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

Borouge Pte Ltd 1 George Street | #18-01 | Singapore 049145
Tel +65 6275 4100 | Fax +65 6377 1233 | www.borouge.com
Borouge is part of the ADNOC and Borealis group of companies

بروج
Borouge
SHAPING the FUTURE with PLASTICS

PHYSICAL PROPERTIES		Typical Value*	Unit	Test Method
Density, Base Resin		936	kg/m^3	ISO 1872-2/ISO 1183-D
Density, Compound		948	kg/m^3	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 (50ºC, 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	(115ºC, 6 h)	<10	%	IEC 60811-3-1
Brittleness Temperature		<-76	ºC	ASTM D 746
Flexural Modulus		700	MPa	ASTM D 790
Carbon black dispersion	Grading	2		ISO 18553
	Appearance	A2		
Absorption Coefficient	at 375 nm	440		ASTM D 3349

ELECTRICAL PROPERTIES	Typical Value*	Unit	Test Method
DC Volume Resistivity	10^{16}	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 90ºC.
To minimize shrink back hot cooling water, min 60ºC 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.

Borouge Pte Ltd 1 George Street | #18-01 | Singapore 049145
Tel +65 6275 4100 | Fax +65 6377 1233 | www.borouge.com
Borouge is part of the ADNOC and Borealis group of companies

TÜV NORD TÜV Middle East ISO 9001
TÜV NORD TÜV Middle East ISO 14001

بروج
Borouge
SHAPING the FUTURE with PLASTICS

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.

Borouge Pte Ltd 1 George Street | #18-01 | Singapore 049145
Tel +65 6275 4100 | Fax +65 6377 1233 | www.borouge.com
Borouge is part of the ADNOC and Borealis group of companies