



AMERICAN NATIONAL
STANDARD

ANSI/ASTM D 119 - 78

AMERICAN SOCIETY FOR TESTING AND MATERIALS

1916 Race St., Philadelphia, Pa., 19103

Reprinted from the Annual Book of ASTM Standards, Copyright ASTM
If not listed in the current combined Index, will appear in the next edition.

Standard Specification for LOW-VOLTAGE RUBBER INSULATING TAPE¹

This standard is issued under the fixed designation D 119; 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.

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

1. Scope

1.1 This specification covers low-voltage rubber insulating tape designed for splicing electrical wires and cables operating up to 2000 volts phase to phase in dry locations with conductor temperatures up to 75°C (167°F) for continuous operation, to 95°C (203°F) for emergency overload conditions, and to 150°C (302°F) for short circuit conditions. This tape is suitable for outdoor use, but must be overwrapped to protect from ozone attack and from ultraviolet radiation. This tape may be applied under an ambient temperature range of -10°C (+14°F) to +40°C (104°F).

2. Applicable Documents

2.1 ASTM Standards:

- D 149 Tests for Dielectric Breakdown Voltage and Dielectric Strength of Electrical Insulating Materials at Commercial Power Frequencies²
- D 297 Chemical Analysis of Rubber Products³
- D 412 Tests for Rubber Properties in Tension⁴
- D 470 Testing Thermosetting Insulated and Jacketed Wire and Cable⁵

3. Compound

3.1 The tape shall consist of an unvulcanized or partially vulcanized rubber insulating compound. The compound shall contain no more than 0.5 % of free sulfur by weight when tested as specified in Section 17. The compound shall be well, evenly and smoothly processed, cut to the specified widths and

tightly wound in rolls with a separator between layers.

4. Separator

4.1 The separator shall be parchment paper, glazed or plastic sheeting, or any suitable material interposed between adjacent layers. The removable or nonremovable separator shall not interfere with the use of the roll during application. Where a removable separator is used, the separator shall not show any undue tendency to stick to the rubber or to ravel. The outside end of the roll shall be securely fastened.

5. Tensile Strength and Elongation

5.1 The tensile strength of the tape, when tested as specified in Section 18 shall be not less than 1.7 MPa (250 psi).

5.2 The elongation of a 50-mm (2-in.) gage length determined simultaneously with the tensile strength test, shall be not less than 300 %.

6. Dielectric Strength

6.1 The dielectric strength of the tape, when tested as specified in Section 19, shall be not less than 14 kV/mm (350 V/mil) of thickness.

¹ This specification is under the jurisdiction of the ASTM Committee D-9 on Electrical Insulating Materials and is the direct responsibility of Subcommittee D09.18 on Elastomeric Insulation on Cables.

Current edition approved Nov. 24, 1978. Published January 1979. Originally published as D119-21 T. Last previous edition D 119-70.

² Annual Book of ASTM Standards, Part 39.

³ Annual Book of ASTM Standards, Part 37.

⁴ Annual Book of ASTM Standards, Parts 37 and 38.

⁵ Annual Book of ASTM Standards, Part 40.