



Designation: D 2016 – 74 (Reapproved 1983)

H-41-56

Standard Test Methods for MOISTURE CONTENT OF WOOD¹

This standard is issued under the fixed designation D 2016; 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.

This method has been approved for use by agencies of the Department of Defense and for listing in the DoD Index of Specifications and Standards.

INTRODUCTION

The importance of moisture content control of lumber and other wood products for various uses cannot be overemphasized. Moisture content control in the processing and fabrication of consumer items of wood requires a rapid and reliable means of moisture determination. Four methods of wood moisture content determination are described herein: One, the electronical method, is non-destructive and practically instantaneous; the other three, namely the oven-drying method, a distillation method, and a hygrometric method, are destructive in that they require that the lot be sampled for specimens that are subsequently analyzed for moisture content.

1. Scope

1.1 These methods cover the determination of the moisture content of wood. The methods provide a means whereby producers, fabricators, processors, and users of wood and wood products can facilitate inspection for adherence to moisture quality-control specifications. The requirements, advantages, and limitations of the different methods are outlined.

1.2 The methods described are commonly used in research and by the producing industries to ascertain the amount of moisture present in specific specimens representing the lot or on samples tested with the electronic moisture meters. These different methods are not equally suitable for moisture content determinations in any given case; therefore, it is important to select the one that is best for the intended application and a specific method may be specified. If these methods are referenced without designation of the specific method to be used, it shall be assumed that all methods are equally acceptable and that the choice will be made by the party responsible for the moisture-

content determination. The following guide to the advantages and limitations of the various methods will assist in making the proper choice:

1.2.1 Method A—Oven-Drying Method—

The moisture content is calculated from weight values obtained before and after drying a representative specimen of wood in an oven. This has been the most universally accepted method for determining moisture content in research, in wood-seasoning operations such as air drying, predrying, and kiln drying, in moisture content control techniques in processing in wood-working factories. Its limitations are that it is a destructive test in that the samples representing the lot must be cut to produce the specimens; it takes several hours to make an accurate analysis; and accuracy is limited if the wood contains an appreciable amount of volatile extractives, or if the wood has been impreg-

¹ These methods are under the jurisdiction of ASTM Committee D-7 on Wood.

Current edition approved April 29, 1974. Published June 1974. Originally published as D 2016 – 62 T. Last previous edition D 2016 – 65.