



# Polyethylene HE1106

## Description

**HE1106** is a fully formulated compound for physical foamed coaxial cable insulations

It is based mainly on high density polyethylene and a nucleating agent to initiate the gas injection foaming process.

## Applications

**HE1106** is designed to use as physically foamed insulation for:

Small to medium size coaxial cable constructions (type RG)

## Specifications

**HE1106** meets the following material classification:

ISO 1872-PE, KEGHN, 50-D090  
ASTM D 1248 Type III, Category 3

The following cable material standards are met by HE1106:

EN 50290-2-23 <sup>1</sup>

<sup>1</sup> Appropriate parts

Cables manufactured with HE1106 using sound extrusion practice normally comply with the following cable product standards:

IEC 61196

EN 50117

## Special Features

**HE1106** consists of specially selected components to offer:

Low attenuation over a wide range of frequencies  
High expansion degree to slightly above 80%  
Broad application window  
Uniform cell structure  
Smooth surface

## Physical Properties

Property	Typical Value	Test Method
	Data should not be used for specification work	
Density	950 kg/m <sup>3</sup>	ISO 1183-1, Method A
Melt Flow Rate (140 °C/5 kg)	7,5 g/10min	ISO 1133-1, Method A
Tensile Strain at Break (50 mm/min)	300 %	ISO 527-2



**Polyethylene**  
**HE1106**

Hardness, Shore D (1 s) 60 ISO 868

**Electrical Properties**

Property	Typical Value	Test Method
<small>Data should not be used for specification work</small>		
Dielectric constant (1 MHz)	2,34	IEC 60250
Dielectric constant (1,9 GHz)	2,34	Borealis Method
Dissipation Factor (1 MHz)	0,00006	IEC 60250
Dissipation Factor (1,9 GHz)	0,00010	Borealis Method

**Processing Techniques**

HE1106 can be processed over a wide range of conditions. The construction, extruder size and setup of gas injection system all play important roles for selection of proper processing conditions including the extruder temperature profile

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At the gas injection point, a temperature of approximately 190°C is recommended for optimal activation of the cell nucleating agent, which is of the exothermic type. Specific recommendations for processing conditions can be determined only when the application and type of equipment are known.

**Tooling**

Pressure tooling is invariably required. The die diameter is a function of the level of expansion with a greater expansion requiring a smaller die. Typically a die diameter 60% of the nominal insulation outer diameter is used.

Typical extrusion temperatures

Screw cooling	120°C
Zone 1	160°C
Zone 2	190°C
Zone 3	185°C
Gas Injection	
Zone 4	145°C
Zone 5	135°C
Flange	135°C
Adapter	135°C
Adapter	140°C
Head	130°C

Please contact your local Borealis representative for specific assistance.



# Polyethylene HE1106

## Packaging

Package:           Bags  
                      Bulk  
                      Octabins

## Storage

**HE1106** should be stored in dry conditions at temperatures below 50°C and protected from UV-light.

## Safety

The product is not classified as dangerous and is intended for industrial use only. Check and follow local codes and regulations!

Please see our "Safety data sheet" / "Product safety information sheet" for details on various aspects of safety, recovery and disposal of the product. For more information, contact your Borealis representative.

## Disclaimer

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