

# SABIC® HDPE PCG453

## HIGH DENSITY POLYETHYLENE

### DESCRIPTION

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

SABIC® HDPE PCG453 is typically used for the injection molding of healthcare packaging, caps and closures and other parts for medical packaging. This grade has a very high impact resistance, even at low temperatures.

Compliance to regulations.

SABIC® HDPE PCG453 complies with the relevant monographs of the European Pharmacopoeia (EP) and the United States Pharmacopoeia (USPVI).

### TYPICAL PROPERTY VALUES

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
<b>POLYMER PROPERTIES</b>			
<b>Melt Flow Rate (MFR)</b>			
at 190 °C and 2.16 kg	4.7	dg/min	ISO 1133
at 190 °C and 5 kg	13	dg/min	ISO 1133
<b>Density</b> <sup>(1)</sup>	953	kg/m <sup>3</sup>	ISO 1183
<b>MECHANICAL PROPERTIES</b> <sup>(1) (2)</sup>			
<b>Tensile test</b> <sup>(3) (4)</sup>			
stress at yield	26	MPa	ISO 527-2
stress at break	25	MPa	ISO 527-2
strain at break	200	%	ISO 527-2
tensile modulus	1100	MPa	ISO 527-2
<b>Flexural test</b>			
Flexural modulus	1200	MPa	ISO 178
Flexural strength	26	MPa	ISO 178
<b>Izod impact notched</b>			
at 23 °C	4	kJ/m <sup>2</sup>	ISO 180/A
<b>Hardness Shore D</b>	61	-	ISO 868
<b>ESCR on Caps</b> <sup>(5)</sup>	60	h	SABIC method
<b>THERMAL PROPERTIES</b>			
<b>Heat deflection temperature</b> <sup>(1) (2)</sup>			
at 0.45 MPa (HDT/B)	81	°C	ISO 75-2
<b>Vicat Softening Temperature</b> <sup>(1) (2)</sup>			
at 10 N (VST/A)	124	°C	ISO 306
<b>DSC test</b>			
melting point	132	°C	ISO 11357-3
enthalpy change	203	J/g	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

(5) Determined in 10% Igepal CO-630 at 40 °C, 6 bar internal water pressure, thickness 1 mm