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

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Properties		Test Method	Value (1)	Units
Physical				
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 conditioning ISO 1872/1		ISO 1183 Method D	938	kg/m³
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_0		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