



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 ³	1.07 g/cm ³	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 ¹	-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.

Notes

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

¹ F20

Product Stewardship

The Dow Chemical Company and its subsidiaries ("Dow") has a fundamental concern for all who make, distribute, and use its products, and for the environment in which we live. This concern is the basis for our Product Stewardship philosophy by which we assess the safety, health, and environmental information on our products and then take appropriate steps to protect employee and public health and our environment. The success of our Product Stewardship program rests with each and every individual involved with Dow products — from the initial concept and research, to manufacture, use, sale, disposal, and recycle of each product.

Customer Notice

Dow strongly encourages its customers to review both their manufacturing processes and their applications of Dow products from the standpoint of human health and environmental quality to ensure that Dow products are not used in ways for which they are not intended or tested. Dow personnel are available to answer your questions and to provide reasonable technical support. Dow product literature, including safety data sheets, should be consulted prior to use of Dow products. Current safety data sheets are available from Dow.

Medical Applications Policy

NOTICE REGARDING MEDICAL APPLICATION RESTRICTIONS: Dow will not knowingly sell or sample any product or service ("Product") into any commercial or developmental application that is intended for:

- long-term or permanent contact with internal bodily fluids or tissues. "Long-term" is contact which exceeds 72 continuous hours;
- use in cardiac prosthetic devices regardless of the length of time involved ("cardiac prosthetic devices" include, but are not limited to, pacemaker leads and devices, artificial hearts, heart valves, intra-aortic balloons and control systems, and ventricular bypass-assisted devices);
- use as a critical component in medical devices that support or sustain human life; or
- use specifically by pregnant women or in applications designed specifically to promote or interfere with human reproduction.

Dow requests that customers considering use of Dow products in medical applications notify Dow so that appropriate assessments may be conducted. Dow does not endorse or claim suitability of its products for specific medical applications. It is the responsibility of the medical device or pharmaceutical manufacturer to determine that the Dow product is safe, lawful, and technically suitable for the intended use. **DOW MAKES NO WARRANTIES, EXPRESS OR IMPLIED, CONCERNING THE SUITABILITY OF ANY DOW PRODUCT FOR USE IN MEDICAL APPLICATIONS.**

Disclaimer

NOTICE: No freedom from infringement of any patent owned by Dow or others is to be inferred. Because use conditions and applicable laws may differ from one location to another and may change with time, the Customer is responsible for determining whether products and the information in this document are appropriate for the Customer's use and for ensuring that the Customer's workplace and disposal practices are in compliance with applicable laws and other governmental enactments. Dow assumes no obligation or liability for the information in this document. **NO WARRANTIES ARE GIVEN; ALL IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE ARE EXPRESSLY EXCLUDED.**

NOTICE: If products are described as "experimental" or "developmental": (1) product specifications may not be fully determined; (2) analysis of hazards and caution in handling and use are required; (3) there is greater potential for Dow to change specifications and/or discontinue production; and (4) although Dow may from time to time provide samples of such products, Dow is not obligated to supply or otherwise commercialize such products for any use or application whatsoever.

NOTICE: This data is based on information Dow believes to be reliable, as demonstrated in controlled laboratory testing. They are offered in good faith, but without guarantee, as conditions and method of use of Dow products are beyond Dow's control. Dow recommends that the prospective user determine the suitability of these materials and suggestions before adopting them on a commercial scale.

To the best of our knowledge, the information contained herein is accurate and reliable as of the date of publication, however we do not assume any liability for the accuracy and completeness of such information.

Additional Information

North America		Europe/Middle East	+800-3694-6367
U.S. & Canada:	1-800-441-4369		+31-11567-2626
	1-989-832-1426	Italy:	+800-783-825
Mexico:	+1-800-441-4369		
Latin America		South Africa	+800-99-5078
Argentina:	+54-11-4319-0100		
Brazil:	+55-11-5188-9000		
Colombia:	+57-1-219-6000	Asia Pacific	+800-7776-7776
Mexico:	+52-55-5201-4700		+603-7965-5392

www.dowplastics.com

This document is intended for use within Africa & Middle East, Asia Pacific, Europe, Latin America, North America

Published: 2005-11-17

© 2019 The Dow Chemical Company

