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.

Designation: D6662 – 17

Standard Specification for Polyolefin-Based Plastic Lumber Decking Boards[1]

This standard is issued under the fixed designation D6662; 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 specification covers polyolefin-based plastic lumber products for use as exterior residential decking boards.

1.2 Plastic lumber products are currently made predominantly with recycled polyolefin plastics (in particular high-density polyethylene) where the products are more or less non-homogenous in the cross-section. However, this specification is also potentially applicable to similar manufactured plastic products made from other plastic and plastic composite materials that have non-homogenous cross-sections.

1.3 This specification details a procedure to calculate recommended span lengths for spacing of support joists. This procedure was developed using experimental data from a typical unreinforced plastic lumber made predominantly from recycled high-density polyethylene. The methodology to develop span lengths for other types and compositions of plastic lumber is detailed in Appendix X1 of this standard.

1.4 The values are stated in inch-pound units, as these are currently the most common units used by the construction industry. Equivalent SI units are indicated in parentheses. However, the units stated for irradiance exposure in the weatherability section (6.3) are in SI units as these are the units commonly used for testing of this type.

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

NOTE 1—There is no similar or equivalent ISO Standard.

2. Referenced Documents

2.1 The following documents of the issue in effect on the date of material purchase form a part of this specification to the extent referenced herein:

2.2 *ASTM Standards:*[2]

D883 Terminology Relating to Plastics
D2565 Practice for Xenon-Arc Exposure of Plastics Intended for Outdoor Applications
D2915 Practice for Sampling and Data-Analysis for Structural Wood and Wood-Based Products
D4329 Practice for Fluorescent Ultraviolet (UV) Lamp Apparatus Exposure of Plastics
D5033 Guide for Development of ASTM Standards Relating to Recycling and Use of Recycled Plastics (Withdrawn 2007)[3]
D6109 Test Methods for Flexural Properties of Unreinforced and Reinforced Plastic Lumber and Related Products
D6112 Test Methods for Compressive and Flexural Creep and Creep-Rupture of Plastic Lumber and Shapes
D6341 Test Method for Determination of the Linear Coefficient of Thermal Expansion of Plastic Lumber and Plastic Lumber Shapes Between –30 and 140°F (–34.4 and 60°C)
E84 Test Method for Surface Burning Characteristics of Building Materials
E108 Test Methods for Fire Tests of Roof Coverings
G151 Practice for Exposing Nonmetallic Materials in Accelerated Test Devices that Use Laboratory Light Sources
G154 Practice for Operating Fluorescent Ultraviolet (UV) Lamp Apparatus for Exposure of Nonmetallic Materials
G155 Practice for Operating Xenon Arc Light Apparatus for Exposure of Non-Metallic Materials

3. Terminology

3.1 *Definitions:*

3.1.1 *plastic lumber, n*—a manufactured product made primarily from plastic materials (filled or unfilled), typically used as a building material for purposes similar to those of traditional lumber, which is usually rectangular in cross-section. (Terminology D883)

3.1.1.1 *Discussion*—Plastic lumber is typically supplied in sizes similar to those of traditional lumber board, timber and

[1] This specification is under the jurisdiction of ASTM Committee D20 on Plastics and is the direct responsibility of Subcommittee D20.20 on Plastic Lumber.

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[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] The last approved version of this historical standard is referenced on www.astm.org.

*A Summary of Changes section appears at the end of this standard

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