

Technical Data Sheet

**Icorene 1440**

High Density Polyethylene
LyondellBasell Industries
Rotomolding

Product Description

ICORENE® 1440 is a UV stabilised hexene high density polyethylene specifically developed for use in rotational moulding. This grade is typically used by customers to manufacture large water, fuel or chemical tanks and also underground infrastructure parts. ICORENE® 1440 has good overall mouldability, extremely high ESCR and impact strength (especially at low temperatures). This grade is designed to have improved resistance against the harmful effect of biodiesel fuel.

It is not intended for use in medical and pharmaceutical applications.

General

Material Status	• Commercial: Active		
Availability	• Europe		
Additive	• Antioxidant	• UV Stabilizer	
Features	• Good Moldability • Good Toughness	• High ESCR (Stress Crack Resist.) • High Rigidity	• Low Temperature Impact Resistance • UV Resistant
Uses	• Agricultural Tanks	• Tanks	
Appearance	• Black	• Natural Color	• Unspecified Color
Forms	• Powder		
Processing Method	• Rotational Molding		

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density	0.940 g/cm ³	0.940 g/cm ³	ISO 1183
Melt Mass-Flow Rate (MFR) (190°C/2.16 kg)	4.0 g/10 min	4.0 g/10 min	ISO 1133
Environmental Stress-Cracking Resistance (ESCR) 122°F (50°C), 10% Igepal, F50	> 10000 hr	> 10000 hr	ASTM D1693B
Mechanical	Nominal Value (English)	Nominal Value (SI)	Test Method
Tensile Modulus	109000 psi	750 MPa	ISO 527
Tensile Strength (Yield)	2760 psi	19.0 MPa	ISO 527-1
Tensile Strain			ISO 527-1
Yield	9.0 %	9.0 %	
Break	> 450 %	> 450 %	
Impact	Nominal Value (English)	Nominal Value (SI)	Test Method
Tensile Impact Strength			ISO 8256/A
-22°F (-30°C)	57.1 ft·lb/in ²	120 kJ/m ²	
73°F (23°C)	126 ft·lb/in ²	265 kJ/m ²	
Impact Strength			ARM
-40°F (-40°C), 0.126 in (3.20 mm), Rotational Molded	> 55 ft·lb	> 75 J	
Hardness	Nominal Value (English)	Nominal Value (SI)	Test Method
Shore Hardness (Shore D, Rotational Molded)	58	58	ISO 868
Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Deflection Temperature Under Load			ISO 75-2/B
66 psi (0.45 MPa), Unannealed	138 °F	59.0 °C	
Vicat Softening Temperature	237 °F	114 °C	ISO 306/A50
Melting Temperature	261 °F	127 °C	DSC

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.

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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

Company Information

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

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