PRODUCT DATA SHEET

28.05.2025 Ed.7

Polyethylene

Borstar® HE6067

High Density Polyethylene Compound for Cable Jacketing

Description

Borstar HE6067 is a black 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 HE6067 contains 2.5% well-dispersed carbon black in order to ensure excellent weathering resistance.

Typical characteristics

Borstar HE6067 can be described with following typical characteristics:

Superior processability	Low water permeability
Excellent environmental stress cracking resistance (ESCR)	Low heat deformation
Good abrasion & scratch resistance	Good petroleum-jelly resistance
Termite resistance	Very low shrinkage
Outstanding UV resistance	Excellent surface hardness

Applications

Borstar® HE6067 is intended for following applications:

Jackets for energy and communication cables

Borstar HE6067 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 HE6067 offers a balance of properties giving advantages in manufacturing, installation and lifetime performance of communication and energy cables.

Specifications

Borstar HE6067 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.

ASTM D1248 Type III, Class C, Category 3, Grade J4, E8, E9, W8	IEC 60502 Part 2, Type ST7
DIN VDE 0207 Type 2YM3	IEC 60708
DIN VDE 0818	IEC 60794
EN 187105	IEC 60840 Type ST7
EN 50290-2-24	HD 620 S2, Part 1, table 4B, DMP 2, 9, 10, 14, 15, 17
HD 603 S1 DMP 1, 2, 5, 7, 8	IEC 60794-1-22
HD 632 S2, ST7	

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Physical properties

Property	Typical value *	Unit	Test method
Density	955	kg/m³	ISO 1183-1
Melt flow rate （190 °C/2.16 kg)	1.7	g/10min	ISO 1133-1
Flexural modulus	900	MPa	ISO 178
Base resin density	942	kg/m3	ISO 1183-1
Tensile strain at break （50 mm/min)	> 700	%	ISO 527-2
Tensile strength （50 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)	> 5000	h	IEC 60811-406
Shore-D 1s	61	-	ISO 868
Pressure test at high temperature （110 °C, 6h)	< 10	%	IEC 60811-508

* Data should not be used for specification work

[1] *Measured at 375 nm*
[2] *Measured at -76 °C*

Electrical properties

Property	Typical value *	Unit	Test method
DC volume resistivity	>10	PΩcm	IEC 62631-3
Dielectrical strength	> 20	kV/mm	IEC 60243

* Data should not be used for specification work

Processing techniques

Borstar HE6067 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 minimize shrink back gradient cooling with hot water, typically 50ºC 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.

Processing setting	Typical value/range
Barrel	140 - 180 °C
Die head temperature	180 °C
Melt temperature	180 - 180 °C

Please contact your local Borealis representative for specific assistance.

Packaging and storage

"Package: Bulk, Octabins, Bags

Borstar HE6067 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."

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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.

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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