PRODUCT DATA SHEET

30.01.2026 Ed.1

Preliminary

Polyethylene

Borstar® LE8730

Linear Low Density Polyethylene resin for low voltage insulation and jacketing

Description

Borstar LE8730 is a natural linear low density (LLD) polethylene (PE) resin for use as a base resin in wire and cable insulation and jacketing. It is produced with the Borealis proprietary Borstar bimodal process technology.

For insulation, LE8730 is intended to be used in Monosil® applications when customers apply appropriate amount of additives and curing agent.

For jacketing, LE8730 mixed with proper Carbon Black MB amount can be used for communications and jacketing applications.

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).

Typical characteristics

Borstar® LE8730 can be described with following typical characteristics:

Good processing properties

Excellent environmental stress cracking resistance (ESCR)

Very low water absorption

Applications

Borstar® LE8730 is intended for following applications:

Insulation of low voltage energy cables, range up to 6 kV.
Jackets for energy and communication cables when mixed with proper carbon black masterbatch amount.

Specifications

Borstar® LE8730 and/or articles produced from it, are 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.

ASTM D1248 Type I, Class A, Category 5

Physical properties

Property	Typical value *	Unit	Test method
Density	923.0	kg/m³	ISO 1183-1
Melt flow rate (190 °C/2.16 kg)	0.25	g/10min	ISO 1133-1
Melt flow rate (190 °C/5 kg)	0.95	g/10min	ISO 1133-1
Flexural modulus	400	MPa	ISO 178
Low temperature brittleness	< -76 °C	-	ASTM D746
Environmental stress crack resistance (Igepal 10%, F50)	> 4000	h	ASTM D 1693-B
Hardness, Shore D [1]	> 40	-	ISO 868
Tensile strain at break	>500	%	ISO 527-2
Tensile strength	>25	MPa	ISO 527-2

* Data should not be used for specification work

[1] *3 seconds*

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Processing setting	Typical value/range
Feed section temperature	160 °C
Feed section temperature	320 °F
Metering section temperature	180 °C
Metering section temperature	360 °F
Die head temperature	200 °C
Die head temperature	390 °F

These properties were measured on thermoplastic / uncured samples

These are typical properties and must not be used to create a technical specification.

Processing techniques

LE8730 is easily processed on conventional extruders.
Borstar LE8730 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. To minimize shrink back gradient cooling with hot water, minimum 60ºC in the first part of the cooling trough, is strongly recommended.
In order to fully utilize the unique low shrink properties of Borstar LE8730 we recommend the use of non-warping color masterbatches. Preheating typically not required.

Packaging and storage

LE8730 has a shelf life of 12 months from production date if stored in unopened original packages, under dry, clean conditions at temperatures between 10 - 30 °C (50 - 85 °F) and protected from UV ligth. 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.

Regional Availability

North America

South America

For information on regional availability please contact Borealis Sales Representative.

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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.

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