

# SABIC® HDPE M864E

High Density Polyethylene

Saudi Basic Industries Corporation (SABIC)

## Message:

SABIC® HDPE M864E is a high density polyethylene injection moulding grade with a narrow molecular weight distribution. It is typically used for injection moulding applications where rigidity, toughness and warp resistance are required. SABIC® HDPE M864E is available with UV stabilizer as SABIC® HDPE M864SE and M864SG.

Typical applications.

Crates & Boxes: SABIC® HDPE M864E is typically used for the manufacture of injection moulded cases, crates, trays, industrial pails and other similar items.

Caps & Closures: SABIC HDPE® M864E is typically used for Juice, Milk and Edible Oil applications.

This product is not intended for and must not be used in any pharmaceutical/medical applications.

| General Information  |                                      |                   |                  |
|--|--------------------------------------|-------------------|------------------|
| Features   | Good Toughness                       |                   |                  |
|  | High Density                         |                   |                  |
|  | Medium Rigidity                      |                   |                  |
|  | Narrow Molecular Weight Distribution |                   |                  |
|  | Warp Resistant                       |                   |                  |
| Uses   | Caps                                 |                   |                  |
|  | Closures                             |                   |                  |
|  | Crates                               |                   |                  |
|  | Industrial Applications              |                   |                  |
|  | Pails                                |                   |                  |
| Processing Method  | Injection Molding                    |                   |                  |
| Physical   | Nominal Value                        | Unit              | Test Method      |
| Density  | 0.964                                | g/cm <sup>3</sup> | ISO 1183         |
| Melt Mass-Flow Rate (MFR)  |                                      |                   | ISO 1133         |
| 190°C/2.16 kg  | 8.0                                  | g/10 min          |                  |
| 190°C/5.0 kg   | 22                                   | g/10 min          |                  |
| Environmental Stress-Cracking Resistance <sup>1</sup> (60°C, 3.00 mm, Rhodacal-DS10, Compression Molded) | 90.0                                 | hr                | Internal Method  |
| Hardness   | Nominal Value                        | Unit              | Test Method      |
| Shore Hardness (Shore D, Compression Molded)   | 65                                   |                   | ISO 868          |
| Mechanical   | Nominal Value                        | Unit              | Test Method      |
| Tensile Modulus (2.00 mm, Compression Molded)  | 1450                                 | MPa               | ISO 527-2/1BA/50 |
| Tensile Stress   |                                      |                   | ISO 527-2/1BA/50 |
| Yield, 2.00 mm, Compression Molded   | 32.0                                 | MPa               |                  |
| Break, 2.00 mm, Compression Molded   | 15.0                                 | MPa               |                  |

| Tensile Strain (Break, 2.00 mm, Compression Molded)     | > 200         | %                 | ISO 527-2/1BA/50 |
|---|---------------|-------------------|------------------|
| Flexural Modulus (2.00 mm, Compression Molded)          | 1700          | MPa               | ISO 178          |
| Flexural Stress (2.00 mm, Compression Molded)           | 32.0          | MPa               | ISO 178          |
| Impact  | Nominal Value | Unit              | Test Method      |
| Notched Izod Impact Strength (23°C, Compression Molded) | 4.0           | kJ/m <sup>2</sup> | ISO 180/A        |
| Thermal   | Nominal Value | Unit              | Test Method      |
| Heat Deflection Temperature (0.45 MPa, Unannealed)      | 94.0          | °C                | ISO 75-2/B       |
| Vicat Softening Temperature                             | 129           | °C                | ISO 306/A        |
| Melting Temperature (DSC)                               | 134           | °C                | ISO 11357-3      |
| Enthalpy Change   | 226           | J/g               | ISO 11357-3      |
| NOTE  |               |                   |                  |
| 1.  | 2 MPa         |                   |                  |

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