



Designation: **D8023—17** **D8023 – 23**

## Standard Specification for Round Wood Dowels (Pegs) for Use in Wood Construction<sup>1</sup>

This standard is issued under the fixed designation D8023; 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 specification covers standardizing the dimensions and materials for the manufacture of round wood dowels (pegs) used in the fabrication of connections in wood construction. The referencing of this specification in design, construction, and purchase order documents is intended to provide some assurance that the round wood dowels to be used in an assembly meet minimum ~~materials quality~~ materials-quality standards and that dimensions for fabrication and finish can be relied on to ensure connection performance. This specification provides regulatory agencies with a set of standards by which to judge the acceptability of round wood dowels encountered in the field and in fabricators' shops.

1.2 This specification only addresses the standardization and manufacture of round wood dowels. Other types of wood dowels, such as sawn or cleaved pegs, are outside the scope of this specification.

1.3 The values stated in inch-pound units are to be regarded as standard. The values given in parentheses are ~~for information only~~ mathematical conversions to SI units that are provided for information only and are not considered standard.

1.4 *Safety Hazards*—There are no known hazards with the use of this specification. The products manufactured to this specification should not be brittle or difficult to install with proper tools.

1.5 *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.*

### 2. Referenced Documents

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

[D9 Terminology Relating to Wood and Wood-Based Products](#)

[D2395 Test Methods for Density and Specific Gravity \(Relative Density\) of Wood and Wood-Based Materials](#)

[E176 Terminology of Fire Standards](#)

#### 2.2 *Other Standards:*<sup>3</sup>

[NDS National Design Specification for Wood Construction](#)

<sup>1</sup> This ~~test method~~ specification is under the jurisdiction of ASTM Committee D07 on Wood and is the direct responsibility of Subcommittee D07.05 on Wood Assemblies. Current edition approved Oct. 1, 2017/Jan. 1, 2023. Published October 2017/February 2023. Originally approved in 2017. Last previous edition approved in 2017 as D8023 – 17. DOI: [10.1520/D8023-17.10.1520/D8023-23](https://doi.org/10.1520/D8023-17.10.1520/D8023-23).

<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.

<sup>3</sup> Available from the American Wood Council, 222 Catocin Circle SE, Suite 201, Leesburg, VA 20175.

### 3. Terminology

3.1 *Definitions*—Definitions used in this practice are in accordance with Terminology D9 and Terminology E176, unless otherwise indicated.

3.2 *Definitions of Terms Specific to This Standard:*

3.2.1 *round wood dowel*—a cylindrical turned wood dowel.

3.2.1.1 *Discussion*—

Wood dowels may be chamfered (or rounded) at either or both ends, to facilitate installation and give a more finished appearance when left protruding from the connected timber member surfaces.

3.2.2 *wood dowel (peg)*—A cylindrical, turned, sawn, or cleaved load-transfer device, intended to transfer shear across planes between wood structural members that have been drilled with holes to accept the wood dowels (pegs).

### 4. Classification

4.1 This specification covers round wood dowels in diameters from 1/2 in. (12.5 mm) to 2 in. (51 mm). The use of these wood dowels is covered in wood design standards.

### 5. Materials and Manufacture

5.1 *General:*

5.1.1 Wood dowels shall be fabricated to ensure that the wood fibers are aligned with the longitudinal axis of the dowel.

5.1.2 Wood dowels shall be fabricated from any species of wood that has an oven dry specific gravity of at least 0.57, determined in accordance with Test Method D2395. Wood dowels provided under a species designation shall be fabricated from material that has a minimum oven dry specific gravity of not less than 98% of the NDS specific gravity value for that species designation.

5.1.3 Wood dowels shall be fabricated from wood that has been air-dried or kiln-dried to approximately constant weight before fabrication.

5.1.4 Wood dowels shall be protected with a treatment of paraffin wax, or similar sealing substance capable of inhibiting the absorption of moisture from the atmosphere.

5.2 *Quality of Dowel:*

5.2.1 Wood dowels shall be fabricated from clear, ~~straight-grained~~ straight-grained, continuous (non-jointed) timber free from any form of decay.

5.2.2 Slope of grain resulting from either diagonal sawing or from spiral or twisted grain in the tree is measured by the angle between the direction of the fibers and the longitudinal axis of the dowel. Slope of grain shall not exceed 1 in 20.

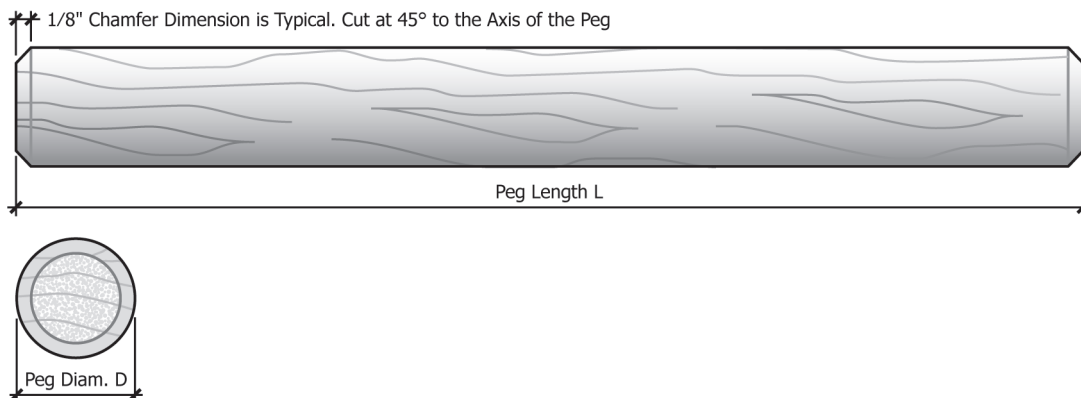


FIG. 1 Round Wood Dowel