

Technical Data Sheet

**Icorene 4220**

High Density Polyethylene
LyondellBasell Industries
Rotomolding

Product Description

ICORENE® 4220 is a high density polyethylene for rotational molding applications. The grade is UV stabilized and suitable for applications requiring good stiffness and processability.

General

Material Status	• Commercial: Active
Availability	• North America
Additive	• UV Stabilizer
Features	• Good Toughness • UV Resistant
Uses	• General Purpose • Outdoor Applications • Safety Guards
Appearance	• Natural Color
Forms	• Powder
Processing Method	• Rotational Molding

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density	0.940 to 0.944 g/cm ³	0.940 to 0.944 g/cm ³	ASTM D1505
Melt Mass-Flow Rate (MFR) (190°C/2.16 kg)	1.5 to 2.5 g/10 min	1.5 to 2.5 g/10 min	ASTM D1238
Environmental Stress-Cracking Resistance (ESCR)			
10% Igepal, F50	50.0 hr	50.0 hr	ASTM D1693
100% Igepal, F50	400 hr	400 hr	ASTM D1693A
Mechanical	Nominal Value (English)	Nominal Value (SI)	Test Method
Tensile Strength ¹ (Yield)	3300 psi	22.8 MPa	ASTM D638
Flexural Modulus - 1% Secant ²	145000 psi	1000 MPa	ASTM D790
Impact	Nominal Value (English)	Nominal Value (SI)	Test Method
Impact Strength			ARM
-40°F (-40°C), 0.125 in (3.18 mm), Rotational Molded	58 ft·lb	79 J	
-40°F (-40°C), 0.250 in (6.35 mm), Rotational Molded	> 190 ft·lb	> 258 J	
Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Deflection Temperature Under Load			ASTM D648
66 psi (0.45 MPa), Unannealed	146 °F	63.3 °C	
264 psi (1.8 MPa), Unannealed, 0.00492 in (0.125 mm), Rotational Molded	108 °F	42.2 °C	

Additional Information

Test data based on natural, unpigmented resin.

Notes

¹ 2.0 in/min (50 mm/min)

² 0.051 in/min (1.3 mm/min)

Notes

These are typical property values not to be construed as specification limits.

Processing Techniques

Specific recommendations for resin type and processing conditions can only be made when the end use, required properties and fabrication equipment are known.

Product Storage and Handling

- Product should be stored in dry conditions at temperatures below 50°C and protected from UV-light
- Improper storage may bring damage to the packaging and can negatively affects on the quality of this product
- Keep material completely dry for good processing

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Company Information

For further information regarding the LyondellBasell company, please visit <http://www.lyb.com/>.

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