

15 March 2010

## Borstar® ME6052

### BLACK BIMODAL MD POLYETHYLENE COMPOUND FOR JACKETING OF POWER AND COMMUNICATION CABLES

#### DESCRIPTION

**Borstar ME6052** is a black, linear medium-density polyethylene (LMDPE) 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 with excellent physical toughness and environmental stress crack resistance (ESCR) properties.

Borstar ME6052 contains 2.6% well-dispersed carbon black of nominal 20 nm particle size in order to ensure excellent weathering resistance.

#### APPLICATIONS

**Borstar ME6052** is intended for jacketing of power and communication 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 J4, E8, E9
- HD 620 S1, Part 1, table 4B, DMP 2, 9, 10, 12, 14, 15
- BS6234 Type 03C ; TS2
- EN 50290-2-24
- ICEA S-108-720
- ICEA S-70-547
- ICEA S-94-649
- IEC 60502 ST3, ST7
- IEC 60708
- IEC 60840 ST3, ST7
- ISO 1872-PE, KCHL, 33 D-006

Borstar® is a trademark of the Borealis group.

PHYSICAL PROPERTIES	Typical Value*	Unit	Test Method
Density, Base Resin	936	kg/m <sup>3</sup>	ISO 1872-2/ISO 1183-D
Density, Compound	948	kg/m <sup>3</sup>	ISO 1872-2/ISO 1183-D
Melt Flow Rate (190°C. 2.16 kg)	0.7	g/10 min	ISO 1133
Melt Flow Rate (190°C. 5.0 kg)	3.0	g/10 min	ISO 1133
Tensile Strength (50 mm/min)	30	MPa	ISO 527
Elongation (50 mm/min)	800	%	ISO 527
ESCR (50°C, 10% Igepal), (F0 = no crack)	>5000	h	IEC 60811-4-1/B
Durometer Hardness (1 sec)	55	Shore D	ISO 868
Durometer Hardness (3 sec)	54	Shore D	ISO 868
Pressure Test at High Temperature (115°C, 6 h)	<10	%	IEC 60811-3-1
Brittleness Temperature	<-76	°C	ASTM D 746
Flexural Modulus	700	MPa	ASTM D 790
Carbon black dispersion	Grading 2 Appearance A2		ISO 18553
Absorption Coefficient at 375 nm	440		ASTM D 3349

ELECTRICAL PROPERTIES	Typical Value*	Unit	Test Method
DC Volume Resistivity	10 <sup>16</sup>	Ω cm	IEC 60093
Dielectric Strength	20	kV/mm	IEC 60243

\* Data should not be used for specification work

## PROCESSING GUIDELINES

**Borstar ME6052** provides excellent surface finish and high output rates over a broad range of conditions.

For extrusion standard PE-screws are recommended, but also screws designed for PVC can be used with good result.

A suggested temperature profile is:

Feed pocket : cooled water

Feed section : 160 °C

Metering Section : 180 °C

Head and die : 190 - 200 °C

If material preheating/pre-drying is used maximum recommended temperature is 90°C.

To minimize shrink back hot cooling water, min 60°C in the first cooling trough is strongly recommended.

Borstar ME6052 can be processed using either tube or pressure tooling. With tube tooling, a drawdown ratio of at least 3:1 to 4:1 is recommended. Higher drawdown ratios will increase jacket tightness.

## DELIVERY

Form: Granules  
Package: 25 kg bags - 1.375 kg/pallet  
650 kg bigbags

## SAFETY

**Borstar ME6052** is not classified as a dangerous preparation.

The products are supplied in form of free-flowing granules of approximately 3 - 4 mm sizes and can be readily handled with commercially available equipment. Handling and transport of the products may generate some dust and fines, which constitute a potential hazard for dust explosion. All metal parts in the system should therefore be properly grounded. Properly designed equipment and good housekeeping will reduce the risk. Check and follow local codes and regulations!

Inhalation of any type of dust should be avoided as it may cause irritation of the respiratory system.

The products are intended for industrial use only. A Safety Information Sheet is available on request. Please contact your Borouge representative for more details on various aspects of safety, recovery and disposal of the product.

## RECYCLING

The product is suitable for recycling using modern methods of shredding and cleaning. In-house production waste should be kept clean to facilitate direct recycling.

## Disclaimer

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