

4234

SILANE CROSS-LINKABLE PE COMPOUND FOR 1KV AND BELOW CABLE & WIRE

Description

Grade 4234 is sioplas (two steps) silane XLPE compound and suitable for 1kv and below low voltage cable, it is composed by 95% silane crosslinkable low density polyethylene (compound A) and 5% catalyst (compound B). The product has outstanding performance in high speed extrusion, smooth cable surface, wild processing temperature, easy processing and convenient to use.

Standard

After crosslinked in the tepid water, the cable made from our product grade 4234 can comply with the standard of IEC60502-2004, GB/T12706-2002.

Main Properties & Typical Values

Test items	Test method	Unit	Standard	Typical value
Tensile strength	GB/T1040.3	MPa	≥16.0	21.0
Elongation at break	GB/T1040.3	%	≥350	580
Heat ageing properties (Test temperature 135°C, 168hr)	GB/T8815			
Maximum tensile strength change		%	±20	7.0
Maximum elongation at break change		%	±20	5.2
Heat elongation (200±3)°C x 15min x 0.2MPa)	GB/T2951			
Maximum elongation change under load		%	≤100	42
Maximum permanent elongation change after cooled		%	≤4	-2
Impact brittle temp. (-76°C)	GB/T5470	---	≤15/30	Pass*
Dielectric Strength	GB/T1408.1	MV/m	≥30	40*
Dielectric loss factor 50Hz, 20°C	GB/T1409	---	≤5.0×10 ⁻⁴	3×10 ⁻⁴ *
Dielectric constant 50Hz, 20°C	GB/T1409	---	≤2.35	2.25*
Volume resistance (20°C)	GB/T1410	Ω.m	≥1.0×10 ¹⁴	5×10 ¹⁴ *

Typical values were tested on the 1mm sample strip by squeezing film extrusion after mixing compound of A & B (at percentage of 95:5) and be boiled in hot water at 90°C for four hours.

*Especially, these typical values were tested by press moulding sample under the condition of 180±2 °C, 15min, and pressure over 15Mpa, then boiled in 90°C water for four hours.

Recommended Processing Technique

1. Extrusion Equipment

Most extruders for PVC and PE suit for 4234.

The recommended equipment and processing technique is as following.

Ratio of length and diameter	18—25:1
Diameter	45—120mm
Ratio of compressing	1.5—3.5
Ratio of elongation	1:1.0—1:1.5
Filtering mesh	40/60/40

2. Extruder processing temperature and other related settings

Temperature Setting: Specific processing temperature should be based on different equipment and pressing conditions, reference settings are as following:

Feeding Section (°C)	Compression Section (°C)	Measurement Section (°C)	Die head and Mould (°C)
130~155	155~170	170~180	180~200

Die head setting: Squeezing extrusion style is recommended

Cooling water temperature: Should not be less than 25°C, gradual cooling water tank is recommended.

3. Crosslink

After extrusion and cooling, the cable can be cross linked by immersed in hot water (90°C) or exposed in low pressure vapour. The time required for crosslink is based on the thickness of the insulation and the coil size, the thicker the insulation and the greater the coil size, the longer the crosslink time required. The crosslink time can be calculated according to the equation of 4hr/mm for 90°C.

Please contact our customer service for more technical service.