

DOW™ Electrical & Telecommunications

HFDK-0587 BK A

Crosslinkable Semiconductive Shielding Compound

The Dow Chemical Company

Message:

HFDK-0587 BK A is equivalent to DOW ENDURANCE™ HFDK-0587 BK is a crosslinkable semi-conductive compound based on an ethylene copolymer, HFDK-0587 BK A offers outstanding extrusion properties. Low pressure and temperature generation result in outstanding scorch resistance and excellent smoothness under a wide processing window.

Applications

HFDK-0587 BK A is recommended as conductor and bonded insulation shielding for medium voltage XLPE power cables. DOW ENDURANCE HFDK-0587 is especially developed for high speed production in combination with DOW ENDURANCE™ HFDK-4202 EC and HFDK-4201 EC insulation compounds.

Specifications

Power cables with conductor and insulation shielding made of HFDK-0587 BK A, prepared using sound, commercial fabrication practice, would be expected to meet the following cable specification(s):

- IEC: 60502 and 60840
 - HD: 620 S1 and 632 S1
 - BS: 6622
 - DIN: VDE 0273 and 0263
 - Edf: HN-33-S-23 and HN-33-S-52
- Consult the regulations for complete details.

General Information			
Uses	Semiconductive Shield		
	Underground cable		
	Cable guard		
	Wire and cable applications		
Agency Ratings	BS 6622		
	EDF HN 33-S-23		
	HD 620 S1		
	HD 632 S1		
	IEC 60502		
	IEC 60840		
	VDE 0263		
	VDE 0273		
Forms	Particle		
Physical	Nominal Value	Unit	Test Method
Density	1.10	g/cm³	ISO 1183
Moisture Content	400	ppm	DIN 53715
Tensile strength retention-10 days(150°C)	90	%	IEC 60811-1-1
Elongation retention rate-10 days(150°C)	90	%	IEC 60811-1-1
Thermoset			IEC 60811-2-1

Elongation with Load : 200°C ¹	40	%	IEC 60811-2-1
Elongation without Load : 200°C ²	0.0	%	IEC 60811-2-1
Mechanical	Nominal Value	Unit	Test Method
Tensile Strength	21.0	MPa	IEC 60811-1-1
Tensile Elongation (Break)	200	%	IEC 60811-1-1
Electrical	Nominal Value	Unit	Test Method
Volume Resistivity			IEC 60093
23°C ³	10	ohms·cm	IEC 60093
90°C ⁴	30	ohms·cm	IEC 60093
Additional Information			

平滑度

HFDK-0587 BK A 满足为用于制造电源电缆的可交叉结合半导体屏蔽复合物建立的严格平滑度标准.在整个生产过程中测试产品以确保平滑度.还使用自动检验系统在洁净室内扫描挤出的带子.同时使用验收采样计划管理带子平滑度数据,以此确保每个发运集装箱中的材料都满足或超过产品平滑度标准.对于 HFDK-0587 BK A,设计了材料平滑度标准以满足电缆用半导体屏蔽材料以及高速电缆生产期间的严格 CENELEC 行业规范.

Extrusion	Nominal Value	Unit
Drying Temperature	70.0	°C
Drying Time	4.0	hr
Melt Temperature	120 - 140	°C
Extrusion instructions		

加工技巧

HFDK-0587 BK A 在各种条件下提供出色的表面光洁度和卓越的处理性能.为实现最佳效果,建议使用 120 到 140°C 的熔体温度范围.在学习加工 DOW ENDURANCE HFDK-0587 BK

时,建议将下面的挤塑机桶和模具设置作为起点.具体的机器设置将取决于挤塑机和模具设计,并且必须通过传统实践方式来建立.一般建议采用 20/80 网筛组.

对于 Maillefer 挤塑机,建议使用双跨测量螺栓,具有 20-22/1, L/D 和 2.0-2.5 的压缩比,以 5-20 rpm 的速度运转.

对于 Troester 挤塑机,如果不使用螺栓冷却,或在大约 105 °C 相对高的设置下使用,则 Z1 和 Z2 应在比下面指示温度更低的温度下运转.

建议的干燥条件为 70 °C 下 4 个小时.

NOTE	
1.	0.4 MPa, elongation with load
2.	0.4 MPa, elongation without load
3.	23°C
4.	90°C

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