

CERTENE™ LLHR-440U

Medium Density Polyethylene

Muehlstein

Message:

LLHR-440U is a certified prime grade UV Stabilized Ethylene-Hexene Copolymer designed for high performance outdoor exposure Rotomolded applications. LLHR-440U is melt compounded for uniform dispersion of additives and UV stabilizer, supplied in pellet form of natural color. LLHR-440U features very good moldability, outstanding long-term outdoor exposure, and superior combination of ESCR, low temperature impact strength, toughness and stiffness. LLHR-440U applications include chemical and agricultural tanks up to 1000 gallons, small portable fuel containers (1-2 gallons), waste carts, Kayaks and other recreational boats, playground equipment and toys. Version LLHR-440UP is available in form of 35 mesh powder ground from pellets. LLHR-440U complies with FDA regulation 21CFR 177.1520 (c) 3.1(a) + 3.2 (a) and most international regulations concerning the use of Polyethylene in contact with food articles.

General Information			
Additive	UV stabilizer		
Features	Rigid, good		
	High ESCR (Stress Cracking Resistance)		
	Copolymer		
	Impact resistance, good		
	Good UV resistance		
	Good formability		
	Low temperature impact resistance		
	Good toughness		
	Compliance of Food Exposure		
Uses	Agricultural water tank		
	Outdoor application		
	Water tank		
	Sporting goods		
	Toys		
	Fuel Tank		
Agency Ratings	FDA 21 CFR 177.1520(c) 3.1a		
	FDA 21 CFR 177.1520(c) 3.2a		
Appearance	Natural color		
Forms	Particle		
Processing Method	rotomolding		
Physical	Nominal Value	Unit	Test Method
Density	0.938	g/cm ³	ASTM D1505
Melt Mass-Flow Rate (MFR) (190°C/2.16 kg)	3.5	g/10 min	ASTM D1238
Environmental Stress-Cracking Resistance ¹ (50°C, 1.75 mm, 100% Igepal, F50)	> 1000	hr	ASTM D1693

Mechanical	Nominal Value	Unit	Test Method
Tensile Strength ² (Yield)	18.6	MPa	ASTM D638
Tensile Elongation ³ (Break)	17	%	ASTM D638
Flexural Modulus - 1% Secant ⁴	772	MPa	ASTM D790
Impact	Nominal Value	Unit	Test Method
Low Temperature Impact (-40°C)	95.0	J	Internal method
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load (0.45 MPa, Unannealed, Compression Molded)	62.0	°C	ASTM D648
Vicat Softening Temperature	118	°C	ASTM D1525

Additional Information

Test specimens from compression molded plaque according to ASTM D 1928 Procedure C.

NOTE

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|----|--------------------|
| 1. | Notched bent strip |
| 2. | 50 mm/min |
| 3. | 50 mm/min |
| 4. | 1.3 mm/min |

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