Polyethylene

Borstar® ME6052

Black Bimodal Polyethylene Jacketing Compound for Energy and Communication Cables

Description

Borstar ME6052 is a black bimodal polyethylene 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 ME6052 contains 2.5% well-dispersed carbon black in order to ensure excellent weathering resistance.

Applications

Borstar ME6052 is designed for:

Jacket for energy and communication cables

Borstar ME6052 offers a balance of properties giving advantages in manufacturing, installation and lifetime performance of communication and energy cables.

Specifications

Borstar ME6052 meets the applicable requirements as below when processed using sound extrusion practice and testing procedure:

ASTM D 1248 Type II, Class C, Category 4, Grade E8, E9, J4

ISO 1872-PE, KCHL, 33 D-006

The following cable material standards are met by Borstar ME6052:

EN 50290-2-24
DMP 2, 5, 7, 8, 9, 10, 12, 14, 15

Cables manufactured with Borstar ME6052 using sound extrusion practice normally comply with the following cable product standards:

IEC 60502, Part 2, Type ST7
IEC 60708
IEC 60840, Type ST7
HD 603 S1, DMP 5, 7, 8

DIN VDE 0818
HD 620 S2, Part 1, table 4B, DMP 2, 9, 10, 12, 14, 15
UL 1072 Oil resistance I & II

Special features

Borstar ME6052 consists of specially selected components to offer:

Superior processability
Excellent environmental stress cracking resistance (ESCR)
Good abrasion & scratch resistance
Low water permeability

Superior heat deformation
Good petroleum-jelly resistance
Outstanding UV resistance
Low shrinkage

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Good surface hardness

Physical Properties

Property	Typical Value Data should not be used for specification work	Test Method
Density (Base Resin)	936 kg/m³	ISO 1183
Density (Compound)	948 kg/m³	ISO 1183
Melt Flow Rate (190 °C/2,16 kg)	0,7 g/10min	ISO 1133
Melt Flow Rate (190 °C/5,0 kg)	3 g/10min	ISO 1133
Flexural Modulus	700 MPa	ASTM D 790
Tensile Strain at Break (50 mm/min)	800 %	ISO 527
Tensile Strength (50 mm/min)	30 MPa	ISO 527
Brittleness temperature	< -76 °C	ASTM D 746
Environmental Stress Crack Resistance (50 °C, Igepal 10 %, F0) [1]	> 5.000 h	IEC 60811-406
Hardness, Shore D (1 s)	55	ISO 868
Pressure Test at High Temperature (115 °C, 6 h)	< 10 %	IEC 60811-508

[1] No crack

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 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 minimise shrink back gradient cooling with hot water, minimum 60ºC in the first part of the cooling trough, is strongly recommended.

Extrusion

If preheating and/or drying is used, the maximum temperature should be 90ºC.

Preheating	90 °C	Maximum recommended temperature
Melt temperature	185 - 190 °C	
Cooling water	60 °C	First part of cooling trough Minimum Temperature

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Packaging

Package:	Bulk Octabins Bags

Safety

The product is not classified as dangerous and is intended for industrial use only. 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. For more information, contact your Borealis representative.

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