



# Green Building Programs and Testing Standards

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# LEED®

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The standard criteria of “green” building products specify the use of materials that are durable, made by a resource efficient manufacturing process, have an identifiable recycled content, are recyclable themselves, and have low to no negative impact on environmental quality.

LEED rating systems are groups of requirements for projects that want to achieve LEED certification. Within each of the LEED credit categories, projects must satisfy prerequisites and earn points. The number of points the project earns determines its level of LEED certification.

LEED credit requirements cover the performance of materials in aggregate, not the performance of individual products or brands. Therefore, products that meet the LEED performance criteria can only contribute toward earning points needed for LEED certification; they cannot earn points individually toward LEED certification.

Recycled HDPE plastic lumber can contribute to points earned on a project in several categories of LEED v4.

# Living Building Challenge™

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The Living Building Challenge™ is currently the most stringent sustainable design protocol.

The protocol sets 20 imperatives which compel building owners, designers, operators, and tenants beyond the current USGBC LEED rating levels. To be certified under the Challenge, projects must meet a series of ambitious performance requirements (imperatives) categorized under seven “Petals”: Site; Water; Energy; Health; Materials; Equity; and Beauty.

Recycled HDPE plastic lumber products fall under the “materials” petal.

Source a plastic lumber manufacturer who can provide proof of a Living Building Challenge Certificate.

# ASTM Testing

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ASTM tests applicable to recycled HDPE plastic lumber include:

- ASTM D6109 Standard Test Methods for Flexural Properties of Unreinforced and Reinforced Plastic Lumber and Related Products
- ASTM D6108 Standard Test Method for Compressive Properties of Plastic Lumber and Shapes
- ASTM D6111 Standard Test Method for Bulk Density and Specific Gravity of Plastic Lumber and Shapes by Displacement
- ASTM D6341 Standard 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)
- ASTM D6117 Standard Test Methods for Mechanical Fasteners in Plastic Lumber and Shapes
- ASTM D2394 Standard Test Methods for Simulated Service Testing of Wood and Wood-Base Finish Flooring
- ASTM D6662 Standard Specification for Polyolefin-Based Plastic Lumber Decking Boards