



Standard Specification for SYNTHETIC RUBBER PERFORMANCE, MOISTURE-RESISTING INSULATION FOR WIRE AND CABLE¹

This Standard is issued under the fixed designation D 1521; 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 year of last reapproval.

The committee responsible for this standard has voted its withdrawal. In the absence of substantial reasons that it should be continued, the Society will approve withdrawal from publication in July 1976.

1. Scope

1.1 This specification covers a vulcanized rubber insulating compound for electrical wires and cables, the rubber hydrocarbon of which shall consist substantially of synthetic rubber. The acceptability of the compound as insulation, under this specification, shall be determined solely by the test requirements specified herein.

1.2 This type of insulation is considered suitable for continuous operation at conductor temperatures up to 140 F (60 C), in dry or wet locations, and operating voltages not exceeding 5000 V. It is recognized that this insulation has low-temperature limitations, and the manufacturer should be consulted for specific recommendations for a particular installation.

2. Physical Requirements

2.1 The vulcanized insulation shall conform to the requirements for physical properties specified in Table 1.

3. Electrical Requirements

3.1 *A-C Voltage Test*—The insulated conductor shall withstand the a-c test voltage specified in Table 1 of ASTM Specification D 1350, Construction of Rubber Insulated Wire and Cable.²

3.2 *Insulation Resistance*—The insulated conductor shall have an insulation-resistance value of not less than that corresponding to a constant of 2000 at 60 F (15.6 C). When the temperature of the water in which the insulation is tested differs from 60 F (15.6 C), the measured value obtained shall be multiplied

by the proper correction factor from Table of ASTM Methods D 470, Testing Thermosetting Insulated and Jacketed Wire and Cable,³ using the coefficient furnished by manufacturer for his particular compound previously determined by Methods D 470. Where an insulated conductor is covered with a nonmetallic sheath so that the insulation resistance can be measured only on the completed assembly, the required insulation resistance shall be not less than 60 percent that required for the primary insulation based on the thickness of that insulation.

4. Accelerated Water Absorption Requirements

4.1 *Electrical Method (60-Hz Tests)*—When tested in accordance with the 60-Hz tests specified in Sections 35 and 36 of Methods D 470, the increase in capacitance after testing at the end of the 1st and the 14th days shall not exceed 10 percent, and the increase after testing at the end of the 7th and 14th days shall not exceed 3 percent. The stability factor after 14 days shall not exceed 1.0. As an alternate to stability factor, the stability factor difference from 1 to 14 days shall not exceed 0.5. The water temperature shall

¹ This specification is under the jurisdiction of ASTM Committee D-11 on Rubber and Rubber-Like Materials. It is the direct responsibility of Subcommittee D-11.35 on Insulated Wire and Cable.

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² Discontinued, see 1965 Book of ASTM Standards, 1965.

³ Annual Book of ASTM Standards, Part 38.