Polyethylene

Borstar® LE8707

Black Bimodal Linear Low Density Polyethylene Jacketing Compound for Energy and Communication Cables

Description

Borstar LE8707 is a black linear low density (LLD) jacketing compound, which is produced with the Borealis proprietary Borstar bimodal process technology.

Borstar LE8707 contains 2.6% well-dispersed carbon black in order to ensure excellent weathering resistance.

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).

Applications

Borstar LE8707 is designed for jacketing of energy and communication cables.

The abrasion resistance combined with low coefficient of friction makes it ideally suitable for the jacketing of energy and communication cables. Borstar LE8707 offers a balance of properties giving advantages in manufacturing, installation and lifetime performance of communication and energy cables.

Specifications

Borstar LE8707 meets the applicable requirements as below when processed using sound extrusion practice and testing procedure:

ASTM D 1248 Type I, Class C, Category 4, Grade E4, E5, J3, W2-4	ISO 1872-PE, KCHL, 23-D012

The following cable material standards are met by Borstar LE8707:

EN 50290-2-24	DMP 5, 7-10, 12, 14, 15, 17

Cables manufactured with Borstar LE8707 using sound extrusion practice normally comply with the following cable product standards:

IEC 60708	EN 50407
IEC 60794	EN 187105
IEC 60502, Part 2, Type ST3, ST7	HD 603 S1, DMP 5, 7, 8
IEC 60840, Type ST3	HD 620 S2, DMP 9, 10, 12, 14, 15, 17
IEC 60840, Type ST7	UL 1072 Oil resistance I & II
HD 632 S2, ST3, ST7	

Special Features

Borstar LE8707 consists of specially selected components to offer:

Superior processability	Low coefficient of friction
Excellent environmental stress cracking resistance (ESCR)	Low water permeability
Rather low heat deformation	Good petroleum-jelly resistance

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Outstanding UV resistance

Low shrinkage

Physical Properties

Property	Typical Value Data should not be used for specification work	Test Method
Density (Base Resin)	923 kg/m³	ISO 1183-1, Method A
Density (Compound)	936 kg/m³	ISO 1183-1, Method A
Melt Flow Rate (190 °C/2,16 kg)	0,85 g/10min	ISO 1133-1, Method A
Flexural Modulus	400 MPa	ISO 178
Tensile Strain at Break (50 mm/min)	800 %	ISO 527-2
Tensile Strength (50 mm/min)	30 MPa	ISO 527-2
Absorption coefficient (abs/m)	400	ASTM D3349
Brittleness temperature	< -76 °C	ASTM D 746
Environmental Stress Crack Resistance (50 °C, Igepal 10 %, F0)	> 5.000 h	IEC 60811-406
Hardness, Shore D (1 s)	55	ISO 868
Pressure Test at High Temperature (115 °C, 6 h)	< 15 %	IEC 60811-508

Electrical Properties

Property	Typical Value Data should not be used for specification work	Test Method
Dielectric constant (1 MHz)	2,5	IEC 60250
DC Volume Resistivity	10 PΩcm	IEC 60093
Dielectric Strength	> 20 kV/mm	IEC 60243
Dissipation Factor (1 MHz)	0,0004	IEC 60250

Processing Techniques

Borstar LE8707 provides excellent surface finish and allows a broad processing window. Standard PE-screw gives satisfactory results but also low compression screws can be used successfully.

Extrusion

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

Preheating	90 °C	Maximum Temperature
Drying	90 °C	
Feed section	150 °C	
Metering section	170 °C	
Die head	190 °C	

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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 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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