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PRODUCT DATA SHEET

Polyethylene

LE6006

Compound for Cellular insulation of Communication Cables

Description

LE6006 is a low loss LDPE compound for coaxial cables. LE6006 contains a special type of antioxidant, which does not adversely affect the electrical properties.

Typical characteristics

LE6006 can be described with following typical characteristics:

Low dielectrical loss
Excellent surface finish
Smooth surface
High output

Applications

LE6006 is intended for following applications:

Coaxial cables
Inner skin of radio frequency cables
Telephone wires

Specifications

LE6006 is expected to meet the applicable requirements included in the below mentioned standards provided it is processed using sound material handling and processing practices as well as appropriate testing procedures.

ASTM D1248 Type I, Class A, Category 5, Grade E4, E5
DIN VDE 0207 Type 2YI3
EN 50290-2-23

Cables manufactured with LE6006 using sound extrusion practice normally comply with the following cable product standards:

IEC 61196
EN 50117

Physical properties

Property	Typical value *	Unit	Test method
Density	918	kg/m³	ISO 1183-1
Melt flow rate (190 °C/2.16 kg)	0.3	g/10min	ISO 1133-1
Tensile strain at break (50 mm/min)	600	%	ISO 527-2
Tensile strength (50 mm/min)	15	MPa	ISO 527-2
Brittleness temperature	<-76	°C	ASTM D746
Environmental stress crack resistance (50°C, Igepal 100%, F20)	>96	h	IEC 60811-406
Hardness, Shore D [1]	50	-	ISO 868

* Data should not be used for specification work

[1] *Hardness, Shore D (1s)*

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Electrical properties

Property	Typical value *	Unit	Test method
Dielectric constant (1 MHz)	2.29	-	IEC 60250
DC volume resistivity	10	PΩcm	IEC 60093
Dielectric strength	22	kV/mm	IEC 60243
Dissipation factor (1 MHz)	0.00008	-	IEC 60250

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Processing techniques

LE6006 can be processed over a wide range of conditions. The actual conditions will depend on the type of equipment used. For extrusion of solid coaxial cables it is recommended to use gradient cooling to minimize the risk of contraction-void formation. For normal extrusion equipment and applications we suggest a melt temperature and a conductor preheating according to table below.

Tooling
Pressure tooling is invariably required. Typically "on size" die diameters are used.

Processing setting	Typical value/range
Barrel temperature	150 - 210 °C
Die head temperature	200 °C
Melt temperature	180 - 220 °C
Conductor preheating temperature	80 - 100 °C

Please contact your local Borealis representative for specific assistance.

Packaging and storage

Package: Bulk, Octabins, Bags

LE6006 has a shelf life of 18 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

Product compliance documents

Latest versions of product safety information sheets (PSIS), product safety data sheets (SDS) and other product liability documents are available in our website www.borealisgroup.com.

Sustainability aspects

Borealis is ever mindful of the impact of our products on the planet. We promote Design for Circularity (DfC) and Design for Recycling (DfR) to conserve natural resources and to reduce the environmental impact of products over their entire lifetime (including production, use phase and after phase). DfR helps ensure that material can be effectively recycled while maximizing the material performance efficiency. Further information on sustainability and Design for Recycling (DfR) can be found from our websites www.borealisgroup.com and www.borealiseverminds.com.

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