

# CERTENE™ HPB-0354

Muehlstein - High Density Polyethylene

Monday, October 17, 2022

## General Information

### Product Description

HPB-0354 is a certified prime grade Phillips Process BLOW MOLDING copolymer designed to meet end-use requirements of containers for packaging of Household Industrial Chemicals (HIC). HPB-0354 features medium swell, easy and consistent processability in conventional continuous or intermittent extrusion equipment, and excellent balance of bottle ESCR, Impact strength and Stiffness. Applications include medium size containers for detergents, bleach, antifreeze, motor oil and ice chests. HPB-0354 recommended processing temperature is 160 to 180°C., with mold at 10 to 30°C. HPB-0354 complies with FDA regulation 21CFR 177.1520 (c) 3.1 (a) + 3.2 (a) and with most international regulations concerning the use of Polyethylene in contact with food articles.

### General

|                   |                                    |
|-------------------|------------------------------------|
| Material Status   | • Commercial: Active               |
| Availability      | • Latin America                    |
| Features          | • Chemical Resistant               |
| Uses              | • Industrial Containers            |
| Forms             | • Pellets                          |
| Processing Method | • Blow Molding                     |
|                   | • North America                    |
|                   | • Good Processability              |
|                   | • High Density                     |
|                   | • High ESCR (Stress Crack Resist.) |
|                   | • High Impact Resistance           |
|                   | • High Stiffness                   |
|                   | • Packaging                        |

## ASTM & ISO Properties<sup>1</sup>

| Physical   | Nominal Value | Unit              | Test Method |
|--|---------------|-------------------|-------------|
| Density  | 0.954         | g/cm <sup>3</sup> | ASTM D1505  |
| Melt Mass-Flow Rate (MFR)                                      |               |                   | ASTM D1238  |
| 190°C/2.16 kg  | 0.35          | g/10 min          |             |
| 190°C/21.6 kg  | 30            | g/10 min          |             |
| Environmental Stress-Cracking Resistance (ESCR)                |               |                   | ASTM D1693  |
| 50°C, 1.75 mm, 100% Igepal, Compression Molded, F50            | 50.0          | hr                |             |
| Mechanical   | Nominal Value | Unit              | Test Method |
| Tensile Strength <sup>2</sup> (Yield, Compression Molded)      | 26.9          | MPa               | ASTM D638   |
| Tensile Elongation <sup>2</sup> (Break, Compression Molded)    | > 700         | %                 | ASTM D638   |
| Flexural Modulus - 1% Secant <sup>3</sup> (Compression Molded) | 1340          | MPa               | ASTM D790   |
| Impact   | Nominal Value | Unit              | Test Method |
| Tensile Impact Strength (Compression Molded)                   | 206           | kJ/m <sup>2</sup> | ASTM D1822  |
| Thermal  | Nominal Value | Unit              | Test Method |
| Deflection Temperature Under Load                              |               |                   | ASTM D648   |
| 0.45 MPa, Unannealed   | 74.0          | °C                |             |
| Brittleness Temperature  | < -90.0       | °C                | ASTM D746   |
| Vicat Softening Temperature                                    | 127           | °C                | ASTM D1525  |

### Additional Information

This Specimen was compression molded and was tested according to ASTM D1928 Procedure C.

## Processing Information

| Injection        | Nominal Value | Unit |
|------------------|---------------|------|
| Mold Temperature | 10 to 30      | °C   |
| Extrusion        | Nominal Value | Unit |
| Melt Temperature | 160 to 180    | °C   |

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### Notes

<sup>1</sup> Typical properties: these are not to be construed as specifications.

<sup>2</sup> 50 mm/min

<sup>3</sup> 1.3 mm/min