

SABIC® HDPE P5510

HIGH DENSITY POLYETHYLENE FOR PIPE EXTRUSION

DESCRIPTION

SABIC® HDPE 5510 10000 (black) is a grade, which has a high density (class MRS 8 - PE 80) and a bimodal distribution of the molecular mass. An universal grade for pipe extrusion which, due to a keen combination of properties, is particularly suitable for drinking water and waste water piping. It is also used for the manufacture of chemical apparatus and containers. This material meets (inter)national standards for use in drinking water and wastewater piping.

TYPICAL PROPERTY VALUES

Revision 20240126

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
POLYMER PROPERTIES			
Melt Flow Rate (MFR) ⁽¹⁾			
at 190°C and 5.0kg ⁽¹⁾	0.43	g/10 min	ISO 1133
at 190°C and 21.6kg	10.3	g/10 min	ISO 1133
Carbon black content	2.25	%	ISO 6964
Density	956	kg/m ³	ASTM D1505
MECHANICAL PROPERTIES			
Tensile modulus	850	MPa	ASTM D638
Tensile Stress at Yield ⁽²⁾	22	MPa	ISO 527-1/-2
Tensile Strain at Yield ⁽³⁾	8	%	ISO 527-1/-2
Charpy Impact Notched @ 23°C	24	kJ/m ²	ISO 179
Charpy Impact Notched @ -30°C	8	kJ/m ²	ISO 179
Hardness Shore D ⁽⁴⁾	59	-	ISO 868
OIT 210 °C	>20	Minutes	ISO 11357-6
THERMAL PROPERTIES			
Vicat softening temperature at 50 N (VST/B)	70	°C	ISO 306
DSC test (Melting point)	123 – 127	°C	DIN 53765

(1) Compression moulding conditions of test specimen (according to ISO 293) : moulding temp: 160 °C, cooling rate: 40 °C/min

(2) Speed of testing: 50 mm/min

(3) Test specimen according to ISO 527-2 type 1BA, thickness 2 mm

(4) Conditioning of test specimen: temp. 23 °C, relative humidity 50 %, 24 hours

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.

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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