Muehlstein

CERTENE™ HI-864U

Muehlstein - High Density Polyethylene

Friday, November 4, 2022

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/cm³	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]			ASTM D1693
50°C, 1.75 mm, 100% Igepal, F50	3.00	hr	
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			ASTM D648
0.45 MPa, Unannealed	78.0	°C	
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