Polyethylene

Borstar® ME6053

Natural Bimodal Polyethylene Jacketing Compound for Energy and Communication Cables

Description

Borstar ME6053 is a natural, UV stabilised, colourable, medium density (MD) 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 ME6053 contains a well dispersed UV-stabiliser in sufficient amount providing a measure of weathering resistance. In order to fully utilise the unique low shink properties of Borstar ME6053 we recommend the use of non-warping colour masterbatches.

Applications

Borstar ME6053 is designed for jacketing of energy and communication cables.

Borstar ME6053 offers a balance of properties giving advantages in manufacturing, installation and lifetime performance of communication and energy cables.

Specifications

Borstar ME6053 meets the applicable requirements as below when processed using sound extrusion practice and testing procedure:

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

ISO 1872-PE, KHLN, 33 D-006

The following cable material standards are met by Borstar ME6053:

EN 50290-2-24

Cables manufactured with Borstar ME6053 using sound extrusion practice normally comply with the following cable product standards:

IEC 60502, Part 2, Type ST7
IEC 60840, Type ST7

HD 603 S1, DMP 6
DIN VDE 0818

Special features

Borstar ME6053 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
Very good UV resistance
Low shrinkage
Good surface hardness

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Physical Properties

Property	Typical Value Data should not be used for specification work	Test Method
Density (Compound)	936 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	600 MPa	ASTM D 790
Tensile Strain at Break (50 mm/min)	800 %	ISO 527
Tensile Strength (50 mm/min)	32 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)	54	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 ME6053 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	180 - 190 °C	
Cooling water	60 °C	First part of cooling trough Minimum Temperature

Packaging

Package: Bulk
Octabins
Bags

Polyethylene

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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.

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.