PRODUCT DATA SHEET

Polyethylene

ME1254

Medium Density Polyethylene

Description

ME1254 is a fully formulated, medium-density polyethylene compound, containing an Azodicarbonamide (ADCA)-free chemical blowing agent, for chemically foamed telesingles.

Typical characteristics

ME1254 can be described with following typical characteristics:

Outstanding extrusion stability
Consistent cell structure
Good surface finish
ADCA-free

Applications

ME1254 is intended for following applications:

Dry core and petroleum jelly filled cables
Foam or foam-skin insulation for telephone singles and data cable with typical expansion of 35-40%.

Specifications

ME1254 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.

EN 50290-2-23

EN 60811-408

Physical properties

Property	Typical value *	Unit	Test method
Density [1]	943	kg/m³	ISO 1133-1
Melt flow rate (140 °C/5 kg)	0.95	g/10min	ISO 1133-1
Tensile strength (25 mm/min)	11	MPa	ISO527-2
Tensile strain at break (25 mm/min)	500	%	ISO527-2
Hardness, Shore D [2]	58	-	ISO 868
Oxidation induction time (200 °C)	> 60	min	ISO 11357-6
Bulk density	500 - 600	kg/m³	

* Data should not be used for specification work

[1] *Compound, Method A*
[2] *1s*

Electrical properties

Property	Typical value *	Unit	Test method
Dissipation factor (1 MHz)[3]	0.0005	-	ASTM D150
Dielectric constant (1 MHz)[3]	2.32	-	ASTM D150

* Data should not be used for specification work

[3] *Measured on moulded plaques containing blowing agent but not expanded*

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Other properties

Property	Typical value *	Unit	Test method
Tensile strength (25 mm/min)[4]	11	MPa	IEC 60811-408
Tensile strain at break (25 mm/min)[4]	500	%	IEC 60811-408

* Data should not be used for specification work

[4] *Physical Properties of expanded (38 %) insulation*

Processing techniques

ME1254 can be processed over a wide range of conditions. The adoption of correct processing conditions is important to obtain the optimum physical and electrical properties of the insulated wire. A temperature of approximately 200-210°C is recommended for optimal activation of the cell nucleating agent, which is of the Azodicarbonamide free type. Specific recommendations for processing conditions can be determined only when the application and type of equipment are known.

Tooling
Pressure tooling is invariably required. The die diameter is a function of the level of expansion with a greater expansion requiring a smaller die. Conductor preheating is important for the insulation mechanical properties and to ensure good adhesion to the conductor. Typically die diameters 5-10% below the nominal insulation outer diameter are used.

Processing setting	Typical value/range
Barrel temperature 1	110 °C
Barrel temperature 2	145 °C
Barrel temperature 3	190 °C
Barrel temperature 4	205 °C
Barrel temperature 5	220 °C
Die temperature	220 °C
Melt temperature	220 °C
Conductor preheating temperature	100 °C

Please contact your local Borealis representative for specific extruder assistance.

Packaging and storage

Package: Bulk, Octabins, Bags

ME1254 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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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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