



DOW™ Electrical & Telecommunications HFDA-9217 BK Black Crosslinkable Power Cable Insulation Compound

Overview

HFDA-9217 Black, with a density of 0.92, is a low-density, crosslinkable, black colored polyethylene compound with 0.5% carbon black designed for area power distribution wires covering up to 35 kV. It has the following important advantages:

- Good thermal stability and weather resistivity
- Excellent tracking resistance
- High curing speed

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density	0.923 g/cm ³	0.923 g/cm ³	ASTM D1505
Melt Mass-Flow Rate (190°C/2.16 kg)	2.0 g/10 min	2.0 g/10 min	ASTM D1238
Environmental Stress-Cracking Resistance (ESCR)	> 2000 hr	> 2000 hr	ASTM D1693
Degree of Crosslinking - Extractables	18.0	18.0	ASTM D2765A
Mechanical	Nominal Value (English)	Nominal Value (SI)	Test Method
Tensile Strength	3630 psi	25.0 MPa	ASTM D638
Tensile Elongation (Break)	500 %	500 %	ASTM D638
Hardness	Nominal Value (English)	Nominal Value (SI)	Test Method
Durometer Hardness (Shore D)	47	47	ASTM D2240
Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Brittleness Temperature ¹	-105 °F	-76.0 °C	ASTM D746
Hot Set - Cracking Resistance	80.0	80.0	IEC 60502
Aging	Nominal Value (English)	Nominal Value (SI)	Test Method
Retention of Tensile Elongation ² 302°F (150°C)	> 85 %	> 85 %	ASTM D638
Retention of Tensile Strength ² 302°F (150°C)	> 85 %	> 85 %	ASTM D638
Electrical	Nominal Value (English)	Nominal Value (SI)	Test Method
Volume Resistivity	> 1.0E+17 ohms·cm	> 1.0E+17 ohms·cm	ASTM D257
Dielectric Constant (1 MHz)	2.32	2.32	ASTM D1531
Dissipation Factor (1 MHz)	3.0E-4	3.0E-4	ASTM D1531

Additional Information

Nominal property values above represent tests on molded stress-relieved slabs. Cure times were 15 minutes at 175°C.

Extrusion	Nominal Value (English)	Nominal Value (SI)
Melt Temperature	241 to 280 °F	116 to 138 °C

Extrusion Notes

HFDA-9217 Black provides excellent surface finish and outstanding output rates over a broad range of conditions. Temperature settings for the extruder barrel of 90 to 115°C along with crosshead temperatures of 110 to 120°C and die temperatures of 120 to 130°C are suggested. For optimum results, extrusion processing conditions adjusted to result in melt extrusion temperatures in the range of 116 to 138°C are recommended, although higher melt temperatures are possible on certain equipment with due care. Generally, a 60-40-20 mesh screenpack is recommended. However, specific recommendations for processing conditions can be determined only when the application and type of processing equipment are known.

Notes

These are typical properties only and are not to be construed as specifications. Users should confirm results by their own tests.

¹ F50

² 168 hrs

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