



BPD8128

Product Technical Information

BPD8128 is a high molecular weight low density polyethylene compound specially designed for crosslinking with silanes. It is a "non staining" Monosil® product that contains a controlled amount of metal-deactivator and antioxidant to provide the desired copper contact performance. BPD8128 is widely used by cable manufacturers using a Silane® (one step) crosslinking process. Its major area of application is for the insulation of low voltage power cables

Specification

BPD8128 meets the following material specifications:

- ISO 1872/1-PE, KHN, 23-D003
- ASTM D 1248: Type I, Class A, Cat 5

Regulations and approvals

Power cables insulated with BPD8128 meet most national and international specifications, in particular IEC 60502 - 1/2. Information concerning suitability to a given specification is available from INEOS.

Packaging

BPD8128 is sold in pellet form and is available in the following packages: 25 kg bags, 1.1 ton holbins or bulk tankers.

Processing Data

The adoption of correct extrusion conditions and silane addition levels are of paramount importance for BPD8128. A predrying step is not needed for this material.

BPD8128 can be run on existing Monosil equipment. It must be extruded in conjunction with 1.1 - 1.5 % of vinyl trimethoxysilane, a suitable peroxide and a crosslinking catalyst. Commercial mixtures can be used for this purpose.

Typical melt temperature to give satisfactory extrudates will be in the region of 220-230°C.

On a commercial line 150mm - 30 L/D a typical temperature profile would be:

Barrel: 140-150-160-170-190-200-210°C Head: 210-220-220°C Die: 220°C

Screw cooling: 80°C

BPD8128 in its original packaging is ready for use.



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- Physical properties of compound**

Properties	Test Method	Value	Units
Physical			
Melt flow rate	ISO 1133 Cond. D	0.27	g/10min
Conventional density conditioning ISO 1872/1	ISO 1183 Method D	923	kg/m ³

- Physical properties of crosslinked compound on cable**

All the tests have been performed on cables extruded on a Nokia Maillefer BMA 45 30L/D Monosil line with 0.8 % of a commercial mixture of vinyl trimethoxysilane, peroxide, crosslinking catalyst (ex : SILCAT R) and a suitable package of antioxidants. The cables have been crosslinked 2h in water at 80°C.

Properties	Test Method	Value	Units
Physical			
Tensile strength @ break	IEC 811-1-1	15	MPa
Elongation @ break	IEC 811-1-1	350	%
Heat elongation 200 °C, 15 min, 20 N/cm ²	IEC 811-2-1	50	%
Retention of tensile strength after ageing 7 days @ 135 °C in oven	IEC 811-1-2	>75	%

- Electrical properties of compound**

All the tests have been performed on moulded plaques of BPD8128

Properties	Test Method	Value ⁽¹⁾	Units ⁽²⁾
Volume Resistivity	ASTM D 257	>10 ¹⁴	Ω.cm
Dielectric constant @ 50 Hz	ASTM D 150-2.2	<2.35	
Dissipation factor @ 50 Hz	ASTM D 150	< 0.003	-

(1) Data should not be used for specification work

(2) Tested in accordance with designated methods