Polyethylene
HE4872

Description
HE4872

It is a HDPE compound for solid insulation of symmetric data cable at high extrusion speed.

Applications
HE4872 is intended for:

High frequency data transmission cables

Outer skin of foam-skin constructions

NOTE: If using HE4872 as telephone single insulation, especially in petroleum jelly filled cables, addition of extra stabilization may be needed to ensure long-term heat stability.

Specifications
HE4872 meets the following material classification:

ISO 1872-PE, KGHN, 45-D006
ASTM D 1248 Type III, Class A, Category 4, Grade E8, E9

The following cable material standards are met by HE4872:

EN 50290-2-23 [1]

[1] Appropriate parts

Cables manufactured with HE4872 using sound extrusion practice normally comply with the following cable product standards:

IEC 61156
EN 50288

Special Features
HE4872 consists of specially selected components to offer:

Good conductor adhesion
Very good flow behaviour
Low die head pressure
Excellent surface finish
High output

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Physical Properties

Property	Typical Value Data should not be used for specification work	Test Method
Density	945 kg/m³	ISO 1183-1, Method A
Melt Flow Rate (190 °C/2,16 kg)	0,7 g/10min	ISO 1133-1, Method A
Tensile Strain at Break	> 600 %	ISO 527-2
Tensile Strength	20 MPa	ISO 527-2
Oxidation Induction Time (200 °C),	> 60 min	ISO 11357-6
Brittleness temperature	< -76 °C	ASTM D 746
Environmental Stress Crack Resistance (50 °C, Igepal 10 %, F20)	> 80 h	IEC 60811-406
Hardness, Shore D (1 s)	58	ISO 868

Electrical Properties

Property	Typical Value Data should not be used for specification work	Test Method
Dielectric constant (1 MHz)	2,33	IEC 60250
DC Volume Resistivity	10 PΩcm	IEC 60093
Dissipation Factor (1 MHz)	0,00007	IEC 60250

Processing Techniques

The actual conditions will depend on the type of equipment used.

HE4872 can be processed using a wide range of process conditions at very high line speeds (typically up to 2400 m/min).
For normal extrusion equipments and applications, we suggest a melt and conductor preheating temperatures as outlined below. Heated water (up to 50°C) in the first cooling trough has been found beneficial to improve conductor adhesion.

Tooling

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

Extrusion

Barrel	165 - 230 °C
Die head	230 °C
Melt temperature	220 - 250 °C
Conductor preheating temperature	110 - 120 °C

Please contact your local Borealis representative for specific assistance.

www.borealisgroup.com

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Packaging

Package: Bags
Bulk
Octabins

Safety

The product is not classified as dangerous.Check and follow local codes and regulations!

Please see our "Safety data sheet" / "Product safety information sheet" for details on various aspects of safety, recovery and disposal 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.

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