



Insulation compound KBX XLPE 110 - KBX CM 910

KBX XLPE 110 insulation compound is designed as a silane-crosslinkable polyethylene compound which is suitable for use up to 1 kV. The properties of this compound comply with the requirements of: IEC 60502-1 XLPE.

Processing

KBX XLPE 110 pregrafted base must be added with catalyst masterbatch KBX CM 910 at 5% by weight. Blending must be done just before use; dosing the components directly in the extruder hopper is suggested.

The pregrafted base compound is sensible to moisture; open bags must be used within few hours. KBX XLPE 110 can be processed with standard PE/PVC extruders having a L/D ration of 20-30 and an adequate barrel thermoregulation. Screw cooling is not required.

Curing

Can be done in the following ways:

- by immersion in hot water at 60-70 °C
- by exposure to low pressure steam (about 0,15 bar)

In all cases curing time depends on insulation thickness; for 0,7-1,2 mm wall thickness 3-4 hours are generally necessary if forced curing is made.

Colouring can be made with PE based masterbatches by addition at 0,5-1,5 % (approx.) by weight; predrying of colour masterbatch is suggested if moisture absorption occurred during storage.

Typical properties

	Test method	Unit	Value
Tensile strength	IEC 60811-1-1	MPa	20
Elongation at break	IEC 60811-1-1	%	500
Density	ISO 1183	g/cm ³	0,926
Melt Flow Index (5 kg at 190 °C)	ISO 1133	g/10 min	2,0
Shore D Hardness	ISO 868		58
Mechanical properties after ageing, 168 h; 135 °C			
- variation on tensile strength	IEC 60811-1-1	%	-8
- variation on elongation at break	IEC 60811-1-1	%	-20
Hot set test (20 N/cm ² at 200 °C, 15 min)	IEC 60811-2-1	-	-
- elongation under load	IEC 60811-2-2	%	< 70
- permanent elongation after cooling	IEC 60811-2-3	%	0
Volume resistivity 20 °C	IEC 60502-1	Ω.cm	> 1 x 10 ¹⁶
Volume resistivity 90 °C	IEC 60502-1	Ω.cm	4,9 x 10 ¹⁵
Insulation constant at 20 °C	IEC 60502-1	MΩ.km	37 600
Insulation constant at 90 °C	IEC 60502-1	MΩ.km	8 000
Dissipation factor 1 MHz	ASTM D 1531	mrad	70

Temperature profile

Zone 1	Zone 2	Zone 3	Zone 4	Collar	Head	Die
135-155 °C	140-160 °C	160-180 °C	160-180 °C	170-190 °C	180-200 °C	200-220 °C

Storage

The product should be stored under the following conditions:

- closed and unbroken bags
- ambient temperature not exceeding 30 °C
- avoid direct exposure to sunlight and weathering

The product could undergo alterations due to extended period of storage. Kabelovna Kabex® a.s. suggests using it within four months from the production date printed on the packaging. Kabelovna Kabex® a.s. accepts no liability of any kind in case the above mentioned conditions are not fulfilled. Our Technical Service is at your disposal for further information and advice upon the starting stage and also for any eventual necessity during the course of the product use.

Available packaging

