HFDB-4201 SC sb K

Crosslinked Polyethylene

The Dow Chemical Company

Message:

HFDB-4201 SC sb K is a long-life, cross linkable, low-density, polyethylene insulation compound of high cleanliness and purity developed especially for the insulation of High Voltage power cables.HFDB-4201 SC sb K is 100% pellet checked, decreasing the risk against singular large contaminants.
HFDB-4201 SC sb K is equipped with a non-migrating stabilizer providing high thermal stability, long term storage stability, and optimum cross-linking behavior.
Applications:
HFDB-4201 SC sb K is recommended especially for the insulation of High Voltage submarine cables, as well as for high stress underground cable designs, <= 220kV.
Specifications:
Cables insulated with HFDB-4201 SC sb 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/T 18890

General Information	
Uses	Extra High Voltage Insulation High voltage insulation
Agency Ratings	AEIC CS9 IEC 60840 IEC 62067

Physical	Nominal Value	Unit	Test Method
Density	0.920	g/cm³	ISO 1183
Melt Mass-Flow Rate (MFR) [1] (190°C/2.16 kg)	2.1	g/10 min	ISO 1133
Moisture [2]		ppm	Internal method
Thermoset [3]			IEC 811-2-1
Elongation under Load : 200°C		%	IEC 811-2-1
Permanent Deformation : 200°C		%	IEC 811-2-1
Gottfert Elastograph	4.4	lb·in	ISO 6502
Methanol Wash			Internal method
Insoluble part		ppm	Internal method
Soluble part		ppm	Internal method
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Strength	20.0	MPa	IEC 60811-1-1
Tensile Elongation (Break)	500	%	IEC 60811-1-1
Aging	**Nominal Value**	**Unit**	**Test Method**
Change in Tensile Strength [4]	< 25	%	IEC 60811-1-2

Change in Ultimate Elongation [5]	< 25	%	IEC 60811-1-2
Electrical	**Nominal Value**	**Unit**	**Test Method**
Volume Resistivity	> 1.0E+16	ohms·cm	IEC 60093
Dielectric Strength	> 30	kV/mm	IEC 60243-1
Dielectric Constant (1 MHz)	< 2.30		IEC 60250
Dissipation Factor (50 Hz)	< 3.0E-4		IEC 60250
Additional Information	**Nominal Value**	**Unit**	**Test Method**

Cleanliness:
High cleanliness is assured through a number of precautions taken during the manufacturing of DOW HFDB-4201 SC sb K
The specifications are set to exclude contaminants >100µm
These specifications are based on online continuous sampling and testing
HFDB-4201 SC sb K is a 100% pellet checked product
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. The recommended storage conditions are dry conditions with temperatures between 50°F and 86°F (10°C and 30°C). When stored under these conditions, the product may be used by the customer for up to one year from the date of sale or two years from the date of manufacture, whichever comes first. It is recommended that the practice of using the product on a first-in / first-out basis be established.
Packaging:
HFDB-4201 SC sb K can be delivered in 500kg UNICLEAN™ big bags or in 1000kg bottom unloading octabins

Extrusion instructions

HFDB-4201 SC sb K provides outstanding output rates over a broad range of conditions. For optimum results, melt extrusion temperatures of <= 135°C are recommended for submarine 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. HFDB-4201 SC sb K allows the use of fine mesh screens. 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 start-up compound to achieve stable extruder conditions.

NOTE	
1.	Base Resin
2.	Karl Fischer titration
3.	0.2 MPa
4.	after 10 days aging at 150°C
5.	after 10 days aging at 150°C.

Recommended distributors for this material

Susheng Import & Export Trading Co.,Ltd.

Tel: +86 21 5895 8519

Phone: +86 13424755533

Email: sales@su-jiao.com

No. 215, Lianhe North Road, Fengxian District, Shanghai, China


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