Manufacturer website: https://www.ineos.com/businesses/ineos-olefins-polymers/

BPD4735

Product Technical Information

BPD4735 is a bimodal black high density polyethylene compound designed for

- The extrusion of jackets for power and telecommunications cables
- The coating of steel pipes, primarily for the 3 layers PE coating system

Benefits & Features

BPD4735 offers a unique balance of properties combining the following features:

- Excellent extrudability
- Outstanding stress-cracking resistance
- Good toughness and resistance to heat deformation
- Good abrasion resistance
- Good weathering resistance
- Low shrinkage

Specifications

BPD4735 is formulated with an antioxidants package and 2.5 wt% of a well-dispersed carbon black that deliver excellent ageing properties and a complete outdoor weatherability.

Compliance to Regulations

When adequately processed according to standard extrusion technologies, **BPD4735** will allow producing jacket meeting the following industry cable specifications:

- IEC 60502-2, Class ST7
- ASTM D 1248 – type III, Class C, Category 4, Grade E10, J5, W9

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Properties	Conditions	Test Methods	Values	Units
Physical				
Melt Flow Rate	190°C/5.0 kg	ISO 1133-1	2.0	g/10min
Melt Flow Rate	190°C/ 2.16 kg	ISO 1133-1	0.60	g/10 min
Density		ISO 1183-1 & ISO 17855-2	956	kg/m^3
Shore D hardness, 1 s		ISO 868	63	-
Shore D hardness, 3 s		ISO 868	62	-
Shore D hardness, 15 s		ISO 868	60	-
Tensile Modulus	23°C, 1 mm/min	ISO 527-1,-2	1000	MPa
Tensile Strength at Yield	23°C, 50 mm/min	ISO 527-1,-2	24	MPa
Tensile Strength at Break	23°C, 50 mm/min	ISO 527-1,-2	20	MPa
Elongation at Break	23°C, 50 mm/min	ISO 527-1,-2	≥ 650	%
Carbon Black content		ISO 6964	2 to 3	wt%
Carbon Black dispersion		ISO 18553	≤ 3	Grade
Oxidation Induction Time	210°C	ISO 11357-6	≥ 20	min
Electrical				
Volume resistivity	50 Hz	ASTM D 257	> 10^{13}	Ω.m
Dielectric constant	1 MHz, 23°C	ASTM D 1531	2.6	-

Data should not be used for specification work

Processing guidelines

The good processing characteristics of **BPD4735** allow wide latitude of both equipment and process conditions. Normally the extruder barrel temperatures should be set to give a resulting melt temperature in the range of 210 - 230°C. Processing above 230°C should be avoided to prevent heat degradation.

BPD4735 in its original packaging is ready for use. However, extreme temperature changes and a high percentage of atmospheric humidity can lead to condensation within the packaging. Pre-drying of the material is advisable in this case.

On a commercial line 150mm - 20 L/D a typical temperature profile would be:

- Barrel: 180 - 190 - 200 - 200 °C
- Head: 210 °C
- Die: 210°C

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Storage

BPD4735 should be stored in a dry and dust free environment at temperature below 50°C. Exposure to direct sunlight should be avoided as this may lead to product deterioration. It is advised to process the product within maximum one year after delivery.

Regulatory Information

The product and uses described herein may be subject to specific requirements or limitations for use in certain applications like food contact, drinking water or medical devices. Further information may be obtained from the website www.ineos.com where a specific Regulatory Certificate is available for each grade under the heading "SDS & Regulatory Certificate".

Unless specifically indicated, the product mentioned herein is not suitable for applications in the medical or pharmaceutical sectors.

Health and Safety Information

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