

# LEXAN\* 505RU Resin

## Polycarbonate

### SABIC Innovative Plastics Europe



Prospector

#### Product Description

Lexan\* 505RU is a glass reinforced, flame retardant (FR) grade with Br- and Cl-free FR systems and UV stabilization packages. This product is intended for applications to meet WEEE/RoHS regulations as well as various voluntary environmental labels.

#### General

Material Status	• Commercial: Active		
Availability	• Europe		
Filler / Reinforcement	• Glass Fiber Reinforcement		
Additive	• UV Stabilizer		
Features	• Bromine Free	• Chlorine Free	• Flame Retardant
RoHS Compliance	• RoHS Compliant		
Forms	• Pellets		
Processing Method	• Injection Molding		

Physical	Nominal Value Unit	Test Method
Specific Gravity	1.26 g/cm <sup>3</sup>	ASTM D792 ISO 1183
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	8.0 g/10 min	ASTM D1238
Melt Volume-Flow Rate (MVR) (300°C/1.2 kg)	7.00 cm <sup>3</sup> /10min	ISO 1133
Molding Shrinkage - Flow (3.20 mm)	0.40 to 0.60 %	Internal Method
Water Absorption		ISO 62
Saturation, 23°C	0.30 %	
Equilibrium, 23°C, 50% RH	0.15 %	

Mechanical	Nominal Value Unit	Test Method
Tensile Modulus		
-- <sup>2</sup>	3600 MPa	ASTM D638
--	3500 MPa	ISO 527-2/1
Tensile Strength		
Yield <sup>3</sup>	74.0 MPa	ASTM D638
Yield	72.0 MPa	ISO 527-2/5
Break <sup>3</sup>	62.0 MPa	ASTM D638
Break	60.0 MPa	ISO 527-2/5
Tensile Elongation		
Yield <sup>3</sup>	4.0 %	ASTM D638
Yield	3.0 %	ISO 527-2/5
Break <sup>3</sup>	6.0 %	ASTM D638
Break	6.0 %	ISO 527-2/5
Flexural Modulus		
50.0 mm Span <sup>4</sup>	3200 MPa	ASTM D790
-- <sup>5</sup>	3500 MPa	ISO 178
Flexural Strength		
-- <sup>5,6</sup>	122 MPa	ISO 178
Yield, 50.0 mm Span <sup>4</sup>	114 MPa	ASTM D790

Impact	Nominal Value Unit	Test Method
Charpy Notched Impact Strength <sup>7</sup>		ISO 179/1eA
-30°C	7.0 kJ/m <sup>2</sup>	
23°C	10 kJ/m <sup>2</sup>	
Charpy Unnotched Impact Strength <sup>7</sup>		ISO 179/1eU
-30°C	No Break	
23°C	No Break	
Notched Izod Impact		
-30°C	70.0 J/m	ASTM D256
23°C	90.0 J/m	ASTM D256
-30°C <sup>8</sup>	8.00 kJ/m <sup>2</sup>	ISO 180/1A

**LEXAN\* 505RU Resin**  
**Polycarbonate**  
**SABIC Innovative Plastics Europe**

Thursday, June 24, 2010

Impact	Nominal Value Unit	Test Method
23°C <sup>8</sup>	10.0 kJ/m <sup>2</sup>	ISO 180/1A
Unnotched Izod Impact		
23°C	1200 J/m	ASTM D4812
-30°C <sup>8</sup>	73.0 kJ/m <sup>2</sup>	ISO 180/1U
23°C <sup>8</sup>	No Break J/m	ISO 180/1U
Instrumented Dart Impact		ASTM D3763
23°C, Total Energy	25.0 J	
Thermal	Nominal Value Unit	Test Method
Deflection Temperature Under Load		
1.8 MPa, Unannealed, 3.20 mm	137 °C	ASTM D648
1.8 MPa, Unannealed, 64.0 mm Span <sup>9</sup>	136 °C	ISO 75-2/Af
Vicat Softening Temperature		
--	149 °C	ASTM D1525 <sup>10</sup> ISO 306/B120 <sup>10</sup>
--	147 °C	ISO 306/B50
Ball Pressure Test (125°C)	Pass	IEC 60695-10-2
CLTE		
Flow: -40 to 40°C	0.000050 cm/cm/°C	ASTM E831 ISO 11359-2
Transverse: -40 to 40°C	0.000074 cm/cm/°C	ASTM E831
Transverse: -40 to 40°C	0.000085 cm/cm/°C	ISO 11359-2
Electrical	Nominal Value Unit	Test Method
Comparative Tracking Index	175 V	IEC 60112
Flammability	Nominal Value Unit	Test Method
Flame Rating - UL		UL 94
0.750 mm, Testing by SABIC	V-2	
1.50 mm, Testing by SABIC	V-0	
3.00 mm, Testing by SABIC	5VB 5VA	
Glow Wire Flammability Index (0.750 mm)	960 °C	IEC 60695-2-12
Glow Wire Ignition Temperature		IEC 60695-2-13
1.00 mm	850 °C	
3.00 mm	875 °C	
UL 746	Nominal Value Unit	Test Method
Comparative Tracking Index (CTI) (PLC)	PLC 3	UL 746
Hot-wire Ignition (HWI) (PLC)	PLC 3	UL 746
High Amp Arc Ignition (HAI) (PLC)	PLC 0	UL 746
Outdoor Suitability	f1	UL 746C
Injection	Nominal Value Unit	Test Method
Drying Temperature	120 °C	
Drying Time	3.0 to 4.0 hr	
Drying Time, Maximum	48 hr	
Suggested Max Moisture	0.020 %	
Suggested Shot Size	40 to 60 %	
Rear Temperature	290 to 310 °C	
Middle Temperature	300 to 320 °C	
Front Temperature	310 to 330 °C	
Nozzle Temperature	305 to 325 °C	
Processing (Melt) Temp	310 to 330 °C	
Mold Temperature	80.0 to 115 °C	
Back Pressure	0.300 to 0.700 MPa	
Screw Speed	40 to 70 rpm	
Vent Depth	0.025 to 0.076 mm	

**LEXAN\* 505RU Resin**  
**Polycarbonate**  
**SABIC Innovative Plastics Europe**

Thursday, June 24, 2010

**Notes**

<sup>1</sup> Typical properties: these are not to be construed as specifications.

<sup>2</sup> 5.0 mm/min

<sup>3</sup> Type I, 5.0 mm/min

<sup>4</sup> 1.3 mm/min

<sup>5</sup> 2.0 mm/min

<sup>6</sup> Yield

<sup>7</sup> 80\*10\*3 sp=62mm

<sup>8</sup> 80\*10\*3

<sup>9</sup> 80\*10\*4 mm

<sup>10</sup> Rate B (120°C/h), Loading 2 (50 N)

**Revision History**

Document Created: Thursday, June 24, 2010  
Added to Prospector: October, 2007  
Last Updated: 10/15/2009