

4251/4251B

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

Description

Grade 4251/4251B is silane XLPE compound with monosil method (one step) and is specially used for 1KV and below cable & wire. It has outstanding performance in processing temperature, easy processing characteristics and excellent product properties.

Standard

After cross linked in the tepid water, the cable made from our product grade 4251/4251B 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	≥14.0	21.5
Elongation at break	GB/T1040.3	%	≥350	496
Heat ageing properties (Test temperature 135°C, 168hr)	GB/T8815			
Maximum tensile strength change		%	±20	9.9
Maximum elongation at break change		%	±20	8.8
Heat elongation (200±3)°C x 15min x 0.2MPa)	GB/T2951			
Maximum elongation change under load		%	≤100	54
Maximum permanent elongation change after cooled		%	≤4	4
Impact brittle temp. (-76°C)	GB/T5470	---	≤15/30*	Pass*
Dielectric Strength	GB/T1408.1	MV/m	≥30*	39*
Volume resistance (20°C)	GB/T1410	Ω.m	≥1.0×10 ¹⁴ *	2×10 ¹⁴ *

Typical values were tested on the 1mm sample strip by squeezing film extrusion 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 4251/4251B

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)
150~165	165~180	180~200	200~210

Die head setting: Tubing extrusion style 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.

Note:

1. The independent small package in product grade 4215B is black masterbatch, it must be mixed evenly with silane XLPE compound of monosil method firstly before use.
2. If the cables made from our product grade 4251/4251B fail in heat elongation test, it would be related to the processing techniques. Please contact us any time if you find this problem.