

VALOX™ Resin 830 - Europe

Polybutylene Terephthalate

SABIC

PROSPECTOR®

www.ulprospector.com

Technical Data

Product Description

30% GR PBTP, excellent surface finish. Typical applications are hot air gun housing assemblies, industrial glue guns, appliance housings and handles.

General

Material Status	• Commercial: Active
UL Yellow Card ¹	• E45329-236633
Search for UL Yellow Card	• SABIC • VALOX™ Resin
Availability	• Europe
Uses	• Appliances • Automotive Interior Parts • Automotive Lighting • Automotive Under the Hood • Construction Applications • Electrical/Electronic Applications • Lighting Applications • Medical/Healthcare Applications • Sporting Goods
Also Available In	• Asia Pacific • Latin America • North America

Physical

	Nominal Value Unit	Test Method
Density / Specific Gravity		
--	1.54 g/cm ³	ASTM D792
--	1.55 g/cm ³	ISO 1183
Melt Mass-Flow Rate (MFR)		ASTM D1238
265°C/2.16 kg	16 g/10 min	
265°C/5.0 kg	45 g/10 min	
Melt Volume-Flow Rate (MVR)		ISO 1133
250°C/5.0 kg	23 cm ³ /10min	
265°C/2.16 kg	14 cm ³ /10min	
265°C/5.0 kg	35 cm ³ /10min	
Molding Shrinkage		Internal Method
Across Flow ³	0.60 to 1.0 %	
Flow ³	0.40 to 0.80 %	
Flow : 3.20 mm	0.20 to 1.0 %	
Water Absorption		ISO 62
Saturation, 23°C	0.15 %	
Equilibrium, 23°C, 50% RH	0.060 %	

Mechanical

	Nominal Value Unit	Test Method
Tensile Modulus		
-- ⁴	10500 MPa	ASTM D638
--	10500 MPa	ISO 527-1/1
Tensile Strength		
Yield ⁵	140 MPa	ASTM D638
Yield	140 MPa	ISO 527-2/5
Break ⁵	140 MPa	ASTM D638
Break	140 MPa	ISO 527-2/5
Tensile Elongation		
Yield ⁵	3.0 %	ASTM D638
Yield	3.0 %	ISO 527-2/5
Break ⁵	3.0 %	ASTM D638
Break	3.0 %	ISO 527-2/5
Flexural Modulus		
50.0 mm Span ⁶	7000 MPa	ASTM D790
-- ⁷	8800 MPa	ISO 178



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Mechanical	Nominal Value Unit	Test Method
Flexural Stress		
-- 7,8	215 MPa	ISO 178
-- 7,9	200 MPa	ISO 178
Yield, 50.0 mm Span ⁶	205 MPa	ASTM D790
Break, 50.0 mm Span ⁶	205 MPa	ASTM D790
Flexural Strain - at Break ¹⁰	3.0 %	ISO 178
Taber Abrasion Resistance		Internal Method
1000 Cycles, 1000 g, CS-17 Wheel	30.0 mg	
Impact	Nominal Value Unit	Test Method
Charpy Notched Impact Strength		
-30°C ¹¹	9.0 kJ/m ²	ISO 179/1eA
-30°C	10 kJ/m ²	ISO 179/2C
23°C ¹¹	9.0 kJ/m ²	ISO 179/1eA
23°C	10 kJ/m ²	ISO 179/2C
Charpy Unnotched Impact Strength		
-30°C ¹¹	50 kJ/m ²	ISO 179/1eU
-30°C	55 kJ/m ²	ISO 179/2U
23°C ¹¹	60 kJ/m ²	ISO 179/1eU ISO 179/2U
Notched Izod Impact		
-30°C	90 J/m	ASTM D256
0°C	90 J/m	ASTM D256
23°C	85 J/m	ASTM D256
-30°C ¹²	9.0 kJ/m ²	ISO 180/1A
0°C ¹²	9.0 kJ/m ²	ISO 180/1A
23°C ¹²	10 kJ/m ²	ISO 180/1A
Unnotched Izod Impact		
-30°C	800 J/m	ASTM D4812
23°C	800 J/m	ASTM D4812
-30°C ¹²	50 kJ/m ²	ISO 180/1U
23°C ¹²	50 kJ/m ²	ISO 180/1U
Instrumented Dart Impact		ASTM D3763
23°C, Total Energy	3.00 J	
Hardness	Nominal Value Unit	Test Method
Rockwell Hardness (R-Scale)	123	ISO 2039-2
Ball Indentation Hardness (H 358/30)	174 MPa	ISO 2039-1
Thermal	Nominal Value Unit	Test Method
Deflection Temperature Under Load		
0.45 MPa, Unannealed, 3.20 mm	220 °C	ASTM D648
0.45 MPa, Unannealed, 4.00 mm, 100 mm Span ¹³	220 °C	ISO 75-2/Be
0.45 MPa, Unannealed, 4.00 mm, 64.0 mm Span ¹²	220 °C	ISO 75-2/Bf
1.8 MPa, Unannealed, 3.20 mm	200 °C	ASTM D648
1.8 MPa, Unannealed, 6.40 mm	208 °C	ASTM D648
1.8 MPa, Unannealed, 4.00 mm, 100 mm Span ¹³	202 °C	ISO 75-2/Ae
1.8 MPa, Unannealed, 4.00 mm, 64.0 mm Span ¹²	200 °C	ISO 75-2/Af
Vicat Softening Temperature		
--	220 °C	ASTM D1525 ¹⁴ ISO 306/A50 ¹⁴
--	208 °C	ASTM D1525 ¹⁵
Ball Pressure Test (123 to 127°C)	Pass	IEC 60695-10-2



