SABIC® LDPE PCG22

LOW DENSITY POLYETHYLENE

DESCRIPTION

SABIC® LDPE grades for healthcare applications are produced under controlled conditions resulting in high product quality, consistency and a high level of purity.

SABIC® LDPE PCG22 is an additive free grade, typically designed for healthcare packaging and can typically be converted by Injection Molding to produce caps and closures. It exhibits a high MFR for good flow properties.

Compliance to Regulations
SABIC® LDPE PCG22 complies with the relevant monographs of the European Pharmacopoeia (EP) and the United States Pharmacopoeia (USPVI).

TYPICAL PROPERTY VALUES

Revision 20220719

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
POLYMER PROPERTIES			
Melt Flow Rate (MFR)			
at 190 °C and 5 kg	75	dg/min	ISO 1133
at 190 °C and 2.16 kg	22	dg/min	ISO 1133
Melt volume rate (MVR)			
at 190 °C and 5 kg	98	ml/10 min	ISO 1133
at 190 °C and 2.16 kg	29	ml/10 min	ISO 1133
Density	919	kg/m³	ASTM D1505
MECHANICAL PROPERTIES			
Tensile test [1] [2]			
strain at break	400	%	ISO 527-2
stress at yield	8	MPa	ISO 527-2
stress at break	7	MPa	ISO 527-2
tensile modulus	175	MPa	ISO 527-2
Creep modulus [3] [4]			
after 1 hour	80	MPa	ISO 899
after 1000 hours	45	MPa	ISO 899
Izod impact notched			
at 23 °C	42	kJ/m²	ISO 180/A
at -30 °C	5.0	kJ/m²	ISO 180/A
Hardness Shore D	45	-	ISO 868
THERMAL PROPERTIES			
Heat deflection temperature [5]			
at 0.45 MPa (HDT/B)	39	°C	ISO 75-2
Vicat Softening Temperature			
at 10 N (VST/A)	82	°C	ISO 306
DSC test			
enthalpy change	104	J/g	DIN 53765
melting point	105	°C	DIN 53765

(1) Test specimen according to ISO 527-2 type 1BA, thickness 2 mm
(2) Speed of testing: 50 mm/min
(3) Determined at 23 °C, 3 MPa
(4) Test specimen according to ISO 3167, thickness 4 mm
(5) Conditioning of test specimen: temp. 23 °C, relative humidity 50 %, 24 hours

ENVIRONMENT AND RECYCLING

The environmental aspects of any packaging material do not only imply waste issues but have to be considered in relation with the use of natural resources, the preservations of foodstuffs, etc. SABIC considers polyethylene to be an environmentally efficient packaging material. Its low specific energy consumption and insignificant emissions to air and water designate polyethylene as the ecological alternative in comparison with the traditional packaging materials. Recycling of packaging materials is supported by SABIC whenever ecological and social benefits are achieved and where a social infrastructure for selective collecting and sorting of packaging is fostered. Whenever 'thermal' recycling of packaging (i.e. incineration with energy recovery) is carried out, polyethylene -with its fairly simple molecular structure and low amount of additives- is considered to be a trouble-free fuel.

STORAGE AND HANDLING

Polyethylenes resins (in pelletised or powder form) should be stored in such a way that it prevents exposure to direct sunlight and/or heat, as this may lead to quality deterioration. The storage location should also be dry, dust free and the ambient temperature should not exceed 50 °C. Not complying with these precautionary measures can lead to a degradation of the product which can result in colour changes, bad smell and inadequate product performance. It is also advisable to process polyethylene resins (in pelletised or powder form) within 6 months after delivery, this because also excessive aging of polyethylene can lead to a deterioration in quality.

DISCLAIMER