

Technical Data Sheet

Icorene 1314 GRY 7492

High Density Polyethylene

LYB LyondellBasell

Product Description

Icorene 1314 is a high performance hexene high density polyethylene specifically developed for use in rotational moulding. This grade has been designed for applications requiring good stiffness and toughness. This material can be used in many different rotomoulding applications and for food contact applications. *Icorene* 1314 Black 9001 is TÜV approved, protocolnr 175XS0122-00. *Icorene* 1314 Natural and Black are DiBt approved Z40-25-519 and WRAS approved: 1507503 & 1202543

Processing Method Rotomolding

Attribute Good Impact Resistance; Good Stiffness; Good Toughness; Hexene Comonomer;

High ESCR (Environmental Stress Cracking Resistance); UV Resistant

Forms Powder

Appearance Black; Natural Color; Unspecified Color

Additive UV Stabilizer

Application Fuel Tanks; Septic Tanks; Tanks; Tanks, Industrial

| Typical Properties Value Units Test Method Physical Melt Flow Rate, (190 °C/2.16 kg) 3.0 g/10 min ASTM D1238 Density 0.939 g/cm³ ASTM D1505 Mechanical Tensile Strength at Yield, (23 °C, Type I) 20.0 MPa ISO 527 Environmental Stress Crack Resistance (Condition B, F50, 10% Igepal, 50 °C) >300 hr ASTM D1693 (Condition B, F50, 100% Igepal, 50 °C) >1000 hr ASTM D1693 Flexural Modulus, (23 °C) 800 MPa ISO 178 Tensile Elongation at Break, (23 °C) >1000 % ISO 527 Impact Drop Impact Resistance (-40 °C, Rotomoulding) >210 J/cm ARM (-20 °C, Rotomoulding, Internal Method) >200 J/cm ASTM D4226 Hardness Durometer Hardness, (Shore D) 62 ASTM D2240 Thermal Vicat Softening Temperature, (A (10N)) 117 °C ISO 306 Deflection Temperature Linder Load Lin | | Nominal | | |
|--|---|---------|----------|-------------|
| Melt Flow Rate, (190 °C/2.16 kg) 3.0 g/10 min ASTM D1238 Density 0.939 g/cm³ ASTM D1505 Mechanical Tensile Strength at Yield, (23 °C, Type I) 20.0 MPa ISO 527 Environmental Stress Crack Resistance (Condition B, F50, 10% Igepal, 50 °C) >300 hr ASTM D1693 (Condition B, F50, 100% Igepal, 50 °C) >1000 hr ASTM D1693 Flexural Modulus, (23 °C) 800 MPa ISO 178 Tensile Elongation at Break, (23 °C) >1000 % ISO 527 Impact Drop Impact Resistance (-40 °C, Rotomoulding) >210 J/cm ARM (-20 °C, Rotomoulding, Internal Method) >200 J/cm ASTM D4226 Hardness Durometer Hardness, (Shore D) 62 ASTM D2240 Thermal Vicat Softening Temperature, (A (10N)) 117 °C ISO 306 | Typical Properties | Value | Units | Test Method |
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| Tensile Strength at Yield, (23 °C, Type I) Environmental Stress Crack Resistance (Condition B, F50, 10% Igepal, 50 °C) (Condition B, F50, 100% Igepal, 50 °C) Flexural Modulus, (23 °C) Tensile Elongation at Break, (23 °C) Impact Drop Impact Resistance (-40 °C, Rotomoulding) (-20 °C, Rotomoulding, Internal Method) Hardness Durometer Hardness, (Shore D) Thermal Vicat Softening Temperature, (A (10N)) Vast Softening Temperature, (A (10N)) | Density | 0.939 | g/cm³ | ASTM D1505 |
| Environmental Stress Crack Resistance (Condition B, F50, 10% Igepal, 50 °C) | Mechanical | | | |
