SABIC® HDPE CC453G

HIGH DENSITY POLYETHYLENE

DESCRIPTION

SABIC® HDPE CC453G offers a good combination of stiffness, impact resistance, ESCR and organoleptic properties. The typical application of this grade is mainly injection molding and compression molding of caps for still water, slightly carbonated or pressurized drinks, juices or any other non-sparkling drinks.

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

TYPICAL PROPERTY VALUES

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
POLYMER PROPERTIES			
Melt Flow Rate (MFR)			
at 190 °C and 2.16 kg	4.0	dg/min	ISO 1133
at 190 °C and 5 kg	10.5	dg/min	ISO 1133
Density [1]	953	kg/m³	ISO 1183
MECHANICAL PROPERTIES [1] [2]			
Tensile test [3] [4]			
stress at yield	26	MPa	ISO 527-2
stress at break	31	MPa	ISO 527-2
strain at break	200	%	ISO 527-2
tensile modulus	1100	MPa	ISO 527-2
Flexural test			
Flexural modulus	1200	MPa	ISO 178
Flexural strength	26	MPa	ISO 178
Izod impact notched			
at 23 °C	5	kJ/m²	ISO 180/A
Hardness Shore D	61	-	ISO 868
ESCR on Caps [5]	60	h	SABIC method
THERMAL PROPERTIES			
Heat deflection temperature [1] [2]			
at 0.45 MPa (HDT/B)	81	°C	ISO 75-2
Vicat Softening Temperature [1] [2]			
at 10 N (VST/A)	124	°C	ISO 306
DSC test			
melting point	132	°C	ISO 11357-3
enthalpy change	203	J/g	ISO 11357-3
C&C PROPERTIES			
Organoleptic properties	approved	-	SABIC method

(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) Test specimen according to ISO 527-2 type 1BA, thickness 2 mm
(4) Speed of testing: 50 mm/min
(5) Determined in 10% Igepal CO-630 at 40 °C, 6 bar internal water pressure, thickness 1 mm