Designation: D 866 – 99

An American National Standard

Standard Specification for Crosslinked Styrene-Butadiene (SBR) Synthetic Rubber Jacket for Wire and Cable[1]

This standard is issued under the fixed designation D 866; 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. A superscript epsilon (ε) indicates an editorial change since the last revision or reapproval.

1. Scope

1.1 This specification covers a crosslinked styrene-butadiene (SBR) synthetic rubber compound suitable for use as the outer covering or jacket on insulated electrical wires or cables for heavy-duty service.

1.2 This jacket is not recommended for installation at a temperature lower than −35°C.

1.3 Whenever two sets of values are presented, in different units, the values in the first set are the standard, while those in parentheses are for information only.

2. Referenced Documents

2.1 *ASTM Standards:*

D 470 Test Methods for Crosslinked Insulations and Jackets for Wire and Cable[2]

D 1711 Terminology Relating to Electrical Insulation[2]

3. Terminology

3.1 *Definitions*—For definitions of terms used in this specification, refer to Terminology D 1711.

3.2 *Definitions of Terms Specific to This Standard:*

3.2.1 *aging (act of)*, *n*—exposure of materials to air at 70°C for 168 h or oxygen at 70°C for 96 h.

4. Physical Properties

4.1 The jacket shall conform to the requirements for physical properties prescribed in Table 1.

TABLE 1 Physical Properties[A]

Unaged Requirements:	
Tensile strength, min, psi (MPa)	1800 (12.4)
Elongation at rupture, min, %	300
Tension set,[B] max, %	20
Aged Requirements:	
After oxygen pressure test at 70 ± 1°C for 96 h:	
Tensile strength, min, psi (MPa)	1400 (9.7)
Elongation at rupture, min, %	200
After Air Oven Test at 70 ± 1°C for 168 h:	
Tensile strength, min, psi (MPa)	1400 (9.7)
Elongation at rupture, min, %	200

[A] The values specified are applicable only to jacket having a nominal wall thickness of 0.030 in. (0.76 mm) or greater.

[B] Set in 2 in. (50 mm).

5. Sampling

5.1 Sample the jacket in accordance with Test Methods D 470.

6. Test Methods

6.1 Test the jacket in accordance with Test Methods D 470.

7. Keywords

7.1 crosslinked jacket; rubber jacket; styrene-butadiene jacket; synthetic rubber jacket

[1] This specification is under the jurisdiction of ASTM Committee D-9 on Electrical and Electronic Insulating Materials and is the direct responsibility of Subcommittee D09.18 on Solid Insulations, Nonmetallic Shieldings, and Coverings for Electrical and Telecommunications Wires and Cables.

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[2] *Annual Book of ASTM Standards*, Vol 10.01.