| (Condition B, F50, 10% Igepal, 50 °C) >300 hr ASTM D1693 (Condition B, F50, 100% Igepal, 50 °C) >1000 hr ASTM D1693 Flexural Modulus, (23 °C) 800 MPa ISO 178 Tensile Elongation at Break, (23 °C) >1000 % ISO 527 Impact Drop Impact Resistance -210 J/cm ARM (-40 °C, Rotomoulding) >210 J/cm ASTM D4226 Hardness Durometer Hardness, (Shore D) 62 ASTM D2240 Thermal Vicat Softening Temperature, (A (10N)) 117 °C ISO 306 | Tensile Strength at Yield, (23 °C, Type I) | 20.0 | MPa | ISO 527 |
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| Flexural Modulus, (23 °C) Tensile Elongation at Break, (23 °C) Impact Drop Impact Resistance (-40 °C, Rotomoulding) (-20 °C, Rotomoulding, Internal Method) Hardness Durometer Hardness, (Shore D) Thermal Vicat Softening Temperature, (A (10N)) 117 °C ISO 178 ISO | (Condition B, F50, 10% Igepal, 50 °C) | >300 | hr | ASTM D1693 |
| Tensile Elongation at Break, (23 °C) >1000 % ISO 527 Impact Drop Impact Resistance (-40 °C, Rotomoulding) >210 J/cm ARM (-20 °C, Rotomoulding, Internal Method) >200 J/cm ASTM D4226 Hardness Durometer Hardness, (Shore D) 62 ASTM D2240 Thermal Vicat Softening Temperature, (A (10N)) 117 °C ISO 306 | (Condition B, F50, 100% Igepal, 50 °C) | >1000 | hr | ASTM D1693 |
| Impact Drop Impact Resistance (-40 °C, Rotomoulding) >210 J/cm ARM (-20 °C, Rotomoulding, Internal Method) >200 J/cm ASTM D4226 Hardness Durometer Hardness, (Shore D) 62 ASTM D2240 Thermal Vicat Softening Temperature, (A (10N)) 117 °C ISO 306 | Flexural Modulus, (23 °C) | 800 | MPa | ISO 178 |
| Drop Impact Resistance (-40 °C, Rotomoulding) >210 J/cm ARM (-20 °C, Rotomoulding, Internal Method) >200 J/cm ASTM D4226 Hardness Durometer Hardness, (Shore D) 62 ASTM D2240 Thermal Vicat Softening Temperature, (A (10N)) 117 °C ISO 306 | Tensile Elongation at Break, (23 °C) | >1000 | % | ISO 527 |
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| (-20 °C, Rotomoulding, Internal Method) >200 J/cm ASTM D4226 Hardness Durometer Hardness, (Shore D) 62 ASTM D2240 Thermal Vicat Softening Temperature, (A (10N)) 117 °C ISO 306 | Drop Impact Resistance | | | |
| Hardness Durometer Hardness, (Shore D) 62 ASTM D2240 Thermal Vicat Softening Temperature, (A (10N)) 117 °C ISO 306 | (-40 °C, Rotomoulding) | >210 | J/cm | ARM |
| Durometer Hardness, (Shore D) 62 ASTM D2240 Thermal Vicat Softening Temperature, (A (10N)) 117 °C ISO 306 | (-20 °C, Rotomoulding, Internal Method) | >200 | J/cm | ASTM D4226 |
| Thermal Vicat Softening Temperature, (A (10N)) 117 °C ISO 306 | Hardness | | | |
| Vicat Softening Temperature, (A (10N)) 117 °C ISO 306 | Durometer Hardness, (Shore D) | 62 | | ASTM D2240 |
| Thousand Temperatures, (T. (1811)) | Thermal | | | |
| Deflection Temperature Under Load Unappealed (0.45 MPa) 67 °C ISO 75-2/B | Vicat Softening Temperature, (A (10N)) | 117 | °C | ISO 306 |
| Defice the Francis Court | Deflection Temperature Under Load Unannealed (0.45 MPa) | 67 | °C | ISO 75-2/B |
| Melting Temperature 127 °C ISO 11357-3 | Melting Temperature | 127 | °C | ISO 11357-3 |

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.

Company Information

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

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