

Tentative Method of Test for

COMPATABILITY OF GLASS YARN WITH INSULATING VARNISH¹



A.S.T.M. Designation: D 886 - 46 T

ISSUED, 1946.²

This Tentative Method has been approved by the sponsoring committee and accepted by the Society in accordance with established procedures, for use pending adoption as standard. Suggestions for revisions should be addressed to the Society at 1916 Race St., Philadelphia 3, Pa.

Scope

1. (a) This method of test applies to the quantitative evaluation of the compatibility of glass yarns with insulating varnish, that is, how well the varnish wets the yarn, and to the indication of the effect of sizing on the impregnation of the yarn by the varnish.

(b) The method involves the following general operations: winding multiple layers of glass yarn on a copper wire, immersing the covered wire in varnish, and determining the amount of varnish retained by each successive layer of yarn by removing and weighing each layer of yarn separately.

Test Specimens

2. Ten test specimens shall be prepared in accordance with Paragraphs (a) to (c).

(a) Wrap eight layers of No. 450 $\frac{1}{2}$, 12 ends, glass yarn on copper wire having a diameter of 0.162 in. by winding each

successive layer in the reverse direction using moderate tension, and with approximately 11 turns per inch, taking care to avoid skips or piling of the yarn.

NOTE.—A properly wrapped wire should show an increase of 0.038 ± 0.005 in. over the diameter of the bare wire when measured, preferably by microprojection, or by a microscope equipped with a micrometer eyepiece.

(b) Using shellac cut with alcohol, apply a band, approximately 0.5 in. in width at 10-in. intervals along the length of the insulated wire (Paragraph (a)). Allow the shellac to dry and then cut the wire into ten 10-in. lengths through the center of the band of shellac which will prevent raveling of the yarn.

(c) The test specimen (Paragraph (b)) shall be dried for 4 hr. at 105 to 110 C., placed in a desiccator and allowed to cool to room temperature, and then treated in accordance with Section 4.

Standard Varnish

3. (a) The standard varnish³ contain-

¹ Under the standardization procedure of the Society, this method is under the jurisdiction of the A.S.T.M. Committee D-13 on Textile Materials.

² Accepted by the Society at annual meeting, June, 1946.

³ The finished varnish can be obtained from the Irvington Varnish and Insulator Co., Irvington, N. J. by using the order number RL 5829. The body viscosity of 10 cm. is measured by a fluid meter of their design.