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Standard Specification for Evaluation of Structural Composite Lumber Products[1]

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INTRODUCTION

Structural composite lumber is intended for use as an engineering material for a variety of end-use applications. The composition of the lumber varies by wood species, adhesive composition, wood element size, shape, and arrangement. To provide the intended performance, composite lumber products require: (*1*) an evaluation of the mechanical and physical properties and their response to end-use environments, and (*2*) establishment of and conformance to standard performance specifications for quality.

Procedures contained in this specification are also to be used for establishing the design properties and for checking the effectiveness of property assignment and quality assurance procedures.

The quality assurance sections in this specification are intended to serve as a basis for designing quality-control programs specific to each product. The objective is to ensure that design values established in the qualification process are maintained.

This specification is arranged as follows:

	Section
Qualification	6
Determination of Allowable Design Stresses	7
Independent Inspection	8
Quality Assurance	10

1. Scope

1.1 This specification recognizes the complexity of structural glued products. Consequently, this specification includes both specific procedures and statements of intent that sampling and analysis must relate to the specific product.

1.2 This specification was developed in the light of currently manufactured products as defined in 3.2. Materials that do not conform to the definitions are beyond the scope of this specification. A brief discussion is found in Appendix X1.

1.3 Details of manufacturing procedures are beyond the scope of this specification.

NOTE 1—There is some potential for manufacturing variables to affect the properties of members that are loaded for sustained periods of time. Users of this specification are advised to consider the commentary on this topic, in Appendix X1.

1.4 This specification primarily considers end use in dry service conditions such as with most protected framing members, where the average equilibrium moisture content for solid-sawn lumber is less than 16 %. The conditioning environment of 6.3 is considered representative of such uses.

1.5 The performance of structural composite lumber is affected by wood species, wood element size and shape, adhesive and production parameters. Therefore, products produced by each individual manufacturer shall be evaluated to determine their product properties, regardless of the similarity in characteristics to products produced by other manufacturers. Where a manufacturer produces product in more than one facility, each production facility shall be evaluated independently. For additional production facilities, any revisions to the full qualification program in accordance with this specification shall be be approved by the independent qualifying agency.

1.6 This specification is intended to provide manufacturers, regulatory agencies, and end users with a means to evaluate a composite lumber product intended for use as a structural material.

1.7 This specification covers initial qualification sampling, mechanical and physical tests, analysis, and design value assignments. Requirements for a quality-control program and cumulative evaluations are included to ensure maintenance of allowable design values for the product.

[1] This specification is under the jurisdiction of ASTM Committee D07 on Wood and is the direct responsibility of Subcommittee D07.02 on Lumber and Engineered Wood Products.

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