



DOW™ Electrical & Telecommunications DHDA-7707 BK

Overview

DHDA-7707 BK is a deformation resistant semiconductive material specifically designed for use as insulation shielding for crosslinkable polyethylene insulated power cable. In today's cable technology, DHDA-7707 BK also finds application as a thermoplastic conductor shield and as an overall jacket where superior thermal stress, crack resistance and toughness are valued properties. Other attractive properties include superior volume resistivity stability, and ease of processing.

Specifications

Cables with insulation shielding or jackets of DHDA-7707 BK prepared using sound commercial extrusion practice should meet the following specifications:

- AEIC: CS8-00
- ICEA: S-94-649
- ICEA: S-97-682

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density	1.12 g/cm ³	1.12 g/cm ³	ASTM D1505
Environmental Stress-Cracking Resistance (ESCR)			ASTM D1693
10% Igepal, F20	> 168 hr	> 168 hr	
100% Igepal, F20	> 168 hr	> 168 hr	
Mechanical	Nominal Value (English)	Nominal Value (SI)	Test Method
Tensile Modulus - Secant	50000 psi	345 MPa	Dow Method
Elastomers	Nominal Value (English)	Nominal Value (SI)	Test Method
Tensile Strength (Yield)	1600 psi	11.0 MPa	ASTM D412
Tensile Elongation (Break)	250 %	250 %	ASTM D412
Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Brittleness Temperature	-13.0 °F	-25.0 °C	ASTM D746
Heat Distortion (ICEA) - plaque			ASTM D2633
194°F (90°C)	0.0 %	0.0 %	
212°F (100°C)	0.0 %	0.0 %	
230°F (110°C)	1.0 %	1.0 %	
250°F (121°C)	6.0 %	6.0 %	
266°F (130°C)	25 %	25 %	
Aging	Nominal Value (English)	Nominal Value (SI)	Test Method
Change in Tensile Strength			ASTM D412
250°F (121°C), 168 hr	-15 %	-15 %	
Change in Ultimate Elongation			ASTM D412
250°F (121°C), 168 hr	-15 %	-15 %	
Electrical	Nominal Value (English)	Nominal Value (SI)	Test Method
Volume Resistivity			ASTM D991
73°F (23°C)	10 ohms·cm	10 ohms·cm	
140°F (60°C)	20 ohms·cm	20 ohms·cm	
194°F (90°C)	1.5E+2 ohms·cm	1.5E+2 ohms·cm	
230°F (110°C)	1.5E+2 ohms·cm	1.5E+2 ohms·cm	
Extrusion	Nominal Value (English)	Nominal Value (SI)	
Drying Temperature	155 to 175 °F	68 to 79 °C	
Drying Time	2.0 to 4.0 hr	2.0 to 4.0 hr	
Melt Temperature	375 to 425 °F	191 to 218 °C	

Notes

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

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