PRODUCT DATA SHEET

Polyethylene

Borstar® ME6052

Polyethylene Compound for Cable Jacketing

Description

Borstar® ME6052 is a black bimodal medium density (MD) polyethylene jacketing compound, which is produced with the Borealis proprietary Borstar bimodal process technology. 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 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® ME6052 contains 2.6% well-dispersed carbon black in order to ensure excellent weathering resistance.

Typical characteristics

Borstar® ME6052 can be described with following typical characteristics:

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

Applications

Borstar® ME6052 is intended for following applications:

Jackets for energy and communication cables

Specifications

Borstar® ME6052 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.

- AEIC CS8
- ANSI/ICEA S-93-639
- ASTM D1248 Type II, Class C, Category 4, Grade E8, E9, J4
- DIN VDE 0818
- EN 50290-2-24
- HD 603 S1 DMP 5, 7, 8
- HD 620 S2 Part 1, table 4B, DMP 2, 9, 10, 12, 14, 15
- IEC 60502 Part 2, Type ST7
- IEC 60708
- IEC 60794
- IEC 60840 Type ST7
- UL 1072 Oil resistance I & II
- Telcordia GR-20
- ANSI/NEMA WC74/ICEA S-93-639
- IEC 60794-1-22

Telcordia GR-20, AEIC CS8, ANSI/NEMA WC74/ICEA S-93-639, ICEA S-87-640

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Physical properties

Property	Typical value *	Unit	Test method
Density	948	kg/m³	ISO 1183-1
Melt flow rate （190 °C/2.16 kg)	0.7	g/10min	ISO 1133-1
Melt flow rate （190 °C/5 kg)	3	g/10min	ISO 1133-1
Flexural modulus	600	MPa	ISO 178
Base resin density	936	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	54	-	ISO 868
Pressure test at high temperature （115 °C, 6h)	< 10	%	IEC 60811-508

* Data should not be used for specification work

[1] *at 375nm*
[2] *F0 at -76°C*

Electrical properties

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

* Data should not be used for specification work

Processing techniques

Borstar® ME6052 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, minimum 60°C in the first part of the cooling trough, is strongly recommended.
If preheating and/or drying is used, the maximum temperature should be 90 °C.

Processing setting	Typical value/range
Preheating temperature[3]	90 °C
Melt temperature	185-190 °C
Cooling water temperature[4]	60 °C

[3] *Maximum recommended temperature*
[4] *First part of cooling trough*
Minimum temperature

Please contact your local Borealis representative for specific assistance.

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Packaging and storage

Package: Bulk, Octabins, Bags

Borstar® ME6052 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.

Disclaimer

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