

### Chemical Name

Silane grafted XLPE Compound of Sioplas Method for wires and cables.

### Introduction

In the Sioplas process, Polyethylene is first grafted in the presence of a mixture of Vinysilane and peroxide to make a crosslinkable polyethylene. The material can be either processed directly or stored in dry conditions for up to several months.

In a separate step, the crosslinking catalyst, typically a tin derivative such as dibultinlaurate (DBTDL) and an anti-oxidant are mixed with polyethylene in a single or twin-screw extruder. This is the catalyst masterbatch, part B, to be used with the silane polyethylene, part A.

In a second step, grafted polyethylene is dry blended with a catalyst masterbatch (a concentrate of Tin derivative in PE), in a traditional single-screw extrusion process.

The extrudate is most of the time cooled down into a water bath which provides the moisture necessary for crosslinking. The reaction is fast but diffusion of moisture in the material is a limiting factor. For this reason, hot water bath or low pressure steam autoclave are often used to speed up crosslinking.

SiSiB® PC-XL-03 compound has been specifically developed for low voltage power cables up to 3kV.

### Typical Physical Properties

<table>
<thead>
<tr>
<th>Test</th>
<th>Typical Value</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tensile Strength</td>
<td>24</td>
<td>MPa</td>
</tr>
<tr>
<td>Elongation at Break</td>
<td>450</td>
<td>%</td>
</tr>
<tr>
<td>Thermo Mechanical Properties</td>
<td>Pass</td>
<td>-</td>
</tr>
<tr>
<td>Cold blend at -76°C</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oven ageing at 135°C, 168 hours</td>
<td>+5</td>
<td>%</td>
</tr>
<tr>
<td>Variation in Tensile Strength</td>
<td>-3</td>
<td>%</td>
</tr>
<tr>
<td>Variation in Elongation at Break</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Processing and Handling Conditions

Extruder Temperature Conditions

Recommended temperature 150°C ~200°C, head 200°C ~220°C; It may vary slightly depending on extruder type, head design and output.

Cross-linking Rate (1mm thickness sheet)

Hot water bath or low pressure steam at 90°C for 45min or at 80°C for 90min.

The highest continuous working temperature is 90°C.

Packaging and Storage

SiSiB® PC-XL-03 is packed with aluminum foil multilayer bags.

The A and B components are kept in different bags; net weight of A component is 23.75 kg and B component 1.25 kg.

Keep away from sunshine, rain and soaking during transport. Store in the clean, dry and ventilated warehouses; the minimum storage temperature should be 0°C.

SiSiB® PC-XL-03 normally has shelf life of at least 6 months from the date of production. It must be used out in 8 hours after bags are opened.

Notes
All information in the leaflet is based on our present knowledge and experience. We reserve the right to make any changes according to technological progress or further developments. Performance of the product described herein should be verified by testing.

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Please send all technical questions concerning quality and product safety to: support@SiSiB.com.