

CERTENE™ HI-864U

Muehlstein - High Density Polyethylene

Thursday, November 14, 2024

General Information

Product Description

HI-864U is a certified prime grade UV STABILIZED resin designed for INJECTION MOLDING of large sized industrial applications requiring superior Toughness and high Stiffness. HI-864U features very narrow molecular weight distribution, easy processability, good Impact strength, very high Rigidity, excellent dimensional stability, and high Warpage resistance. HI-864U suggested applications include bottle and fish crates, fruit and vegetable trays, industrial pails, sport articles, cases, tote bins, and structural foam. HI-864U processing temperature is 220° to 250°C with mold at 20° to 40°C. HI-864U 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 | • North America | |
| Additive | • UV Stabilizer | | |
| Features | • Food Contact Acceptable • Good Dimensional Stability • Good Impact Resistance • Good Processability | • Good Toughness • High Rigidity • High Stiffness • Narrow Molecular Weight Distribution | • UV Resistant • Warp Resistant |
| Uses | • Bottles • Crates • Food Service Applications | • Industrial Applications • Pails • Sporting Goods | • Structural Foam |
| Agency Ratings | • FDA 21 CFR 177.1520(c) 3.1a | • FDA 21 CFR 177.1520(c) 3.2a | |
| Forms | • Pellets | | |
| Processing Method | • Injection Molding | | |

ASTM & ISO Properties ¹

| Physical | Nominal Value | Unit | Test Method |
|---|---------------|-------------------|-------------|
| Density / Specific Gravity | 0.964 | g/cm ³ | ASTM D792 |
| Melt Mass-Flow Rate (MFR) (190°C/2.16 kg) | 8.0 | g/10 min | ASTM D1238 |
| Environmental Stress-Cracking Resistance (ESCR) ² 50°C, 1.75 mm, 100% Igepal, F50 | 3.00 | hr | ASTM D1693 |
| Mechanical | Nominal Value | Unit | Test Method |
| Tensile Strength ³ (Yield) | 33.0 | MPa | ASTM D638 |
| Tensile Strength ³ (Break) | 15.0 | MPa | ASTM D638 |
| Tensile Elongation ³ (Yield) | 7.0 | % | ASTM D638 |
| Tensile Elongation ³ (Break) | 100 | % | ASTM D638 |
| Flexural Modulus - 1% Secant ⁴ | 1700 | MPa | ASTM D790 |
| Impact | Nominal Value | Unit | Test Method |
| Notched Izod Impact (23°C) | 87 | J/m | ASTM D256 |
| Thermal | Nominal Value | Unit | Test Method |
| Deflection Temperature Under Load 0.45 MPa, Unannealed | 78.0 | °C | ASTM D648 |
| Vicat Softening Temperature | 131 | °C | ASTM D1525 |

Additional Information

Test made on compression molded plaque according to ASTM D 1928 Procedure C.

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Processing Information

| Injection | Nominal Value | Unit |
|------------------------|---------------|------|
| Processing (Melt) Temp | 220 to 250 | °C |
| Mold Temperature | 20 to 40 | °C |

Notes

¹ Typical properties: these are not to be construed as specifications.

² Notched Bent Strip

³ 50 mm/min

⁴ 1.3 mm/min
