



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



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Regulatory Information

The product and uses described herein may require global product registrations and notifications for chemical inventory listings, or for use in food contact or medical devices. For further information, send an email to psnohreg@ineos.com. Unless specifically indicated, the products mentioned herein are not suitable for applications in the medical or pharmaceutical sector.

Health and Safety Information

The product described herein may require precautions in handling. The available product health and safety information for this material is contained in the Material Safety Data Sheet (MSDS) that may be obtained from the website www.ineospolyolefins.com. Before using any material, a customer is advised to consult the MSDS for the product under consideration for use.

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