UNIGARD™ HP DGDD-1430 NT

Halogenated Flame Retardant Insulation Compound

The Dow Chemical Company

Message:

Thermoplastic flame retardant materials
UNIGARD™HP DGDD-1430 Natural is a flame retardant, thermoplastic and insulating material used in communication cables. It has a good balance between high flame retardant properties, excellent electrical and physical properties, and good processing properties.
DGDD-1430 Natural have a wide range of applications, including thin-walled insulation materials and COAX insulation materials used to meet NEC Article 725 and 800 requirements. When appropriate cable design and sheath material are selected, the material can make the cable meet the requirements of IEEE-383/UL-1581 vertical bracket cable, Canadian Standards Association (CSA) FT-4 vertical bracket cable and UL-1666 rising cable combustion test.

General Information			
Uses	Flame Retardant Insulation Halogenated Insulation Low voltage insulation Wire and cable applications Electronic insulation Insulating material		
Forms	Particle		
Processing Method	Extrusion		
Physical	**Nominal Value**	**Unit**	**Test Method**
Density	1.48	g/cm³	ASTM D1505
Melt Mass-Flow Rate (MFR)	0.75	g/10 min	ASTM D1238
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Strength [1]	14.5	MPa	ASTM D638
Tensile Elongation [2] (Break)	500	%	ASTM D638
Aging	**Nominal Value**	**Unit**	**Test Method**
Tensile strength retention-7 days [3] (121°C)	90	%	ASTM D638
Elongation retention rate-7 days [4] (121°C)	90	%	ASTM D638
Electrical	**Nominal Value**	**Unit**	**Test Method**
Dielectric Constant			ASTM D1531
100 kHz	2.59		ASTM D1531
1 MHz	2.59		ASTM D1531
Dissipation Factor			ASTM D1531
100 kHz	2.0E-4		ASTM D1531
1 MHz	2.0E-4		ASTM D1531
Flammability	**Nominal Value**	**Unit**	**Test Method**
Flame Rating (0.500 mm)	V-0		UL 94
Oxygen Index	29	%	ASTM D2863
Extrusion instructions			

Typical extrusion conditions are listed below. Exact conditions will depend upon the equipment used and the application.Extruder
Screw L/D: 15:1 to 24:1
Screw Suggested: Polyethylene metering
Compression Ratio: 2.5:1 to 3.5:1
Screen Pack: 20/40/60/20 mesh
Extrusion Temperatures
Barrel Feed Zone: 360°F (182°C)
Barrel Transition Zone: 420°F (215°C)
Barrel Metering Zone: 440°F (227°C)
Crosshead Zone: 440°F (227°C)
Melt Temperature: 440°F (227°C)
Wire Preheat Temperature: 280°F (138°C)
Die
PE type double taper
Die Size
Finish Diameter +0.001 in
Coloring
UNIGARD HP DGDD-1430 Natural insulations should be colored with polyethylene homopolymer based color masterbatches. Avoid EVA copolymer-based masterbatches, which would be detrimental to insulation electrical performance. The high flame-retardant composition of DGDD-1430 Natural will reduce color intensity, and increased color masterbatch loadings may be required.

NOTE	
1.	Based on 22 AWG (0.643 mm dia.) copper with 0.014 in. insulation.
2.	Based on 22 AWG (0.643 mm dia.) copper with 0.014 in. insulation.
3.	Based on 22 AWG (0.643 mm dia.) copper with 0.014 in. insulation.
4.	Based on 22 AWG (0.643 mm dia.) copper with 0.014 in. insulation.

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