



# DOW™ Electrical & Telecommunications HFDA-5630 BK Crosslinkable Power Cable Insulation Compound

## Overview

HFDA-5630 Black is a medium thermal carbon black-filled vulcanizable polyethylene copolymer wire insulation material. It is recommended for use in 600-volt power cable and control cable applications.

### Specifications

HFDA-5630 Black is listed by Underwriters Laboratories for use in XHHW, XHHW-2, RHH, RHW, RHW-2, SIS, USE and USE-2 applications.

Cables insulated with HFDA-5630 Black, using sound commercial fabrication practice, should meet the following industry cable specifications:

- ICEA: S-66-524; NEMA WC7

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density	1.07 g/cm <sup>3</sup>	1.07 g/cm <sup>3</sup>	ASTM D792
Mechanical	Nominal Value (English)	Nominal Value (SI)	Test Method
Tensile Modulus - Secant	11700 psi	80.7 MPa	ASTM D638
Elastomers	Nominal Value (English)	Nominal Value (SI)	Test Method
Tensile Strength (Break)	2600 psi	17.9 MPa	ASTM D412
Tensile Elongation (Break)	430 %	430 %	ASTM D412
Hardness	Nominal Value (English)	Nominal Value (SI)	Test Method
Durometer Hardness (Shore D)	48	48	ASTM D2240
Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Brittleness Temperature <sup>1</sup>	-112 °F	-80.0 °C	ASTM D746
Aging	Nominal Value (English)	Nominal Value (SI)	Test Method
Retention of Tensile Elongation - 14 days 302°F (150°C)	87 %	87 %	ASTM D412
Retention of Tensile Strength - 14 days 302°F (150°C)	100 %	100 %	ASTM D412
Electrical	Nominal Value (English)	Nominal Value (SI)	Test Method
Volume Resistivity (73°F (23°C))	1.0E+14 ohms·cm	1.0E+14 ohms·cm	ASTM D257
Dielectric Strength			ASTM D149
0.125 in (3.18 mm), Method A (Short-Time)	390 V/mil	15 kV/mm	
0.125 in (3.18 mm), Method B (Step-by-Step)	350 V/mil	14 kV/mm	
Dielectric Constant (60 Hz)	5.00	5.00	ASTM D150
Dissipation Factor (60 Hz)	6.0E-3	6.0E-3	ASTM D150

### 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)
Hopper Temperature	150 °F	66 °C
Melt Temperature	240 to 275 °F	116 to 135 °C

### Extrusion Notes

HFDA-5630 BK provides excellent surface finish and outstanding output rates over a broad range of conditions. For optimum results, use melt extrusion temperatures in the suggested range of 240-275°F (115-135°C). However, specific recommendations for processing conditions can be determined only when the application and type of processing equipment are known. Please contact your local Dow Wire and Cable sales representative for such particulars. Hopper drying at 150°F (65°C) before extrusion is recommended to remove moisture.

