

## M40060S

High density polyethylene for injection moulding

### Typical data

### General information

<i>Properties</i>	<i>Units-SI</i>	<b>M40060S</b>	<i>Test methods</i>
<b>Polymer properties</b>			
<b>Melt flow rate (MFR)</b> at 190 °C and 2,16 kg	<i>g/10 min</i>	<b>4.0</b>	<i>ASTM D 1238</i>
<b>Density</b> <sup>1)</sup>	<i>kg/m<sup>3</sup></i>	<b>960</b>	<i>ASTM D 1505</i>
<b>Mechanical properties</b> <sup>1)</sup>			
<b>Tensile test</b>			<i>ASTM D 638</i>
stress at yield	<i>MPa</i>	<b>33</b>	
stress at break	<i>MPa</i>	<b>22</b>	
strain at break	<i>%</i>	<b>1200</b>	
secant modulus at 1% elongation	<i>MPa</i>	<b>1240</b>	
<b>Notched Izod</b>	<i>J/m</i>	<b>69</b>	<i>ASTM D 256</i>
<b>Hardness Shore D</b>	<i>-</i>	<b>69</b>	<i>ASTM D 2240</i>
<b>ESCR (100% Igepal), F50</b>	<i>h</i>	<b>6</b>	<i>ASTM D 1693B</i>
<b>Thermal properties</b> <sup>1)</sup>			
<b>Vicat softening temperature</b> at 10 N (VST/A)	<i>°C</i>	<b>128</b>	<i>ASTM D 1525</i>
<b>Brittleness temperature</b>	<i>°C</i>	<b>&lt; -75</b>	<i>ASTM D 746</i>

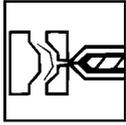
The SABIC® HDPE product range for injection moulding is produced in a slurry- or gasphase process using a Ziegler/Natta catalyst. As a result, the primary characteristic of the SABIC® HDPE grades is a narrow molecular weight distribution enabling the production of articles with high flow-path to wall-thickness ratios without the risk of warpage. Additional characteristics are a high purity of the polymer, high stability during processing and a good natural colour. These properties are directly linked with the unique production process of these materials.

1) Test specimens are prepared from compression moulded sheet made according to ASTM D 1928 Procedure C.

Internet: <http://www.SABIC-europe.com>

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### Properties.

SABIC® HDPE M40060S is an UV stabilized, high density polyethylene copolymer injection moulding grade with a narrow molecular weight distribution. It has improved mouldability. Articles produced from this grade exhibit excellent impact strength, low warpage, stress crack resistance (ESCR) and excellent gloss.

### Typical applications.

SABIC® HDPE M40060 is recommended for the manufacture of injection moulded articles such as pails, shipping containers and industrial parts.

### Processing conditions.

Typical moulding conditions for SABIC® HDPE M40060 are:

Melt temperature: 232 - 260 °C (450 - 500 °F)

Mould temperature: 20 - 40 °C (70 - 104 °F)

Injection pressure: 93 - 103 MPa (13500 - 15000)

### Quality.

SABIC EuroPetrochemicals is fully certified in accordance with the internationally accepted quality standard ISO 9001. It is SABIC EPC'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.

### Environment.

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 EPC 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.

Recycling of packaging materials is supported by SABIC EPC 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.

### Food approvals.

The chemical composition of this product complies with recommendations and statutory regulations in the USA and most European countries regarding packaging materials intended to come into contact with foodstuff.

For specific details and more information regarding restrictions please contact [www.SABIC-europe.com](http://www.SABIC-europe.com) or your local sales office.

### Safety.

Under normal conditions polyethylenes do not present a toxic hazard through skin contact or inhalation. During processing contact with molten polymer and inhalation of volatilized fumes should be avoided. It is recommended to install exhaust hoods over processing machines and to keep working area well ventilated. More specific information on

the safety aspects of the SABIC EPC polyethylenes is provided in the relevant Material Safety Data Sheets, available on the internet (<http://www.SABIC-europe.com>) or at your local Sales Office.

### Storage.

As polyethylenes, like most polymers, are combustible, the usual precautions concerning ignition sources should be taken in warehouses and storage rooms. Where large quantities are kept in store, it is necessary to observe the normal rules for orderly stock control and to keep out dust and moisture. Polyethylenes should be stored in such a way as to prevent exposure to direct sunlight, as this may lead to quality deterioration.

### Availability.

The SABIC EPC polyethylenes are supplied in the form of pellets, in bulk or in 25 kg bags. The bags are delivered on pallets, with a total weight of 1375 kg per pallet.