for specifying and evaluating qualities of building products and systems to meet user needs without limiting ways and means. The format for this standard guide includes performance statements that consist of four components (Objectives-Criteria-Evaluation-Commentary) which together provide a systematic performance based approach for the intended purpose. These performance statements are presented in Appendix X2 against a Hierarchy of Building Elements as tabulated in Table 2.

To some extent, the Hierarchy of Building Elements reflects the structure of the housing industry, and therefore, the organization of the provider teams. For example, a homebuilder or developer is likely to be the systems integrator responsible for “0. Whole Building System.” The provider teams may include separate subcontractors for “2.1 Foundation,” “2.2 Superstructure,” “5. Plumbing,” “6. HVAC,” and so forth, and separate suppliers for components such as “3.2.2 Windows,” “4.1.2 Doors,” “3.4 Joint Sealants,” “5.1 Plumbing Fixtures,” and so forth.

The purpose of these standard guides is to provide a standardized methodology for describing performance parameters of single family attached or detached dwellings. This methodology standardizes the descriptions of performance of a single family dwelling, attached or detached, that can be expressed as performance statements (O-C-E-C) for a particular attribute, agent, and user need.

These standard guides are intended for use by those who need to prescribe required levels of performance and those who need to rate a product which forms a single family dwelling or part thereof. The standard guides include examples of performance statements which may be used for the specification and evaluation of design, materials, products, components, subsystems, and systems.

**TABLE 1 Attributes Addressed in the Series of  
Performance Standards**

|    |                                      |
|----|--------------------------------------|
| A— | Structural Safety and Serviceability |
| B— | Fire Safety                          |
| C— | Accident Safety                      |
| D— | Health and Hygiene                   |
| E— | Indoor Air Quality                   |
| F— | Light                                |
| G— | Acoustics                            |
| H— | Durability                           |
| I— | Accessibility                        |
| J— | Security                             |
| K— | Economics                            |
| L— | Functionality                        |
| M— | Aesthetics                           |
| N— | Adaptability                         |
| O— | Maintainability                      |
| P— | Sustainability                       |

<sup>1</sup> This guide is under the jurisdiction of ASTM Committee E06 on Performance of Buildings and is the direct responsibility of Subcommittee E06.66 on Performance Standards for Dwellings.

Current edition approved March 1, 2004. Published April 2004.

### 1. Scope

1.1 This guide provides examples of performance statements for functional and operable, spaces, products, components, and subsystems for single family attached and detached dwellings. These include the location, relationships, and dimensions of Spaces and Fittings, Furnishings and Equipment, and the operability and other parameters of Functionality of the Exterior Enclosure, Interior Space Division, Plumbing, HVAC, Fire Protection Subsystems, Electrical Network, Communication and Security Networks, Fuel Networks and Fittings, and Furnishings and Equipment that are not covered by the performance statements of the other attributes. See Fig. 1, Matrix of Parameters of Functionality.

1.2 The SI units of measurement system is provided with the English units parenthetically listed throughout this standard guide.