BPD4735

Product Technical Information

BPD4735 is a black high density polyethylene compound designed for the extrusion of jackets of power and telecommunications cables.

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

Applications

BPD4735 is well-suited to the extrusion of black jackets for power and telecommunications cables.

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.

We recommend that you consult your INEOS technical representative for further advice on the use of **BPD4735**.

Specifications

BPD4735 meets the following raw material specification:

- ISO1872 – PE KCHL 50 D-006
- ASTM D 1248 – type III, Class C, Category 4, Grade E10, J5, W9

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

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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 1872-1	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	%
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

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.