



# BPD4020

## Product Technical Information

### BPD4020 Natural

#### Description

BPD4020 is a natural medium-density polyethylene grade designed for the extrusion of jackets of power and telecommunication cables.

It offers an excellent resistance to environmental stress cracking, good low temperature properties, and an excellent extrudability.

The polymer density has been chosen near the upper limit of MDPE in order to retain maximum mechanical properties, and resistance to heat deformation.

BPD4020 is stabilised and has excellent ageing properties. However it is not UV stabilised, so for outdoor applications an anti UV package needs to be added to lead to a complete outdoor weatherability.

#### Commercial Information

##### Packaging

BPD4020 is sold in pellet form and is available in the following packaging: 25kg bags, 1.1 ton holbins and bulk tankers.

#### Processing Data

The good processing characteristics of BPD4020 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.

BPD4020 in its original packaging is ready for use, but for outdoor applications an anti UV system in a master batch form 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



# BPD4020

Properties		Test Method	Value <sup>(1)</sup>	Units
<b>Physical</b>				
Melt flow rate	190°C, 5kg	ISO 1133 Cond. D	0.85	g/10min
Melt flow rate	190°C, 2.16kg	ISO 1133 Cond. D	0.20	g/10min
Conventional density		ISO 1183 Method D	938	kg/m <sup>3</sup>
conditioning ISO 1872/1				
Tensile strength	@ yield	ISO 527-2	19	MPa
Tensile strength	@ break	ISO 527-2	34	MPa
Elongation	@ break	ISO 527-2	>600	%
Vicat softening point	VST/A	ISO 306	116	°C
Low temperature brittleness		ISO 974	-76	°C
Shore D hardness		ISO 868 (1 sec)	61	-
ESCR 10% "Igepal" F <sub>0</sub>		IEC 811-4-1	>1000	H
Retention of mechanical properties after ageing in oven 10 days @ 100°C		IEC 811-1-2	>75	%
Heat deformation resistance (6 hours @ 115°C)		IEC 811-3-1	<50	%

(1) Data should not be used for specification work



# BPD4020

## Regulatory Information

The product and uses described herein may require global product registrations and notifications for chemical inventory listings, or for use in food contact or medical devices. For further information, send an email to [psnohreg@ineos.com](mailto:psnohreg@ineos.com). Unless specifically indicated, the products mentioned herein are not suitable for applications in the medical or pharmaceutical sector.

## 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 Material Safety Data Sheet (MSDS) that may be obtained from the website [www.ineospolyolefins.com](http://www.ineospolyolefins.com). Before using any material, a customer is advised to consult the MSDS 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.