DOW[™] Electrical & Telecommunications HFDK-4201 NT

Crosslinkable Power Cable Insulation Compound

The Dow Chemical Company

Message:

HFDK-4201 NT is a primary color, crosslinkable polyethylene material with high purity. HFDK-4201 NT polyethylene material contains a stabilizer, which can bring high long-term thermal stability to the product and optimize its crosslinking reaction.

Processing recommendations:

HFDK-4201 NT polyethylene material has excellent processing performance. The recommended temperature range for general processing is 115-125°C. Application fields:

HFDK-4201 NT polyethylene materials meet the requirements of the following regulations and specifications:

IEC 60502 HD 620 S1 ICEA S-66-524 NEMA WC7 GB 12706

Storage:

HFDK-4201 NT polyethylene material must be stored away from light to prevent high temperature. Its storage temperature should not be lower than 15°C. Under suitable storage conditions, the shelf life of the product is 12 months.

General Information			
Uses	Underground cable		
	Wire and cable applications		
	Insulating material		
	Medium voltage insulation		
Agency Ratings	ICEA S-66-524		
	IEC 60502		
	NEMA WC-7		
Forms	Particle		
Physical	Nominal Value	Unit	Test Method
Density ¹	0.921	g/cm³	ISO 1183
Melt Mass-Flow Rate (MFR) ² (190°C/2.16			
kg)	2.1	g/10 min	ISO 1133
Contamination			Internal method
100.0 to 200.0 μm	10	number/kg	Internal method
200.0 to 500.0 μm	3	number/kg	Internal method
> 500.0 μm	0	number/kg	Internal method
Change in Tensile Properties - 10 days			
(150°C)		%	IEC 60811-1-2
Thermoset ³			IEC 60811-2-1
Elongation with Load : 200°C		%	IEC 60811-2-1
Elongation without Load : 200°C		%	IEC 60811-2-1

Gottfert Elastograph - Torque	0.60	N·m	ISO 6502
Methanol Wash			Internal method
Insoluble Part		ppm	Internal method
Soluble Part		ppm	Internal method
Mechanical	Nominal Value	Unit	Test Method
Tensile Stress ⁴ (Break)	18.0	MPa	IEC 60811-1-1
Tensile Strain ⁵ (Break)	500	%	IEC 60811-1-1
Electrical	Nominal Value	Unit	Test Method
Volume Resistivity ⁶	> 1.0E+16	ohms·cm	IEC 60093
Dielectric Strength ⁷	> 22	kV/mm	IEC 60243-1
Dielectric Constant ⁸ (1 MHz)	2.30		IEC 60250
Dissipation Factor ⁹ (50 Hz)	< 3.0E-4		IEC 60250
Additional Information	Nominal Value	Unit	Test Method

Storage:

The environment or conditions of storage greatly influences the recommended storage time. Storage under extreme conditions may affect the quality, processing, or performance of the product. Storage should be in accordance with good manufacturing practices. The recommended storage conditions are dry conditions with temperatures between 50°F and 86°F (10°C and 30°C). When stored under these conditions, the product may be used by the customer for up to one year from the date of sale or two years from the date of manufacture, whichever comes first. It is recommended that the practice of using the product on a first-in / first-out basis be established.

Extrusion	Nominal Value	Unit
Melt Temperature	116 - 140	°C
Extrucion instructions		

Extrusion instructions

HFDK-4201 NT Polyethylene Compound provides excellent processability. For optimum results, melt extrusion temperatures in the range of 116°C to 140°C (240°F to 285°F) are recommended, although higher melt temperatures are possible on certain equipment with due care. Generally, use of a 20,80,150,80,20 mesh screen pack is recommended. However, specific recommendations for processing conditions can be determined when the application and type of processing equipment are known.

NOTE	
1.	Base Resin. On unannealed extrudate of the MI determination (suspension method).
2.	Base Resin
3.	0.2 MPa
4.	On crosslinked plates.
5.	On crosslinked plates.
6.	On crosslinked plates.
7.	On crosslinked plates.
8.	On crosslinked plates.
9.	On crosslinked plates.

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