



# Standard Specification for Crosslinked Styrene-Butadiene (SBR) Synthetic Rubber Jacket for Wire and Cable<sup>1</sup>

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## 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<sup>2</sup>

D 1711 Terminology Relating to Electrical Insulation<sup>2</sup>

## 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.

<sup>1</sup> 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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<sup>2</sup> *Annual Book of ASTM Standards*, Vol 10.01.

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## 4. Physical Properties

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

TABLE 1 Physical Properties<sup>A</sup>

Unaged Requirements:	
Tensile strength, min, psi (MPa)	1800 (12.4)
Elongation at rupture, min, %	300
Tension set, <sup>B</sup> 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

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

<sup>B</sup> 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