Polyethylene
HE1355

Description
HE1355 is
a fully formulated, high density polyethylene compound, containing an Azodicarbonamide (ADCA)-free chemical blowing agent, for telesingles.

Applications
HE1355 is intended for:

Foam or foam-skin insulation for telephone singles and data cable with typical expansion of 35-40%.

Dry core and petroleum jelly filled cables

Specifications
HE1355 passes the requirements for long-term stability test for filled cables (100°C) according to EN 60811-408.

Special Features
HE1355 consists of specially selected components to offer:

Outstanding extrusion stability
Good surface finish
Consistent cell structure
ADCA-free

Physical Properties

Property	Typical Value Data should not be used for specification work	Test Method
Density (Compound)	949 kg/m³	ISO 1183-1, Method A
Bulk density	500 - 600 kg/m³	ASTM D 1895
Tensile Strain at Break (25 mm/min)	690 %	ISO 527-2
Tensile Strength (25 mm/min)	19 MPa	ISO 527-2
Oxidation Induction Time (200 °C)	> 200 min	ISO 11357-6
Hardness, Shore D (1 s)	63	ISO 868

Physical Properties of expanded (38 %) insulation

Property	Typical Value Data should not be used for specification work	Test Method
Tensile Strength (25 mm/min)	12 MPa	EN 60811-408
Tensile Strain (25 mm/min)	570 %	EN 60811-408

Electrical Properties

Property	Typical Value Data should not be used for specification work	Test Method
Dielectric constant (1 Hz)	2,32	ASTM D 150
Dissipation Factor (1 Hz)	0,0007	ASTM D 150

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Processing Techniques

HE1355 can be processed over a wide range of conditions.
The adoption of correct processing conditions is important to obtain the optimum physical and electrical properties of the insulated wire. The melt temperature depends on the desired capacitance. The melt temperature should be kept within a close tolerance within +/- 1°C. Conductor preheating is important for the insulation mechanical properties and to ensure good adhesion to the conductor.

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 die diameters 5-10% below the nominal insulation outer diameter are used.

Typical extrusion

Barrel 1		130 °C	
Barrel 2	170 °C		
Barrel 3	185 °C		
Barrel 4	210 °C		
Barrel 5	215 °C		
Die			215 °C

Melt temperature 220 °C
Conductor preheating temperature 100 °C

Please contact your local Borealis representative for specific extruder assistance.

Packaging

Package: Bags
Bulk
Octabins

Storage

HE1355 should be stored in dry conditions at temperatures below 50°C and protected from UV-light.

Safety

The product is not classified as dangerous. Check and follow local codes and regulations!

Please see our "Safety data sheet" / "Product safety information sheet" for details on various aspects of safety of the product.

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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.

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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 any Borealis product in conjunction with any other products and/or materials. The information contained herein relates exclusively to our products when not used in conjunction with any other material unless as specifically provided for in the test methods stated above.

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