Polyethylene

Borstar® LE8707

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

Description

Borstar® LE8707 is a black bimodal linear low density (LLD) polyethylene 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:

Jacket for 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 using sound testing procedures: The following raw material standards are met by Borstar LE8707 :

ASTM D 1248 Type I, Class C, Category 4, Grade E4, E5, J3, W2-4
(Thermoplastics) ISO 17855-PE-LLD, , KCHKL, 23-D-012

The following cable material standards are met by Borstar LE8707:

EN 50290-2-24

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

IEC 60708
IEC 60794
IEC 60502, Part 2, Type ST3, ST7
IEC 60840, Type ST3
IEC 60840, Type ST7
HD 632 S2, ST3, ST7
EN 50407
EN 187105
HD 603 S1, DMP 5, 7, 8
HD 620 S2, DMP 9, 10, 14, 15, 17
UL 1072 Oil resistance I & II
AEIC CS8
ANSI/ICEA S-94-649
ANSI/ICEA S-97-682
ANSI/ICEA S-93-639

Special Features

Borstar LE8707 consists of specially selected components to offer:

Superior processability
Excellent environmental stress cracking resistance (ESCR)
Low heat deformation
Low coefficient of friction
Low water permeability
Good petroleum-jelly resistance
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/m^3	ISO 1183-1, Method A
Density (Compound)	936 kg/m^3	ISO 1183-1, Method A

Borealis AG | Wagramer Strasse 17-19 | 1220 Vienna | Austria
Telephone +43 1 224 00 0 | Fax +43 1 22 400 333
FN 269858a | CCC Commercial Court of Vienna | Website www.borealisgroup.com

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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 (25 mm/min)	> 600 %	ISO 527-2
Tensile Strength (25 mm/min)	> 26 MPa	ISO 527-2
Absorption coefficient, at 375 nm (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)	54	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
DC Volume Resistivity	10 PΩcm	IEC 60093
Dielectric Strength	> 20 kV/mm	IEC 60243

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 90°C.

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

Packaging

Package: Bulk
Octabins
Bags

Storage

Borstar LE8707 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

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.

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