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SABIC® HDPE B5823

HIGH DENSITY POLYETHYLENE

DESCRIPTION

SABIC® HDPE B5823 is typically used for blow moulding of consumer packaging up to 5 l, combining high stiffness and a good ESCR level. This grade is typically used for packaging the majority of household and industrial chemicals, such as detergents, cleaners, shampoos and cosmetics, as well as food packaging.

This product is not intended for and must not be used in any pharmaceutical/medical applications.

TYPICAL PROPERTY VALUES

Revision 20220720

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
POLYMER PROPERTIES			
Melt Flow Rate (MFR)			
at 190 °C and 2.16 kg	0.16	dg/min	ISO 1133
at 190 °C and 5 kg	0.89	dg/min	ISO 1133
at 190 °C and 21.6 kg	23	dg/min	ISO 1133
Density (1)	958	kg/m³	ISO 1183
MECHANICAL PROPERTIES (1) (2)			
Tensile test (3) (4)			
stress at yield	28	MPa	ISO 527-2
stress at break	22	MPa	ISO 527-2
strain at break	1000	%	ISO 527-2
tensile modulus	1150	MPa	ISO 527-2
Flexural test			
Flexural modulus	1400	MPa	ISO 178
Flexural strength	29	MPa	ISO 178
Izod impact notched			
at 23 °C	12	kJ/m²	ISO 180/A
at -30 °C	6	kJ/m²	ISO 180/A
Hardness Shore D	63	-	ISO 868
ESCR (10% Igepal CO-630), F50	45	h	ASTM D1693B
THERMAL PROPERTIES			
Heat deflection temperature (1) (2)			
at 0.45 MPa (HDT/B)	85	°C	ISO 75-2
Vicat Softening Temperature (1) (2)			
at 10 N (VST/A)	128	°C	ISO 306
DSC test			
melting point	133	°C	ISO 11357-3
enthalpy change	215	°C	ISO 11357-3

(1) Compression moulding of test specimen according to ISO 1872-2
(2) Conditioning of test specimen: temp. 23 °C, relative humidity 50 %, 24 hours
(3) Speed of testing: 50 mm/min
(4) Test specimen according to ISO 527-2 type 1BA, thickness 2 mm

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CHEMISTRY THAT MATTERS™

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.

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