Polyethylene

Borstar® HE6067

Description

Borstar HE6067 is a black high density (HD) jacketing compound, which is produced with the Borealis proprietary Borstar bimodal process technology.

Borstar technology allows the manufacturing of polymers outside the traditional MFR and density range making it possible to optimize processability, reduce shrinkage and yet provide excellent physical toughness and environmental stress crack resistance (ESCR).

Borstar HE6067 contains 2.5% well-dispersed carbon black in order to ensure excellent weathering resistance.

Applications

Borstar HE6067 is designed for:

Jacket for communication and energy cables

Borstar HE6067 offers substantially reduced shrinkage which helps to maintain low signal attenuation for fibre optic communication cables and low jacket retraction for energy cables in combination with excellent mechanical and barrier properties. Borstar HE6067 offers a balance of properties giving advantages in manufacturing, installation and lifetime performance of communication and energy cables.

Specifications

Borstar HE6067 meets the applicable requirements as below when processed using sound extrusion practice and testing procedure:

ASTM D 1248 Type III, Class C, Category 3, Grade J4, E8, E9, W8	ISO 1872-PE, KCHL, 40 D-022

The following cable material standards are met by Borstar HE6067:

DIN VDE 0207 Type 2YM3 EN 50290-2-24	DMP 2, 5, 7, 8, 9, 10, 11, 12, 14, 15

Cables manufactured with Borstar HE6067 using sound extrusion practice normally comply with the following cable product standards:

IEC 60502, Part 2, Type ST7	HD 603 S1 DMP 1, 2, 5, 7, 8
IEC 60708	HD 632 S1 ST7
IEC 60840, Type ST7	DIN VDE 0818
IEC 60794	HD 620 S2, Part 1, table 4B, DMP 2, 8-12, 14-15, 17
EN 187105	

Special features

Borstar HE6067 consists of specially selected components to offer:

Superior processability	Excellent environmental stress cracking resistance (ESCR)

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Polyethylene
Borstar HE6067

Good abrasion & scratch resistance
Low water permeability
Low heat deformation
Good petroleum-jelly resistance
Termite resistance
Outstanding UV resistance
Very low shrinkage
Excellent surface hardness

Physical Properties

Property	Typical Value Data should not be used for specification work	Test Method
Density (Base Resin)	942 kg/m3	ISO 1872-2/ISO 1183
Density (Compound)	954 kg/m3	ISO 1872-2/ISO 1183
Melt Flow Rate (190 °C/2,16 kg)	1,7 g/10min	ISO 1133
Flexural Modulus	900 MPa	ASTM D 790
Tensile Strain at Break (50 mm/min)	900 %	ISO 527
Tensile Strength (50 mm/min)	29 MPa	ISO 527
Brittleness temperature	< -76 °C	ASTM D 746
Environmental Stress Crack Resistance (50 °C) (Igepal 10 %), (F0) [1]	> 5.000 h	IEC 60811-4-1/B
Hardness, Shore D (1 s)	61	ISO 868
Hardness, Shore D (3 s)	58	DIN 53505
Pressure Test at High Temperature (115 °C, 6 h)	< 10 %	IEC 60811-3-1

[1] No crack

Electrical Properties

Property	Typical Value Data should not be used for specification work	Test Method
DC Volume Resistivity	10 POhm.cm	IEC 60093
Dielectric Strength	20 kV/mm	IEC 60243

Processing Techniques

Borstar HE6067 provides excellent surface finish and allows a broad processing window. For extrusion standard PE-screws are recommended, but also screws designed for PVC can be used with good result. To minimise shrink back gradient cooling with hot water, minimum 60ºC in the first part of the cooling trough, is strongly recommended.

Extrusion

If preheating and/or drying is used, the maximum temperature should be 90ºC.

Preheating	90 °C	Maximum recommended temperature
Melt temperature	180 - 190 °C	
Cooling water	60 °C	First part of cooling trough

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Packaging

Package: Bulk
Octabins
Bags

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 of the product. For more information, contact your Borealis representative.

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.

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