

# CERTENE™ HI-452

High Density Polyethylene

Muehlstein

Message:

HI-452 is a certified prime copolymer designed for molding industrial applications requiring excellent toughness and moderate stiffness. HI-452 features easy processability, superior Environmental Stress Cracking Resistance (ESCR), excellent impact strength, good dimensional stability and warpage resistance. HI-452 suggested applications include industrial containers and lids, 1 to 5 gallon pails, tote boxes, housewares, toys and structural foam. HI-452 recommended processing temperature is 230 to 270°C. with mold @ 20 to 40°C.

General Information			
Features	Ultra high toughness		
	Good dimensional stability		
	Low warpage		
	Rigid, good		
	High ESCR (Stress Cracking Resistance)		
	High density		
	Copolymer		
	Impact resistance, high		
	Workability, good		
Uses	Structural Foam		
	Cover		
	Industrial container		
	Household goods		
	Barrel		
	Toys		
Forms	Particle		
Processing Method	Injection molding		
Physical	Nominal Value	Unit	Test Method
Density	0.952	g/cm <sup>3</sup>	ASTM D1505
Melt Mass-Flow Rate (MFR) (190°C/2.16 kg)	4.0	g/10 min	ASTM D1238
Environmental Stress-Cracking Resistance (50°C, 100% Igepal, Compression Molded, F50)	16.0	hr	ASTM D1693
Mechanical	Nominal Value	Unit	Test Method
Tensile Strength <sup>1</sup> (Yield, Compression Molded)	28.3	MPa	ASTM D638
Tensile Elongation <sup>2</sup> (Break, Compression Molded)	1000	%	ASTM D638
Flexural Modulus - 1% Secant <sup>3</sup> (Compression Molded)	1170	MPa	ASTM D790

Impact	Nominal Value	Unit	Test Method
Tensile Impact Strength (Compression Molded)	73.6	kJ/m <sup>2</sup>	ASTM D1822
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load (0.45 MPa, Unannealed)	76.0	°C	ASTM D648
Brittleness Temperature	-90.0	°C	ASTM D746
Vicat Softening Temperature	123	°C	ASTM D1525
Additional Information			
This Specimen was compression molded and was tested according to ASTM D1928 Procedure C.			
Injection	Nominal Value	Unit	
Processing (Melt) Temp	230 - 270	°C	
Mold Temperature	20.0 - 40.0	°C	
NOTE			
1.	50 mm/min		
2.	50 mm/min		
3.	1.3 mm/min		

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#### Recommended distributors for this material

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