Standard Specification for
General-Purpose, Heavy-Duty, and Extra-Heavy-Duty
Crosslinked Chlorosulfonated Polyethylene (CSM) Jackets
For Wire and Cable

This standard is issued under the fixed designation D 4314; 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 chlorosulfonated polyethylene 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 cables installed at a temperature lower 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 Cable
   D 1248 Specification for Polyethylene Plastics Extrusion
   Materials for Wire and Cable
   D 1711 Terminology Relating to Electrical Insulation

3. Terminology

3.1 Definitions:

3.2 Definitions of Terms Specific to This Standard:
   aging (act of), n—exposure of materials to air at
   100°C for 168 h or oil at 121°C for 18 h.

4. Test Applicable for Sunlight and Weather–Resistant
   Materials

4.1 For jackets requiring sunlight- and weather-resistance
testing, test in accordance with “Weatherability for Colored
Materials” in Specification D 1248. Prepare the specimens in
accordance with Test Methods D 470 for physical tests of
insulations and jackets.

5. Physical Properties

5.1 The jacket shall conform to the requirements for physi-
cal properties prescribed in Table 1.

6. Sampling

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

7. Test Methods

7.1 Unless otherwise instructed, test the jacket in accord-
cence with Test Methods D 470.

8. Keywords

8.1 crosslinked chlorosulfonated polyethylene jacket;
crosslinked jacket; extra-heavy-duty jacket; general-purpose
jacket; heavy-duty jacket; rubber jacket
TABLE 1 Physical Properties

<table>
<thead>
<tr>
<th>Physical Property</th>
<th>General-Purpose</th>
<th>Heavy-Duty</th>
<th>Extra-Heavy-Duty</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Unaged Requirements:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tensile strength, min, psi (MPa)</td>
<td>1500 (10.3)</td>
<td>1800 (12.4)</td>
<td>2400 (16.5)</td>
</tr>
<tr>
<td>Tensile stress at 200% elongation, min, psi (MPa)</td>
<td>...</td>
<td>500 (3.4)</td>
<td>700 (4.8)</td>
</tr>
<tr>
<td>Elongation at rupture, min, %</td>
<td>300</td>
<td>300</td>
<td>300</td>
</tr>
<tr>
<td>Tension set(^B), max, %</td>
<td>30</td>
<td>30</td>
<td>30</td>
</tr>
<tr>
<td>Tear, min, lb/in. (kN/m)</td>
<td>...</td>
<td>...</td>
<td>40 (7)</td>
</tr>
<tr>
<td><strong>Aged Requirements:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>After Air Oven Test at 100 ± 1°C for 168 h:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tensile strength, min, % of unaged value</td>
<td>60</td>
<td>85</td>
<td>70</td>
</tr>
<tr>
<td>Elongation at rupture, min, % of unaged value</td>
<td>50</td>
<td>65</td>
<td>60</td>
</tr>
<tr>
<td>After Oil Immersion Test at 121 ± 1°C for 18 h:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tensile strength, min, % of unaged value</td>
<td>60</td>
<td>60</td>
<td>60</td>
</tr>
<tr>
<td>Elongation at rupture, min, % of unaged value</td>
<td>60</td>
<td>60</td>
<td>60</td>
</tr>
</tbody>
</table>

\(^a\) Values specified are applicable only to jackets having a nominal wall thickness of 0.030 in. (0.76 mm) or greater.

\(^B\) Set in 2-in. (50-mm) gage length.