DOW™ Electrical & Telecommunications

HFDK-0586 BK

Crosslinkable Semiconductive Shielding Compound

The Dow Chemical Company

Message:

HFDK-0586 BK is a crosslinkable semiconductive compound based on an ethylene copolymer and is designed for conductor shield and bonded insulation shield for use in medium and high voltage cables. HFDK-0586 BK has an excellent compatibility with both copper and aluminium. It has an excellent conductivity, excellent mechanical properties, also after ageing. The smoothness and the extrudability (also in triple extruders) are very good.
Specifications:
Cables with conductor or insulation shielding of HFDK-0586 BK, prepared using sound commercial fabrication practice, should meet the latest edition of the following industry cable specifications:
AIEC: CS 8-00 and CS 7-93
BS: 6622
DIN: VDE 0263 and 0276
IEC: 60502 and 60840
ICEA: S 95 658 and S 66 524 (NEMA WC7-1966)
NF: C 33-223
HD: 620 S1

General Information	
Uses	Semiconductive Shield
	Underground cable
	Cable guard
	Wire and cable applications
Agency Ratings	AEIC CS7-93
	AEIC CS8-00
	BS 6622
	HD 620 S1
	ICEA S-66-524
	ICEA S-95-658
	IEC 60502
	IEC 60840
	NEMA WC-7
	NF C 33-223
	VDE 0263
Forms	Particle

Physical	Nominal Value	Unit	Test Method
Density	1.12	g/cm³	ISO 1183/D
Moisture Content - Karl Fischer		ppm	Internal method
Thermoset [1]			IEC 60811-2-1
Elongation with load : 200°C	50	%	IEC 60811-2-1

Elongation without load : 200°C	0.0	%	IEC 60811-2-1
Moving Die Rheometer			ASTM D5287
Crosslinking Time, T90 : 182°C	5.4	min	ASTM D5287
Maximum Torque, MH : 182°C	11.2	dNm	ASTM D5287
Scorch Time TS1 : 140°C	31.0	min	ASTM D5287
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Strength [2]	20.0	MPa	IEC 60811-1-1
Tensile Elongation [3] (Break)	> 200	%	IEC 60811-1-1
Aging	**Nominal Value**	**Unit**	**Test Method**
Change in Tensile Strength [4] (150°C, 240 hr)	< 25	%	IEC 60811-1-2
Change in Ultimate Elongation [5] (150°C, 240 hr)	< 25	%	IEC 60811-1-2
Electrical	**Nominal Value**	**Unit**	**Test Method**
Volume Resistivity [6]			IEC 60093
23°C	40	ohms·cm	IEC 60093
90°C	< 1.0E+2	ohms·cm	IEC 60093
Additional Information	**Nominal Value**	**Unit**	**Test Method**

Storage:
DHDK-0586 BK should be protected from moisture, heat and light. When stored correctly the storage life is 12 months.

Extrusion	Nominal Value	Unit
Drying Temperature	60.0	°C
Drying Time	2.0 - 6.0	hr

Extrusion instructions

HFDK-0586 BK crosslinkable semiconductive compound provides excellent surface finish and output rates. Optimum results are achieved when the processing conditions are optimized for the actual equipment.Pre-drying of the granules to remove moisture is recommended prior to extrusion at 60°C for two to six hours. Extruder barrel settings of 110°C to 125°C are suggested as a starting point while learning to process HFDK-0586 BK.

NOTE	
1.	0.40 MPa, measured on crosslinked compression moulded samples.
2.	Measured on crosslinked compression moulded samples.
3.	Measured on crosslinked compression moulded samples.
4.	Measured on crosslinked compression moulded samples.
5.	Measured on crosslinked compression moulded samples.
6.	Measured on crosslinked compression moulded samples.

Recommended distributors for this material

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