

 Polyethylene
PC0780

Crosslinkable Insulation Compound

Description

PC0780 is a flame retardant crosslinking polyethylene compound for low voltage insulation.

PC0780 contains a halogen-based, flame retardant additive package designed to reduce normal PE flame spread characteristics and achieve a VW-1 flame resistant rating on 14 AWG/45mils wires and larger.

PC0780 is readily pigmented to a variety of colors using standard wire & cable concentrates designed for thermoplastic or crosslinked polyethylene. UV weather resistance is obtainable by the addition of a suitable carbon black or UV additive.

Applications

PC0780 is intended for:

Insulation of low voltage cables for the range up to 6 kV.

For most cable constructions, PC0780 has sufficient flame retardancy to satisfy single wire vertical burning tests.

Specifications

PC0780 in combination meets the applicable requirements as below when processed using sound extrusion and testing procedure:

Underwriters Laboratories Standards 44 and 854

Contact your Borealis representative for additional information.

Physical Properties

Property	Typical Value	Test Method
Data should not be used for specification work		
Density (Compound) (23 °C)	1220 kg/m3	ASTM D 792
Tensile Strain at Break	350 %	ASTM D 412
Tensile Strength	15 MPa	ASTM D 412
Tensile Strength	2,140 psi	ASTM D 412
Retention of Tensile Properties After Ageing (7 d, 150 °C)	>= 90 %	ASTM D 638

Electrical Properties

Property	Typical Value	Test Method
Data should not be used for specification work		
Dielectric constant	2,60	ASTM D 150
Volume Resistivity	10 POhm.cm	ASTM D 257
Dielectric Strength	> 550 V/mil	ASTM D 149

Borealis Compounds Inc | 176 Thomas Road | Port Murray, NJ 07865 | United States of America
Tel. +1 908 850 6200 | Fax +1 908 850 6268
22-2768116 | Court of New Jersey | Website www.borealisgroup.com

28.08.2009 Ed.1



Polyethylene PC0780

Dissipation Factor (60 Hz)

0,0026

ASTM D 150

Combustion Properties

Property	Typical Value	Test Method
Data should not be used for specification work		
Limited Oxygen Index	27 %	ASTM D 2863

Processing Techniques

Please contact your Borealis representative for more details.

A conventional single screw extruder designed to run thermoplastic polyethelene is suitable for the extrusion of **PC0780** using either a general purpose of barrier PE screw. The suggested melt temperature for **PC0780** is 250°F (121°C). This melt temperature should provide proper mixing and homogenization of the melt for consistent extrusion control and output. Line speed will be dependent on both the steam pressure and length of the CV tube used in cable production. Care must be taken to keep the melt temperature below 275°F (135°C) to avoid pre-curing or "scorch" at localized hot spots or high shear in the extruder screw and head. The extruder screw should be kept running slowly, allowing material to "drool" to the floor while the line is idle. If the line is to be idled for more than a few minutes, **PC0780** should be replaced in the extruder with a thermoplastic compound or a suitable extrusion purge such as **LE0865**.

Typically the following process conditions are used:

Barrel 1	225 °F 107 °C
Barrel 6	240 °F 116 °C
Melt temperature	250 °F 121 °C
Steam pressure	250 psi 17 bar

Packaging

Package: Smallbins

Storage

PC0780 has a shelf life of 12 months from delivery date if stored in unopened original packages, under dry and clean conditions at temperatures between 10 - 30 °C (50 - 85 °F).

More information on storage is found in our "Safety data sheet" / "Product safety information sheet".

Borealis Compounds Inc | 176 Thomas Road | Port Murray, NJ 07865 | United States of America
Tel. +1 908 850 6200 | Fax +1 908 850 6268
22-2768116 | Court of New Jersey | Website www.borealisgroup.com

 Polyethylene
PC0780**Disclaimer**

The product(s) mentioned herein are not intended to be used for medical, pharmaceutical or healthcare applications and we do not support their use for such applications.

To the best of our knowledge, the information contained herein is accurate and reliable as of the date of publication, however we do not assume any liability whatsoever for the accuracy and completeness of such information.

Borealis makes no warranties which extend beyond the description contained herein. Nothing herein shall constitute any warranty of merchantability or fitness for a particular purpose.

It is the customer's responsibility to inspect and test our products in order to satisfy itself as to the suitability of the products for the customer's particular purpose. The customer is responsible for the appropriate, safe and legal use, processing and handling of our products.

No liability can be accepted in respect of the use of Borealis' products in conjunction with other materials. The information contained herein relates exclusively to our products when not used in conjunction with any third party materials.