PRODUCT DATA SHEET

Polyethylene

Borstar® LE6027

Linear Low Density Polyethylene Compound for Cable Jacketing

Description

Borstar® LE6027 is a black linear low density polyethylene compound, which is produced with the Borealis proprietary Borstar bimodal process technology. It is characterized by excellent stress crack resistance and mechanical properties and low temperature performance in combination with good extrudability and flexibility.

Borstar® LE6027 contains 2,5 % well dispersed furnace black in order to ensure excellent weathering resistance

Typical characteristics

Borstar® LE6027 can be described with following typical characteristics:

Excellent environmental stress-cracking resistance (ESCR)
Excellent mechanical properties
Good flexibility
Low water permeability
Low shrinkage
Very good UV resistance
Good petroleum-jelly resistance

Applications

Borstar® LE6027 is intended for following applications:

Jackets for energy and communication cables

Specifications

Borstar® LE6027 is expected to meet the applicable requirements included in the below mentioned standards provided it is processed using sound material handling and processing practices as well as appropriate testing procedures.

EN 50290-2-24
HD 603 S1 DMP 5, 7, 8
HD 620 S2 DMP 9, 10, 12, 14, 15, 17

Cables manufactured with Borstar® LE6027 using sound extrusion practice normally comply with the following cable product standards:
IEC 60708
IEC 60502, Part 2, Type ST3, ST7
IEC 60840, Type ST3, ST7
HD 632 S2, ST3, ST7
EN 187105

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Physical properties

Property	Typical value *	Unit	Test method
Density	933	kg/m³	ISO 1183-1
Flexural modulus	370	MPa	ISO 178
Base resin density	921	kg/m3	ISO 1183-1
Melt flow rate （190 °C/2.16 kg)	0.9	g/10min	ISO 1133-1
Tensile strain at break （25 mm/min)	> 750	%	ISO 527-2
Tensile strength （25 mm/min)	25	MPa	ISO 527-2
Absorption coefficient [1]	400	-	ASTM D3349
Low temperature brittleness [2]	0	pieces	ASTM D746
Environmental stress crack resistance （50°C, Igepal 10%, F0)	> 2500	h	IEC 60811-406
Shore-D 1s	52	-	ISO 868

* Data should not be used for specification work

[1] *at 375 nm*
[2] *F0, measured at -76ºC*

Electrical properties

Property	Typical value *	Unit	Test method
DC volume resistivity	10	PΩcm	IEC 60093
Dielectric strength	20	kV/mm	IEC 60243

* Data should not be used for specification work

Processing techniques

Borstar® LE6027 provides excellent surface finish and allows a broad processing window.

Specific recommendations for processing conditions can be determined only when the application and type of equipment are known. To minimize shrink back gradient cooling with hot water, minimum 60ºC in the first part of the cooling trough, is strongly recommended.

Packaging and storage

Package: Bulk, Octabins, Bags

Borstar LE6027 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.

Product compliance documents

Latest versions of product safety information sheets (PSIS), product safety data sheets (SDS) and other product liability documents are available in our website www.borealisgroup.com.

Sustainability aspects

Borealis is ever mindful of the impact of our products on the planet. We promote Design for Circularity (DfC) and Design for Recycling (DfR) to conserve natural resources and to reduce the environmental impact of products over their entire lifetime (including production, use phase and after phase). DfR helps ensure that material can be effectively recycled while maximizing the material performance efficiency.

Further information on sustainability and Design for Recycling (DfR) can be found from our websites www.borealisgroup.com and www.borealiseverminds.com.

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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.
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.

Borealis AG | Trabrennstrasse 6-8 | A-1020 Vienna | Austria
Telephone: +43 1 22 400 0* | Fax: +43 1 22 400 333
Website www.borealisgroup.com