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Thermal	Nominal Value Unit	Test Method
CLTE		
Flow : -40 to 40°C	2.7E-5 cm/cm/°C	ASTM E831
Flow : -40 to 40°C	2.0E-5 cm/cm/°C	ISO 11359-2
Flow : 23 to 80°C	2.5E-5 cm/cm/°C	ISO 11359-2
Flow : 23 to 150°C	1.5E-5 cm/cm/°C	ISO 11359-2
Transverse : -40 to 40°C	7.8E-5 cm/cm/°C	ASTM E831
Transverse : -40 to 40°C	6.6E-5 cm/cm/°C	ISO 11359-2
Transverse : 23 to 80°C	8.1E-5 cm/cm/°C	ISO 11359-2
Transverse : 23 to 150°C	1.4E-4 cm/cm/°C	ISO 11359-2
RTI Elec	120 °C	UL 746B
RTI Str	120 °C	UL 746B
Electrical		
Nominal Value Unit		
Test Method		
Surface Resistivity	> 1.0E+15 ohms	IEC 60093
Volume Resistivity	> 1.0E+15 ohms·cm	ASTM D257 IEC 60093
Dielectric Strength		
0.800 mm, in Oil	27 kV/mm	ASTM D149
1.60 mm, in Oil	23 kV/mm	IEC 60243-1
3.20 mm, in Oil	15 kV/mm	
Dielectric Constant		
1 MHz	3.20	ASTM D150
50 Hz	3.30	IEC 60250
60 Hz	3.30	IEC 60250
100 Hz	3.60	IEC 60250
1 MHz	3.50	IEC 60250
Dissipation Factor		
1 MHz	0.013	ASTM D150 IEC 60250
50 Hz	8.0E-4	IEC 60250
60 Hz	8.0E-4	IEC 60250
100 Hz	2.0E-3	IEC 60250
Arc Resistance ¹⁶	PLC 6	ASTM D495
Comparative Tracking Index (CTI)	PLC 2	UL 746A
Comparative Tracking Index		IEC 60112
--	325 V	
Solution B	150 V	
High Amp Arc Ignition (HAI) ¹⁷	PLC 3	UL 746A
High Voltage Arc Resistance to Ignition (HVAR)	PLC 2	UL 746A
Hot-wire Ignition (HWI)	PLC 0	UL 746A
Flammability		
Nominal Value Unit		
Test Method		
Flame Rating		UL 94
1.5 mm	HB	
3.0 mm	HB	
Glow Wire Flammability Index (1.0 mm)	750 °C	IEC 60695-2-12
Fill Analysis		
Nominal Value Unit		
Test Method		
Melt Viscosity (260°C, 1500 sec ⁻¹)	208 Pa·s	ISO 11443
Additional Information		
Nominal Value Unit		
Test Method		
Filler Content	30 %	ASTM D229
Injection		
Nominal Value Unit		
Drying Temperature	110 to 120 °C	
Drying Time	4.0 to 6.0 hr	
Suggested Max Moisture	0.020 %	



Injection	Nominal Value Unit
Hopper Temperature	40 to 60 °C
Rear Temperature	240 to 260 °C
Middle Temperature	255 to 280 °C
Front Temperature	260 to 280 °C
Nozzle Temperature	265 to 275 °C
Processing (Melt) Temp	260 to 285 °C
Mold Temperature	60 to 110 °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 Tensile Bar

⁴ 5.0 mm/min

⁵ Type I, 5.0 mm/min

⁶ 1.3 mm/min

⁷ 2.0 mm/min

⁸ at Yield

⁹ at Break

¹⁰ 2 mm/min

¹¹ 80*10*4 sp=62mm

¹² 80*10*4 mm

¹³ 120*10*4 mm

¹⁴ Rate A (50°C/h), Loading 1 (10 N)

¹⁵ Rate A (50°C/h), Loading 2 (50 N)

¹⁶ Tungsten Electrode

¹⁷ Surface



Where to Buy**Supplier****SABIC**Web: <http://www.sabic.com/>**Distributor****3Polymer (Guangzhou) Chemical Technology Co., Ltd.**

Telephone: +86-20-3466-7988

Web: <http://3polymer.com>

Availability: China

AECTRA

Telephone: +33-4-72-54-36-42

Web: <https://www.aectra.fr/>

Availability: Bulgaria, Romania

AGI-Augusto Guimarães & Irmão

Telephone: +351-22753-7400

Web: <https://www.agi.pt/en/>

Availability: Portugal

GRÄSSLIN

Telephone: +49-7721-4040-261

Web: <https://www.graesslin-kunststoffe.de>

Availability: Germany

Guzmán Polymers

Telephone: +34-963-992-400

Web: <https://www.guzmanglobal.com/en/productos/plastics/>

Availability: Italy, Spain, Turkey

Lenorplastics

Telephone: +41-61-706-11-11

Web: <https://www.lenorplastics.ch>

Availability: Switzerland

Plastoplan

Telephone: +43-1-25040-0

Web: <https://www.plastoplan.com/>

Availability: Austria, Czech Republic, Hungary, Poland, Slovakia

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

Telephone: +33-3-8920-1380

Web: <http://www.polymix.eu/>

Availability: France

RESINEX Group*RESINEX is a Pan European distribution company. Contact RESINEX for availability of individual products by country.*

Telephone: +32-14-672511

Web: <http://www.resinex.com/>

Availability: Europe

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

Telephone: +32-11-57-95-57

Web: <http://www.ultrapolymers.com/>

Availability: Belgium, Netherlands, South Africa

