

**Polyethylene**

Borstar® HE6069

Laser printable black bimodal high density polyethylene jacketing compounds with very low shrink properties

Description

Borstar HE6069 is a black laser printable, UV-stabilised bimodal 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 HE6069 contains a well dispersed UV-stabiliser in sufficient amount providing a measure of weathering resistance.

Applications

Borstar HE6069 is designed for:

For Fiber Optical Cables that needs to be printed with Laser printing technique

Borstar HE6069 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 HE6069 offers a balance of properties giving advantages in manufacturing, installation and lifetime performance of communication and energy cables.

Specifications

Borstar HE6069 meets the following material classification:

ISO 1872-PE, KHLN, 45 D-022

ASTM D 1248 Type III, Class A, Category 3, Grade E8, E9, J4

The following cable material standards are met by Borstar HE6069:

DMP 5, 7, 13, 16, 18

EN 50290-2-24

Cables manufactured with Borstar HE6069 using sound extrusion practice normally comply with the following cable product standards:

IEC 60502, Part 2, Type ST7
IEC 60840, Type ST7
HD 603 S1, DMP 6

DIN VDE 0818
HD 620 S2, Part 1, table 4B, DMP 5, 13, 16, 18

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Special Features

Borstar HE6069 consists of specially selected components to offer:

Superior processability
Excellent abrasion & scratch resistance
Low water permeability
Good petroleum-jelly resistance

Very good UV resistance
Very low shrinkage
Excellent surface hardness

Physical Properties

Property	Typical Value	Test Method
Data should not be used for specification work		
Density	942 kg/m ³	ISO 1183-1, Method A
Melt Flow Rate (190 °C/2,16 kg)	1,7 g/10min	ISO 1133-1, Method A
Flexural Modulus	800 MPa	ISO 178
Brittleness temperature	< -76 °C	ASTM D 746
Environmental Stress Crack Resistance (50 °C, Igepal 10 % _v , F0)	> 5.000 h	IEC 60811-406
Hardness, Shore D (1 s)	61	ISO 868
Pressure Test at High Temperature (115 °C, 6 h)	< 10 %	IEC 60811-508

Electrical Properties

Property	Typical Value	Test Method
Data should not be used for specification work		
DC Volume Resistivity	10	IEC 60093
Dielectric Strength	70 kV/mm	IEC 60243

Processing Techniques

Borstar HE6069 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, typically 50°C in the first part of the cooling trough may be found beneficial.

Tooling

Tube-on tooling is normally used. Typically a draw down ratio of 3-4 has been found satisfactory.

Extrusion

Barrel	140 - 180 °C
Die head	180 °C
Melt temperature	180 - 200 °C



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Packaging

Package: Bulk
 Octabins
 Bags

Storage

Borstar HE6069 has a shelf life of 24 months from production date if stored in unopened original packages, under dry and clean conditions at temperatures between 10 - 30 °C (50 - 85 °F).

Material shelf life is affected by the storage conditions and extreme conditions influence the general material quality and performance. It is also recommended to ensure proper stock rotation by First In – First Out principle.

More information on storage is found in the Safety data sheet (SDS) / Product safety information sheet (PSIS) for this product.

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 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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