

**Product Information:**

KKX-XLPE1/CAT-XL is a silane crosslinkable natural compound system designed for insulation of low voltage energy cables. KKK-XLPE1 / CAT-XL is designed for Insulation of low voltage energy cables, range up to 6 kV.

KKX-XLPE1 is a low density polyethylene, copolymerised with vinyl silane. CAT-XL is an ambient crosslinking catalyst masterbatch specially designed to be used. The system is highly active and crosslinks quickly at in sauna or in hot water.

The combination is suitable for both copper and aluminum conductors. If the insulation is designed to meet the thermo-oxidative ageing demand required by IEC 60502 at 150°C in contact with copper, the addition of 9 parts KKK-XLPE1 to CAT-XL is recommended.

The proper mixture could be;

- 95% for KKK-XLPE1 (base polymer), 5% for CAT-XL (catalyst)
- 93% for KKK-XLPE1 (base polymer), 7% for CAT-XLB (black catalyst)

Crosslinking by immersion in 90°C hot water 2-6 hours; by exposure to low pressure water steam, 12-15 hours.

KKX-XLPE1 / CAT-XL in combination meets the applicable requirements as below when processed using sound extrusion and testing procedure:

ASTM D 1248 Type I, Class A, Category 4  
HD 603 S1  
HD 604 S1, IEC 60502-1

NEMA WC 70/ ICEA S-100-685  
NEMA WC 71/ ICEA S-96-659  
EN 50290-2-29

**Product Data:**

Property	Test Method	Unit	Value
<b>Physical Properties</b>			
Melt Flow Rate (190°C- 5 kg)	ASTM D 1238-13	g/10 min	0,72
Density (23°C)	ASTM D-792	gr/cm <sup>3</sup>	0,933
Hardness	ISO 868	Shore D	54
<b>Mechanical Properties</b>			
Tensile Strength	ISO 527	N/mm <sup>2</sup>	19
Elongation at Break	ISO 527	%	500
Heat Ageing (135°C, 240h)	IEC 60811-401		
Δ Strength		%	<25
Δ Elongation		%	<25
Hot Set Test (200°C,0.2 MPa)			
Elongation Under Load	IEC 60811-2-1	%	<100
Permanent Elongation After Cooling	IEC 60811-2-1	%	<10
Environmental Stress Crack Resistance (50 °C, Igepal 10%, F20)	IEC 60811-406	h	> 96
<b>Electrical Properties</b>			
Dielectric constant (50 Hz)	IEC 60250	-	< 2,3
DC Volume Resistivity	IEC 60093	PΩcm	> 10
Dielectric Strength	IEC 60243	kV/mm	> 22

**Extrusion Temperatures:** 180°C – 185°C – 195°C – 205°C – 215°C – 220°C – 230°C– 235°C  
(40 mesh double sieve and shalom tube should be used.)

**Packaging:**

KKX-XLPE1 is packaged in 1200 kg packages and 20 kg aluminum bags.

CAT-XL is packaged as aluminum multi-layer bags with a net content of 1 kg.

**Storage&Handling:** KKK-XLPE1 should be stored in a manner that avoids direct exposure to sunlight and heat (T<30°C). This compound should be used within 6 months after its production date.

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