

# SABIC® HDPE CC1053

High Density Polyethylene

Saudi Basic Industries Corporation (SABIC)

## Message:

SABIC® HDPE CC1053 is a slipagent free grade, typically used for still mineral water bottle caps with high requirements for organoleptic properties. It is an easy-to-process, tough grade with good resistance to environmental stress cracking (ESCR) and low notch sensitivity. This product is not intended for and must not be used in any pharmaceutical/medical applications.

| General Information                                                                                      |                                  |                   |                  |
|----------------------------------------------------------------------------------------------------------|----------------------------------|-------------------|------------------|
| Features                                                                                                 | Good Organoleptic Properties     |                   |                  |
|                                                                                                          | Good Processing Stability        |                   |                  |
|                                                                                                          | Good Toughness                   |                   |                  |
|                                                                                                          | High Density                     |                   |                  |
|                                                                                                          | High ESCR (Stress Crack Resist.) |                   |                  |
| Uses                                                                                                     | Caps                             |                   |                  |
| Processing Method                                                                                        | Injection Molding                |                   |                  |
| Physical                                                                                                 | Nominal Value                    | Unit              | Test Method      |
| Density                                                                                                  | 0.953                            | g/cm <sup>3</sup> | ISO 1183         |
| Melt Mass-Flow Rate (MFR)                                                                                |                                  |                   | ISO 1133         |
| 190°C/2.16 kg                                                                                            | 10                               | g/10 min          |                  |
| 190°C/5.0 kg                                                                                             | 28                               | g/10 min          |                  |
| Environmental Stress-Cracking Resistance <sup>1</sup> (60°C, 3.00 mm, Rhodacal-DS10, Compression Molded) | 50.0                             | hr                | Internal Method  |
| Hardness                                                                                                 | Nominal Value                    | Unit              | Test Method      |
| Shore Hardness (Shore D, Compression Molded)                                                             | 61                               |                   | ISO 868          |
| Mechanical                                                                                               | Nominal Value                    | Unit              | Test Method      |
| Tensile Modulus (2.00 mm, Compression Molded)                                                            | 1100                             | MPa               | ISO 527-2/1BA/50 |
| Tensile Stress                                                                                           |                                  |                   | ISO 527-2/1BA/50 |
| Yield, 2.00 mm, Compression Molded                                                                       | 26.0                             | MPa               |                  |
| Break, 2.00 mm, Compression Molded                                                                       | 16.0                             | MPa               |                  |
| Tensile Strain (Break, 2.00 mm, Compression Molded)                                                      | > 200                            | %                 | ISO 527-2/1BA/50 |
| Tensile Creep Modulus <sup>2</sup>                                                                       |                                  |                   | ISO 899-1        |
| 1 hr                                                                                                     | 500                              | MPa               |                  |
| 1000 hr                                                                                                  | 225                              | MPa               |                  |
| Flexural Modulus (2.00 mm, Compression Molded)                                                           | 1200                             | MPa               | ISO 178          |
| Flexural Stress (2.00 mm, Compression Molded)                                                            | 26.0                             | MPa               | ISO 178          |

| Impact                                                  | Nominal Value              | Unit              | Test Method |
|---------------------------------------------------------|----------------------------|-------------------|-------------|
| Notched Izod Impact Strength (23°C, Compression Molded) | 3.0                        | kJ/m <sup>2</sup> | ISO 180/A   |
| Thermal                                                 | Nominal Value              | Unit              | Test Method |
| Heat Deflection Temperature (0.45 MPa, Unannealed)      | 81.0                       | °C                | ISO 75-2/B  |
| Vicat Softening Temperature                             | 124                        | °C                | ISO 306/A   |
| Melting Temperature (DSC)                               | 132                        | °C                | ISO 11357-3 |
| Enthalpy Change                                         | 203                        | J/g               | ISO 11357-3 |
| NOTE                                                    |                            |                   |             |
| 1.                                                      | 2 MPa                      |                   |             |
| 2.                                                      | thickness 4mm, 23°C, 3 MPa |                   |             |

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