

VALOX™ Resin HX312C - Europe

Polybutylene Terephthalate

SABIC

PROSPECTOR®

www.ulprospector.com

Technical Data

Product Description

Unreinforced PBT with release. For medical devices and pharmaceutical applications. Healthcare management of change, biocompatible (ISO 10993 or USP Class VI), food contact compliant. EtO and steam sterilizable.

General

Material Status	• Commercial: Active
UL Yellow Card ¹	• E45329-236587
Search for UL Yellow Card	• SABIC • VALOX™ Resin
Availability	• Europe
Additive	• Mold Release
Features	• Biocompatible • Food Contact Acceptable • Ethylene Oxide Sterilizable • Steam Sterilizable
Uses	• Medical/Healthcare Applications • Non-specific Food Applications • Pharmaceuticals
Agency Ratings	• ISO 10993 • USP Class VI
RoHS Compliance	• RoHS Compliant
Processing Method	• Injection Molding

Physical	Nominal Value Unit	Test Method
Density / Specific Gravity	1.31 g/cm ³	ASTM D792 ISO 1183
Melt Mass-Flow Rate (MFR) (250°C/1.2 kg)	35 g/10 min	ASTM D1238
Melt Volume-Flow Rate (MVR) (250°C/1.2 kg)	31.0 cm ³ /10min	ISO 1133
Molding Shrinkage - Flow (3.20 mm)	0.90 to 1.6 %	Internal Method
Water Absorption		ISO 62
Saturation, 23°C	0.35 %	
Equilibrium, 23°C, 50% RH	0.080 %	

Mechanical	Nominal Value Unit	Test Method
Tensile Modulus		
-- ³	2500 MPa	ASTM D638
--	2500 MPa	ISO 527-2/1
Tensile Strength		
Yield ⁴	51.0 MPa	ASTM D638
Yield	58.0 MPa	ISO 527-2/50
Break ⁴	30.0 MPa	ASTM D638
Break	30.0 MPa	ISO 527-2/50
Tensile Elongation		
Yield ⁴	6.0 %	ASTM D638
Yield	6.0 %	ISO 527-2/50
Break ⁴	25 %	ASTM D638
Break	25 %	ISO 527-2/50
Flexural Modulus		
50.0 mm Span ⁵	2340 MPa	ASTM D790
-- ⁶	2400 MPa	ISO 178
Flexural Stress		
-- ^{6,7}	85.0 MPa	ISO 178
Yield, 50.0 mm Span ⁵	82.0 MPa	ASTM D790

Impact	Nominal Value Unit	Test Method
Charpy Notched Impact Strength ⁸		ISO 179/1eA
-30°C	2.0 kJ/m ²	
23°C	3.0 kJ/m ²	



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Impact	Nominal Value Unit	Test Method
Charpy Unnotched Impact Strength ⁸		ISO 179/1eU
-30°C	No Break	
23°C	No Break	
Notched Izod Impact		
-30°C	53 J/m	ASTM D256
23°C	53 J/m	ASTM D256
-30°C ⁹	3.0 kJ/m ²	ISO 180/1A
23°C ⁹	3.0 kJ/m ²	ISO 180/1A
Unnotched Izod Impact Strength ⁹		ISO 180/1U
-30°C	No Break	
23°C	No Break	
Instrumented Dart Impact		ASTM D3763
23°C, Total Energy	40.0 J	

Thermal	Nominal Value Unit	Test Method
Deflection Temperature Under Load		
1.8 MPa, Unannealed, 3.20 mm	54.0 °C	ASTM D648
1.8 MPa, Unannealed, 4.00 mm, 100 mm Span ¹⁰	58.0 °C	ISO 75-2/Ae
Vicat Softening Temperature		
--	175 °C	ASTM D1525 ¹¹ ISO 306/B50 ¹¹
--	165 °C	ISO 306/B120
CLTE		
Flow : -40 to 40°C	1.0E-4 cm/cm/°C	ASTM E831
Flow : 23 to 80°C	1.0E-4 cm/cm/°C	ISO 11359-2
Transverse : -40 to 40°C	1.0E-4 cm/cm/°C	ASTM E831
Transverse : 23 to 80°C	1.0E-4 cm/cm/°C	ISO 11359-2

Injection	Nominal Value Unit
Drying Temperature	110 to 120 °C
Drying Time	2.0 to 4.0 hr
Suggested Max Moisture	0.020 %
Hopper Temperature	40 to 60 °C
Rear Temperature	230 to 245 °C
Middle Temperature	240 to 255 °C
Front Temperature	245 to 265 °C
Nozzle Temperature	240 to 260 °C
Processing (Melt) Temp	250 to 270 °C
Mold Temperature	40 to 100 °C

Notes

¹ A UL Yellow Card contains UL-verified flammability and electrical characteristics. UL Prospector continually works to link Yellow Cards to individual plastic materials in Prospector, however this list may not include all of the appropriate links. It is important that you verify the association between these Yellow Cards and the plastic material found in Prospector. For a complete listing of Yellow Cards, visit the UL Yellow Card Search.

² Typical properties: these are not to be construed as specifications.

³ 50 mm/min

⁴ Type I, 50 mm/min

⁵ 1.3 mm/min

⁶ 2.0 mm/min

⁷ at Yield

⁸ 80*10*4 sp=62mm

⁹ 80*10*4 mm

¹⁰ 120*10*4 mm

¹¹ Rate A (50°C/h), Loading 2 (50 N)



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Where to Buy

Supplier

SABIC

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Distributor

POLYMIX

POLYMIX is a Pan European distribution company. Contact POLYMIX for availability of individual products by country.

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Ultrapolymers

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