

Tentative Specifications for

INSULATED WIRE AND CABLE: HEAT-RESISTING SYNTHETIC RUBBER COMPOUND¹



A.S.T.M. Designation: D 754 - 46a T

(Revision of Specifications D 754 - 46 T)

ISSUED, 1943; REVISED, JANUARY 1946, AUGUST 1946.²

These Tentative Specifications have 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) These specifications cover wire and cable insulated with a vulcanized compound, the rubber hydrocarbon content of which shall consist substantially of synthetic rubber. They are intended to permit the use of the compound known as "Government Rubber," type GR-S, but are not restricted to this type. The suitability of the compound as insulation shall be determined solely by physical and electrical tests, and compounds of any vulcanized, general purpose synthetic which conforms to the test requirements shall be considered acceptable. This compound is a heat-resisting type and is ordinarily considered suitable for use at conductor temperatures not in excess of 167 F. (75 C.). This compound is not recom-

mended for installation or use in severe flexing service at a temperature lower than -35 C.

(b) Except for the insulating compound, wire and cable supplied under these specifications shall conform to the construction requirements of the Tentative Specifications for Insulated Wire and Cable: Class AO, 30 per cent Hevea Rubber Compound (A.S.T.M. Designation: D 27).³

Physical Properties

2. The insulation shall consist of a properly vulcanized synthetic rubber compound which shall conform to the requirements prescribed in Table I.

TABLE I.—PHYSICAL TEST REQUIREMENTS FOR INSULATION.

Tensile strength, min., psi.....	700
Elongation at rupture, min., per cent.....	300
Tensile strength and elongation after 20 hr. air pressure heat test, min., per cent of original value	50
Tensile strength and elongation after 168 hr. at 80 C. in oxygen pressure test, min., per cent of original value	50

NOTE 1.—The above values are applicable only to conductors having nominal wall thicknesses of insulation $\frac{1}{32}$ in. and greater.

¹ Under the standardization procedure of the Society, these specifications are under the jurisdiction of the A.S.T.M. Committee D-11 on Rubber and Rubber-Like Materials.

By publication of these specifications, the American Society for Testing Materials does not undertake to insure anyone utilizing the specifications against liability for infringement of Letters Patent nor assume any such liability, and such publication should not be construed as a recommendation of any patented or proprietary application that may be involved.

² Revisions accepted by the Administrative Committee on Standards, January 10, 1946, and September 9, 1946.

Prior to their publication as tentative, these specifications were issued as Emergency Specifications ES-33 from August 13, 1943, to December 27, 1943.

³ Appears in this publication, see Contents in Numeric Sequence of A.S.T.M. Designations at front of book.