SABIC® HDPE B5429

High density polyethylene for Blow moulding

Description.
SABIC® HDPE B5429 is a medium molecular weight high density polyethylene copolymer. It is primarily intended for blow moulding bottles of small sizes. SABIC® HDPE B5429 offers an excellent combination of toughness, stress cracking resistance (ESCR), load bearing strength and processability characteristics.

Typical applications.
SABIC® HDPE B5429 is classified as a multipurpose blow moulding grade. It may be blow moulded into containers for household and industrial chemicals (e.g. detergents, bleach, fabric softeners, solvents, paints, etc.), automotive supplies, foodstuffs, toiletries and cosmetics. It can also be used in other hollow thin-walled parts and profile extrusions.

Processing conditions.
SABIC® HDPE B5429 has been run on the latest high speed blow moulding machines at maximum rates to produce articles of excellent quality. Moulded parts exhibit outstanding surface appearance. The recommended melt temperature for this grade is between 165 and 215 °C.

Typical data. Revision 20051216

Properties		Units SI	Values	Test methods
Polymer properties				
Melt flow rate (MFR)				ASTM D 1238
at 190 °C and 2.16 kg		g/10 min	**0.3**	
at 190 °C and 21.6 kg	1)	g/10 min	**29**	
Density	2)	kg/m³	**954**	ASTM D 1505
Mechanical properties	2)			
Tensile test				ASTM D 638
stress at yield		MPa	**30**	
stress at break		MPa	**32**	
strain at break		%	**850**	
secant modulus at 1% elongation		MPa	**1150**	
Izod impact notched at 23 °C		J/m	**200**	ASTM D 256
Hardness Shore D		-	**67**	ASTM D 2240
ESCR (100% Igepal), F50		h	**90**	ASTM D 1693B
Thermal properties	2)			
Vicat softening temperature				ASTM D 1525
at 10 N (VST/A)		°C	**128**	
Brittleness temperature		°C	**< -75**	ASTM D 746

1) High load melt flow rate has been found to be more accurate reference.
2) Test specimens are prepared from compression moulded sheet made according to ASTM D 1928 Procedure C.

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General information. The SABIC® HDPE product range for blow moulding and extrusion is produced in a slurry – or gasphase process using a Cr catalyst. The primary characteristic of SABIC® HDPE grades is a broad molecular weight distribution, which ensures excellent behaviour during extrusion.
Additional characteristics are a high purity, excellent stability during processing and a high intrinsic toughness. The carefully balance of environmental stress crack resistance and stiffness is becoming visible on grade level.
Typical application area: bottles, cans, containers and technical articles, sheet and thermoforming, profiles and tubes for pressure less applications.

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). 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 9001-2000. 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.