

Polyethylene

Borstar® ME6052

Black Bimodal Medium Density Polyethylene Jacketing Compound for Energy and Communication Cables

Description

Borstar® ME6052 is a black bimodal medium density (MD) 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 2.6% 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: The following raw material standards are met by Borstar ME6052 :

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

(Thermoplastics) ISO 17855-PE-MD, , KCHL, 33-D-006

The following cable material standards are met by Borstar ME6052:

EN 50290-2-24

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

Telcordia GR-20

AEIC CS8

ANSI/NEMA WC74/ICEA S-93-639

ICEA S-87-640

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

Very low heat deformation

Good petroleum-jelly resistance

Outstanding UV resistance

Low shrinkage

Good surface hardness

Physical Properties

Property	Typical Value	Test Method
Data should not be used for specification work		
Density (Base Resin)	936 kg/m ³	ISO 1183-1, Method A
Density (Compound)	948 kg/m ³	ISO 1183-1, Method A
Melt Flow Rate (190 °C/2,16 kg)	0,7 g/10min	ISO 1133-1, Method A
Melt Flow Rate (190 °C/5,0 kg)	3 g/10min	ISO 1133-1, Method A
Flexural Modulus	600 MPa	ISO 178
Tensile Strain at Break (50 mm/min)	> 800 %	ISO 527-2

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Tensile Strength (50 mm/min)	> 30 MPa	ISO 527-2
Absorption coefficient, at 375 nm (abs/m)	> 400	ASTM D3349
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	Test Method
<small>Data should not be used for specification work</small>		
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 60°C in the first part of the cooling trough, is strongly recommended.

Extrusion

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

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

Packaging

Package:	Bulk Octabins Bags
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Storage

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.

More information on storage is found in the Safety data sheet (SDS) / Product safety information sheet (PSIS) for this product.

Safety

Check and follow local codes and regulations!

Please see our "Safety data sheet" / "Product safety information sheet" for details on various aspects of safety, recovery and disposal of the product. For more information, contact your Borealis 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.