

Standard Method of
MEASURING SHRINKAGE FROM MOLD DIMENSIONS
OF MOLDED MATERIALS USED FOR
ELECTRICAL INSULATION¹



A.S.T.M. Designation: D 551 - 41

ADOPTED, 1941.²

This Standard of the American Society for Testing Materials is issued under the fixed designation D 551; the final number indicates the year of original adoption as standard or, in the case of revision, the year of last revision.

Purpose and Scope

1. (a) The purpose of this test method is to measure the batch-to-batch uniformity in initial shrinkage from mold to molded dimensions of either thermoplastic or thermosetting materials. The test specimen is a $\frac{1}{2}$ by $\frac{1}{2}$ by 5-in. bar, and positive or semipositive molds are used in which there is no very great movement of the plastic. Shrinkages measured by this procedure may not be representative of shrinkages to be expected in other molds or under other molding conditions, because shrinkages from mold to molded article may vary with how much or how little the charge is moved or flowed in the molds used, with molding conditions, with thickness of molded sections, etc. In general, flow or movement of the charge in the mold increases shrinkage. In general, decreasing the discharge temperature of the mold decreases shrinkage, and the

shrinkage of some plastics may be very sensitive to this temperature. Likeness in shrinkage by this procedure may not guarantee likeness in shrinkage in other molds or under other molding conditions, unless the samples or materials compared are alike in plasticity, since samples or materials of unlike plasticity may not have like shrinkages relative to each other in all molds and under all conditions. Primarily this test method is simply a test for batch-to-batch uniformity, and data from it should not be used to predict shrinkages elsewhere unless these other factors influencing shrinkage can be taken into consideration.

(b) This method does not provide for the measurement of shrinkages which may occur as molded materials age.

Sampling

2. Dependent upon the uniformity of the material to be tested, such samples as are necessary to represent it shall be taken and kept at room temperature in nominally airtight containers until

¹ Under the standardization procedure of the Society, this method is under the jurisdiction of the A.S.T.M. Committee D-9 on Electrical Insulating Materials.

² Prior to adoption as standard, this method was published as tentative from 1939 to 1941.