



# BPD4720

## Product Technical Information

**BPD4720** is a natural high density polyethylene grade designed for the extrusion of jackets for power cables.

## Benefits & Features

**BPD4720** 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
- Low shrinkage

## Applications

**BPD4720** is well-suited to the extrusion of colorable jackets for power cables.

**BPD4720** is formulated with an antioxidant package that delivers excellent ageing properties. However, it does not contain light stabilizer, and an anti-UV additive package needs to be added to lead to a complete outdoor weatherability.

We recommend that you consult your INEOS technical representative for further advice on the use of **BPD4720**.

## Specifications

**BPD4720** meets the following raw material specifications:

- ISO1872 – PE KHN 45 D-006
- ASTM D 1248 – type III, Class A, Category 4, Grade E10, J5

## Compliance to Regulations

When adequately processed with relevant additive package, **BPD4720** will allow producing a jacket meeting the following industry cable specifications:

- IEC 60502-2, Class ST7

# BPD4720

Properties	Conditions	Test Methods	Values	Units
<b>Physical</b>				
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	945	kg/m <sup>3</sup>
Vicat Softening Temperature	10 N	ISO 306 - A50	119	°C
Shore D hardness, 1 s		ISO 868	62	-
Shore D hardness, 15 s		ISO 868	61	-
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	22	MPa
Tensile Strength at Break	23°C, 50 mm/min	ISO 527-1,-2	27	MPa
Elongation at Break	23°C, 50 mm/min	ISO 527-1,-2	700	%
Retention of mechanical properties after ageing in oven	10 days/100°C	IEC 811-1-2	>75	%
BTT Environmental Stress Cracking Resistance, F <sub>0</sub>	10% Igepal, 50°C	ASTM 1693	> 1000	h
Full Notch Creep Test	2% Arkopal N100, 4 MPa, 80°C	ISO 16770	> 40	h
<b>Electrical</b>				
Volume resistivity	50 Hz	ASTM D 257	> 10 <sup>13</sup>	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 **BPD4720** allow wide latitude of both equipment and process conditions. It is recommended to set an extrusion temperature profile resulting in a melt temperature in the range of 210 - 230°C. Processing above 230°C should be avoided to prevent heat degradation.

**BPD4720** in its original packaging is ready for use, but for outdoor applications an anti-UV package should be added during extrusion.

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



# BPD4720

## Storage

**BPD4720** 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](http://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

The product described herein may require precautions in handling. The available product health and safety information for this material is contained in the Safety Data Sheet (SDS) that may be obtained from the website [www.ineos.com](http://www.ineos.com). Before using any material, a customer is advised to consult the SDS for the product under consideration for use.

### Exclusion of Liability

Although INEOS O&P Europe endeavours to ensure that all information and advice relating to our materials or other materials howsoever provided to you by INEOS O&P Europe is accurate and up to date, no representation or warranty, express or implied is made by INEOS O&P Europe as to its accuracy or completeness. All such information and advice is provided in good faith and INEOS O&P Europe is not, to the maximum extent permitted by law, liable for any action you may take as a result of relying on such information or advice or for any loss or damage, including any consequential loss, suffered by you as a result of taking such action.

In addition data and numerical results howsoever provided to you by INEOS O&P Europe are given in good faith and are general in nature. Data and numerical results are not and shall not be regarded as specifications and as such INEOS O&P Europe is not, to the maximum extent permitted by law, liable for any action that you take as a result of relying on such data and results or for any loss or damage, including any consequential loss, suffered by you as a result of taking such action.

It remains at all times your responsibility to ensure that INEOS O&P Europe materials are suitable for the particular purpose intended and INEOS O&P Europe shall not be responsible for any loss or damage caused by misuse of INEOS O&P Europe products. To the maximum extent permitted by law, INEOS O&P Europe accepts no liability whatsoever arising out of the application, adaptation or processing of the products described herein, the use of other materials in lieu of INEOS O&P Europe materials or the use of INEOS O&P Europe materials in conjunction with such other materials.