

## SABIC® HDPE B5411

### High density polyethylene for Blow moulding

#### Description.

SABIC® HDPE B5411 is a material with a semi-high molecular mass, additionally thermal stabilised and typically used for blow moulding and sheet extrusion. This grade is combining stiffness, toughness with an excellent ESCR and is suitable for large bottles, cans, technical parts and toys.

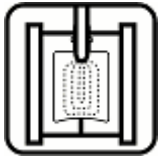
The product mentioned herein is in particular not tested and therefore not validated for use in pharmaceutical/ medical applications.

#### Typical data.

Revision 20121112

Properties	Units SI	Values	Test methods
<b>Polymer properties</b>			
<b>Melt flow rate (MFR)</b>			ISO 1133
at 190 °C and 2.16 kg	dg/min	< 0.1	
at 190 °C and 5 kg	dg/min	0.40	
at 190 °C and 21.6 kg	dg/min	11	
<b>Density</b>	1) kg/m <sup>3</sup>	954	ISO 1183
<b>Mechanical properties</b>			
	1) 2)		
<b>Tensile test</b>	3) 4)		ISO 527-2
stress at yield	MPa	26	
stress at break	MPa	30	
strain at break	%	> 1000	
tensile modulus	MPa	1050	
<b>Flexural test</b>			ISO 178
Flexural modulus	MPa	1250	
Flexural strength	MPa	27	
<b>Izod impact notched</b>			ISO 180/A
at 23 °C	kJ/m <sup>2</sup>	16	
at -30 °C	kJ/m <sup>2</sup>	14	
<b>Hardness Shore D</b>	-	61	ISO 868
<b>ESCR</b>	5) h	25	SABIC method
<b>Thermal properties</b>			
<b>Heat deflection temperature</b>	1) 2)		ISO 75-2
at 0.45 MPa (HDT/B)	°C	81	
<b>Vicat softening temperature</b>	1) 2)		ISO 306
at 10 N (VST/A)	°C	127	
<b>DSC test</b>			ISO 11357-3
melting point	°C	132	
enthalpy change	J/g	205	

- 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 Rhodacal-DS10 at 75 °C, 3 MPa, thickness 1 mm



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**Health, Safety and Food Contact regulations.** Detailed information is provided in the relevant Material Safety Datasheet and or Standard Food Declaration, available on the Internet ([www.SABIC-europe.com](http://www.SABIC-europe.com)). Additional specific information can be requested via your local Sales Office.

**Quality.** SABIC Europe is fully certified in accordance with the internationally accepted quality standard ISO 9001. It is SABIC Europe's policy to supply materials that meet customers specifications and needs and to keep up its reputation as a pre-eminent, reliable supplier of e.g. polyethylenes.

**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.

**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 Europe 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 Europe 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.

**Disclaimer.** The information contained herein may include typical properties of our products or their typical performances when used in certain typical applications. Actual properties of our products, in particular when used in conjunction with any third party material(s) or for any non-typical applications, may differ from typical properties.

It is the customer's responsibility to inspect and test our product(s) in order to satisfy itself as to the suitability of the product(s) for its and its customers particular purposes. The customer is responsible for the appropriate, safe and legal use, processing and handling of all product(s) purchased from us.

Nothing herein is intended to be nor shall it constitute a warranty whatsoever, in particular, warranty of merchantability or fitness for a particular purpose.

SABIC Europe as referred to herein means any legal entity belonging to the SABIC Europe group of companies.