

DOW™ Electrical & Telecommunications HFDB-4201 EHV K

Ultra Clean Polyethylene Compound for Extra High Voltage Power Cable Insulation 陶氏塑料

HFDB-4201 EHV K is a long-life, cross linkable, low-density, polyethylene insulation compound of extreme purity developed especially for the insulation of Extra High Voltage power cables that employ high electrical stresses. HFDB-4201 EHV K is equipped with a non-migrating stabilizer providing high thermal stability, long term storage stability, and optimum crosslinking behavior.

Applications:

- DOW ENDURANCE HFDB-4201 EHV K is recommended especially for the insulation of extra high voltage cables =220kV.

Specifications:

- Cables insulated with HFDB-4201 EHV K would be expected to meet the requirements in the following standards when processed using state-of-the-art cable manufacturing practices:
 - IEC: 62067, 60840
 - CENELEC: HD 632 S2
 - AEIC: CS9
 - ANSI/ICEA: 108-720-2004
 - GB/T 11017, GB/Z 18890

总体			
材料状态	• 已商用：当前有效		
供货地区	• 北美洲 • 拉丁美洲	• 欧洲 • 亚太地区	
机构评级	• AEIC CS9 • HD 632 S2	• ICEA S-108-720 • IEC 60840	• IEC 62067
形式	• 颗粒料		

物理性能	额定值	单位制	测试方法
密度 ²	0.921 g/cm ³		ISO 1183
熔流率 (130°C/2.16 kg)	0.30 g/10 min		ISO 1133
Moisture ³	< 200 ppm		Internal Method
机械性能	额定值	单位制	测试方法
抗张强度	20.0 MPa		IEC 60811-1-1
伸长率 (断裂)	500 %		IEC 60811-1-1
热性能	额定值	单位制	测试方法
热固性 ⁴			IEC 811-2-1
Elongation under Load: 200°C	< 100 %		
Permanent Deformation: 200°C	< 5.0 %		
老化	额定值	单位制	测试方法
Change of Tensile Properties After Aging - 10 days 150°C	< 25 %		IEC 60811-1-1
电气性能	额定值	单位制	测试方法
体积电阻率	> 1.0E+16 ohm-cm		IEC 60093
介电常数 (1 MHz)	< 2.30		IEC 60250
耗散因数 (50 Hz)	< 0.00030		IEC 60250
耐电强度	> 40 kV/mm		IEC 60243-1
补充信息	额定值	单位制	测试方法
Gottfert Elastograph - Torque	0.60 N·m		ISO 6502
Reaction Speed - t90 (180°C)	5.0 min		ISO 6502



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Cleanliness:

- Extraordinary cleanliness is assured through a number of precautions taken during the manufacturing of DOW HFDB-4201 EHV K
- The specifications are set to exclude metallic contaminants >50µm and other contaminants >70µm.
- Contaminant counts/kg of particles <70µm are reported. These specifications are based on online continuous sampling and testing.
- Pellet checked product can be delivered on request.

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. HFDB-4201 EHV K is storage stable even at elevated temperatures. Peroxide may start to migrate at temperatures below 15°C.
- The recommended storage temperature is 15-30°C, storage up to 6 months at 40°C and 2 months below 15°C is possible. In general, the material can be used for regular HV and MV applications within two years after production if stored the remaining time between 15 and 30°C. It is recommended that the practice of using the product on a first-in / first-out basis be established.

Packaging:

- HFDB-4201EHV K can be delivered in 1000kg octabins or in 500kg UNICLEAN™ big bags.

挤出	额定值 单位制
熔体温度	115 到 140 °C

挤压说明

- HFDB-4201 EHV K provides excellent surface finish and outstanding output rates over a broad range of conditions very similar to HFDK-4201. For optimum results, melt extrusion temperatures in the range of 115 -140°C are recommended, and preferably 135°C for HV applications.
- Screen packs are only required if there is a need to improve the homogenization of the melt or as protection from contamination entering during unloading and processing. If desirable HFDB-4201 EHV K allows the use of fine mesh screens (400mesh/30µm or 635mesh/20µm) without causing pressure build up over time. The use of 250 mesh screens (50µm) is common. Specific recommendations for processing conditions can be determined when the application and processing equipment type are known.
- At start-up, it is recommended to use DFDK-4850 transition compound to achieve stable extruder conditions.

备注

¹ 一般属性：这些不能被视为规格。

² 基础树脂

³ Karl Fischer titration

⁴ 0.2 MPa

