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LE0563

Thermoplastic Semiconductive Jacketing Compound

# Description

**LE0563** is a thermoplastic semiconductive compound specifically designed for medium- high and extra-high voltage cable systems requiring improved grounding. It may be used either as a complete jacket or as a thin layer extruded on top of the regular jacket. This compounds permits easy diagnostic testing of the cable to ensure jacket conformity, allowing confirmation of fault-free cable before and after installation. It provides excellent mechanical properties, superior environmental stress crack resistance and good electrical conductivity. Due to the semiconductive properties, it will also provide added protection against lightning.

### **Specifications**

**LE0563** meets the applicable requirements as below when processed using sound extrusion practice and testing procedure:

IEC 60502, Type ST7 IEC 60840, Type ST7 IEC 62067, Type ST7

ICEA S-94-649, Type 1 ICEA S-108-720, Type 1 ICEA S-108-720, Type 2

### **Special features**

LE0563 provides excellent environmental stress crack resistance and good electrical conductivity.

## **Physical Properties**

Property	Typical Value Data should not be used for	Test Method specification work
Density (Compound)	1055 kg/m³	ISO 1183
Melt Flow Rate (190 °C/21,6 kg)	30 g/10min	ISO 1133
Melt Flow Rate (190 °C/2,16 kg)	0,2 g/10min	ISO 1133
Tensile Strain at Break (25 mm/min) <sup>1</sup>	560 %	ISO 527
Tensile Strength (25 mm/min) <sup>1</sup>	16 MPa	ISO 527
Change of Tensile Properties After Ageing (240 h, 110 °C)	< 25 %	IEC 60811-401
Environmental Stress Crack Resistance (50 °C) (Igepal 10 %), (F0) <sup>1</sup>	> 2.000 h	ASTM D 1693
Hardness, Shore D (1 s) <sup>1</sup>	58	ISO 868
Hardness, Shore D ( 3 s) <sup>1</sup>	55	ISO 868
Moisture	400 ppm	Karl Fischer-titration
Pressure Test at High Temperature (110 °C, 6 h) <sup>1</sup>	< 5 %	IEC 60811-508

<sup>1</sup> Measured on moulded plaques.

# **Electrical Properties**

Property	Typical Value Data should not be used for specifi	Test Method cation work
DC Volume Resistivity (23 °C) <sup>1</sup>	25 Ohm.cm	ASTM D 991
DC Volume Resistivity (90 °C) <sup>1</sup>	50 Ohm.cm	ASTM D 991

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<sup>1</sup> Measured on moulded plaques.

### **Processing Techniques**

To produce a good and reliable cable, it is essential to ensure careful and very clean handling of the jacketing material. Please contact your Borealis representative for more details.

#### Predrying

It is recommended that LE0563 is dried prior to extrusion. Typical drying conditions are shown below:

Predrying (4 h)

70°C

With dehumidified air

No screw cooling

Optimum DC volume resistivity and mechanical properties could be obtained by maximizing cooling water temperature or distance between cooling water and die head.

#### Extrusion

Typical processing temperature ranges for LE0563 are shown below:

Barrel 1	180 °C 356 °F
Barrel 2	190 °C
Demal 0	374 °F
Barrel 3	200 °C 392 °F
Barrel 4	210 °C
	410 °F
Barrel 5	210 °C
	410 °F
Die	210 °C
	410 °F
Melt temperature	215 - 245 °C
	419 - 473 °F

# Packaging

Package: Smallbins

#### 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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