



Standard Specification for General-Purpose, Heavy-Duty, and Extra-Heavy-Duty Crosslinked Chlorinated Polyethylene (CM) Jackets For Wire and Cable¹

This standard is issued under the fixed designation D 4313; 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 crosslinked chlorinated polyethylene (CM) compounds suitable for use as outer coverings or jackets on electrical cables for general-purpose, heavy-duty, and extra-heavy-duty service.

1.2 These jacket materials are not recommended for use on cables which are to be installed at a temperature less than -25°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 Cable²

D 1499 Practice for Operating Light- and Water-Exposure Apparatus (Carbon-Arc Type) for Exposure of Plastics³

D 1711 Terminology Relating to Electrical Insulation²

G 153 Practice for Operating Enclosed Carbon Arc Light Apparatus for Exposure of Nonmetallic Materials⁴

3. Terminology

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

3.2 *Definition of Term Specific to This Standard:*

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, Non-Metallic Shieldings and Coverings for Electrical and Telecommunication Wires and Cables.

Current edition approved July 15, 1993. Published October 1993. Originally published as D 4313 – 87.

² Annual Book of ASTM Standards, Vol 10.01.

³ Annual Book of ASTM Standards, Vol 08.01.

⁴ Annual Book of ASTM Standards, Vol 14.02.

3.2.1 *aging (act of), n*—exposure of materials to air at a temperature of 121°C for 168 h and oil at 121°C for 18 h.

4. Physical Properties

4.1 Crosslinked jackets shall conform to the requirements for physical properties specified in Table 1.

TABLE 1 Physical Properties for CM Jacket

	General-Purpose	Heavy-Duty	Extra-Heavy-Duty
<i>Physical Requirements (Original):</i>			
Tensile strength, min, psi (MPa)	1500 (10.3)	1800 (12.4)	2400 (16.5)
Tensile stress at 200 % elongation, min, psi (MPa)	...	500 (3.4)	700 (4.8)
Elongation at rupture, min, %	300	300	300
Tension set, max, %	35	30	30
<i>Physical Requirements [After aging in an air oven at $121 \pm 1^{\circ}\text{C}$ for 168 h]:</i>			
Tensile strength, min, % of original	55	85	70
Elongation at rupture, min, % of original	55	55	55
<i>Physical Requirements [After oil immersion at 121°C for 18 h]:</i>			
Tensile strength, min, % of original	60	60	60
Elongation at rupture, min, % of original	60	60	60

5. Sunlight and Weather Resistance Requirements

5.1 If sunlight and weather resistance are required of the crosslinked jackets, the jackets shall conform to the requirements specified in Table 2.

6. Sampling

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

7. Test Methods

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