DOW™ Electrical & Telecommunications GP K-6050 NT

Colorable Linear Low Density Polyethylene Compound for Cable Jacketing

The Dow Chemical Company

Message:

Dow™ Electrical & Telecommunications DFDK-6050 NT is an enhanced linear low density polyethylene resin which can be used as a cable jacketing material when properly colored and stabilized. The material exhibits a combination of properties like improved toughness, strength and high heat resistance, while demonstrating good flexibility, excellent environmental stress crack resistance and excellent processing properties. With its well balanced mechanical and processing characteristics DFDK-6050 NT is an excellent jacket grade for power cables and telecommunication cables.
Processing Recommendations:
DFDK-6050 NT can be extruded using a range of conventional commercial jacketing extruders. Typical extruder barrel temperatures required depend on many factors such as extruder size.
A good starting point is: 140/190/200/200/200/200°C with melt temperatures below 250°C.
Applications:
DFDK-6050 NT is a natural resin that needs to be blended with carbon black or colored pigment masterbatches with a suitable UV - stabilizer to ensure sufficient weathering resistance. The addition of a proper antioxidant level is required for long term ageing resistance. A carbon black masterbatch with extra antioxidant for use with DFDK-6050 NT is Dow™ Electrical & Telecommunications DFDK-6010 BK.
Specifications:
The polymeric material meets the following raw material specification(s):
ASTM D 1248, Type I, Class A, Category 3 Grade J3, E4.
ISO 1872-PE, KGN 18-D012
In combination with a proper carbon black or colour masterbatch, jackets made from Dow AXELERON™ GP K-6050 NT, using industry standard commercial extrusion practice, should meet the following cable specification(s):
EN 50290-2-24, Grade LLD
IEC 60708
IEC 60502 ST3
IEC 60840 ST3
HD 620 S2 Part 1, Table 4B, Compound DMP 10, 14, 17
BT M132
Consult the regulations for complete details.

General Information	
Uses	Cable Jacketing
	Coaxial Cable Jacketing
	Power Cable Jacketing
	Wire & Cable Applications
Agency Ratings	ASTM D 1248, I, Class A, Cat. 3, Grade E4
	BT M 132
	EN 50290-2-24 Grade LLD
	HD 620 S2 Part 1, Table 4B, Compound DMP 10, 14, 17
	IEC 60502 Type ST3
	IEC 60708
	IEC 60840 Type ST3
	ISO 1872 PE KGN 18D012
Forms	Pellets

Physical	Nominal Value	Unit	Test Method
Density	0.920	g/cm³	ISO 1183
Melt Mass-Flow Rate (MFR) (190°C/2.16 kg)	0.90	g/10 min	ISO 1133
Environmental Stress-Cracking Resistance (50°C, 10% Igepal, F0)	> 2000	hr	IEC 60811-406
Hardness	**Nominal Value**	**Unit**	**Test Method**
Shore Hardness			ISO 868
Shore D, 3 sec	53		
Shore D, 15 sec	51		
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Stress [1] (Break)	28.0	MPa	IEC 60811-501, IEC 60811-401
Tensile Strain [2]			
Break	650	%	IEC 60811-501
Break	630	%	IEC 60811-401
Flexural Modulus	323	MPa	ISO 178
Thermal	**Nominal Value**	**Unit**	**Test Method**
Brittleness Temperature [3]	< -70.0	°C	ASTM D746
Vicat Softening Temperature	105	°C	ISO 306/A50
Electrical	**Nominal Value**	**Unit**	**Test Method**
Volume Resistivity (23°C)	1.1E+15	ohms·cm	IEC 60093
Dielectric Constant (1 MHz)	2.27		IEC 60250
Dissipation Factor (50 Hz)	1.5E-4		IEC 60250
Extrusion	**Nominal Value**	**Unit**	
Cylinder Zone 1 Temp.	140	°C	
Cylinder Zone 2 Temp.	190	°C	
Cylinder Zone 3 Temp.	200	°C	
Cylinder Zone 4 Temp.	200	°C	
Cylinder Zone 5 Temp.	200	°C	
Melt Temperature	250	°C	
NOTE			
1.	After ageing @ 100°C, 10 days		
2.	After ageing @ 100°C, 10 days		
3.	F0		

Recommended distributors for this material

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