

# SABIC® HDPE M40053S

HIGH DENSITY POLYETHYLENE

## DESCRIPTION

M40053S is a UV stabilized High Density Polyethylene grade with narrow molecular weight distribution suitable for injection molding applications. It has been designed to provide good balance of stiffness and impact at low temperatures and is also having good weatherability and surface properties.

## TYPICAL APPLICATIONS

M40053S is specially developed for high demanding dust bin market, shipping containers for low temperature storage, industrial pails etc.

## TYPICAL PROPERTY VALUES

Revision 20201103

| PROPERTIES                                    | TYPICAL VALUES | UNITS             | TEST METHODS |
|---|----------------|-------------------|--------------|
| <b>POLYMER PROPERTIES</b>                     |                |                   |              |
| <b>Melt Flow Rate (MFR)</b>                   |                |                   |              |
| at 190°C and 2.16 kg                          | 4              | g/10 min          | ASTM D1238   |
| <b>Density at 23°C <sup>(1)</sup></b>         | 953            | kg/m <sup>3</sup> | ASTM D1505   |
| <b>MECHANICAL PROPERTIES</b>                  |                |                   |              |
| <b>1% Secant Modulus</b>                      | 900            | MPa               | ASTM D638    |
| <b>Tensile Strength at Yield</b>              | 23             | MPa               | ASTM D638    |
| <b>Tensile Strength at Break</b>              | 21             | MPa               | ASTM D638    |
| <b>Tensile Elongation at Break</b>            | >800           | %                 | ASTM D638    |
| <b>Flexural Strength</b>                      | 21             | MPa               | ASTM D790    |
| <b>Flexural Modulus</b>                       | 800            | MPa               | ISO 178/1A   |
| <b>Izod Impact Strength</b>                   | 150            | J/m               | ASTM D256    |
| <b>Hardness (Shore D) <sup>(2)</sup></b>      | 60             | -                 | ASTM D2240   |
| <b>ESCR (100% Igepal), F50 <sup>(3)</sup></b> | 7              | Hrs               | ASTM D1693B  |
| <b>ESCR (10% Igepal), F50</b>                 | 4              | Hrs               | ASTM D1693B  |
| <b>THERMAL PROPERTIES</b>                     |                |                   |              |
| <b>Vicat Softening Point</b>                  | 125            | °C                | ASTM D1525   |
| <b>Brittleness Temperature</b>                | <-75           | °C                | ASTM D746    |

(1) Typical values: not to be construed as specification limits.

(2) Based on Injection molded specimens.

(3) Based on compression molded sheet

## PROCESSING CONDITIONS

Typical processing conditions for M40053S are:

Melt temperature: 190 - 250°C

Mold temperature: 15 - 60°C

Injection pressure: 600 - 1000 Bar



## STORAGE AND HANDLING

Polyethylene material should be stored in a manner to prevent a direct exposure to sunlight and/or heat. The storage area should also be dry and preferably don't exceed 50°C. SABIC would not give warranty to bad storage conditions which may lead to quality deterioration such as color change, bad smell and inadequate product performance. It is advisable to process PE resin within 6 months after delivery.

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