SABIC Innovative Plastics™

Lexan* Resin 505RU

Americas: COMMERCIAL

Lexan* 505RU is a glass reinforced,flame retardant(FR)grade with non brominated and non chlorinated FR systems and UV stablization packages. This product is intended for applications to meet WEEE/RoHS regulations as well as various voluntary environmental labels.

Property

TYPICAL PROPERTIES (1)			
MECHANICAL	Value	Unit	Standard
Tensile Stress, yld, Type I, 5 mm/min	74	MPa	ASTM D 638
Tensile Stress, brk, Type I, 5 mm/min	62	MPa	ASTM D 638
Tensile Strain, yld, Type I, 5 mm/min	4	%	ASTM D 638
Tensile Strain, brk, Type I, 5 mm/min	6	%	ASTM D 638
Tensile Modulus, 5 mm/min	3600	MPa	ASTM D 638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	114	MPa	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	3200	MPa	ASTM D 790
Tensile Stress, yield, 5 mm/min	72	MPa	ISO 527
Tensile Stress, break, 5 mm/min	60	MPa	ISO 527
Tensile Strain, yield, 5 mm/min	3	%	ISO 527
Tensile Strain, break, 5 mm/min	6	%	ISO 527
Tensile Modulus, 1 mm/min	3500	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	122	MPa	ISO 178
Flexural Modulus, 2 mm/min	3500	MPa	ISO 178
IMPACT	Value	Unit	Standard
Izod Impact, unnotched, 23°C	1200	J/m	ASTM D 4812
Izod Impact, notched, 23°C	90	J/m	ASTM D 256
Izod Impact, notched, -30°C	70	J/m	ASTM D 256
Instrumented Impact Total Energy, 23°C	25	J	ASTM D 3763
Izod Impact, unnotched 80*10*3 +23°C	NB75	kJ/m²	ISO 180/1U
Izod Impact, unnotched 80*10*3 -30°C	73	kJ/m²	ISO 180/1U
Izod Impact, notched 80*10*3 +23°C	10	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*3 -30°C	8	kJ/m²	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*3 sp=62mm	10	kJ/m²	ISO 179/1eA
Charpy -30°C, V-notch Edgew 80*10*3 sp=62mm	7	kJ/m²	ISO 179/1eA
Charpy 23°C, Unnotch Edgew 80*10*3 sp=62mm	NB87	kJ/m²	ISO 179/1eU
Charpy -30°C, Unnotch Edgew 80*10*3 sp=62mm	NB85	kJ/m²	ISO 179/1eU
THERMAL	Value	Unit	Standard
Vicat Softening Temp, Rate B/50	149	°C	ASTM D 1525
HDT, 1.82 MPa, 3.2mm, unannealed	137	°C	ASTM D 648
CTE, -40°C to 40°C, flow	5.E-05	1/°C	ASTM E 831
CTE, -40°C to 40°C, xflow	7.4E-05	1/°C	ASTM E 831
CTE, -40°C to 40°C, flow	5.E-05	1/°C	ISO 11359-2
CTE, -40°C to 40°C, xflow	8.5E-05	1/°C	ISO 11359-2
Ball Pressure Test, 125°C +/- 2°C	Pass	-	IEC 60695-10-2
Vicat Softening Temp, Rate B/50	147	°C	ISO 306
Vicat Softening Temp, Rate B/120	149	°C	ISO 306
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	136	°C	ISO 75/Af

PHYSICAL	Value	Unit	Standard
Specific Gravity	1.26	-	ASTM D 792
Mold Shrinkage, flow, 3.2 mm	0.4 - 0.6	%	SABIC Method
Melt Flow Rate, 300°C/1.2 kgf	8	g/10 min	ASTM D 1238
Density	1.26	g/cm³	ISO 1183
Water Absorption, (23°C/sat)	0.3	%	ISO 62
Moisture Absorption (23°C / 50% RH)	0.15	%	ISO 62
Melt Volume Rate, MVR at 300°C/1.2 kg	7	cm³/10 min	ISO 1133
ELECTRICAL	Value	Unit	Standard
Hot Wire Ignition {PLC)	3	PLC Code	UL 746A
High Ampere Arc Ign, surface {PLC}	0	PLC Code	UL 746A
Comparative Tracking Index (UL) {PLC}	3	PLC Code	UL 746A
Comparative Tracking Index	175	V	IEC 60112
FLAME CHARACTERISTICS	Value	Unit	Standard
UL Compliant, 94V-2 Flame Class Rating (3)(4)	0.75	mm	UL 94 by GE
UL Compliant, 94V-0 Flame Class Rating (3)(4)	1.5	mm	UL 94 by GE
UL Compliant, 94-5VA Rating (3)(4)	3	mm	UL 94 by GE
UL Compliant, 94-5VB Rating (3)(4)	3	mm	UL 94 by GE
Glow Wire Flammability Index 960°C, passes at	0.75	mm	IEC 60695-2-12
Glow Wire Ignitability Temperature, 1.0 mm	850	°C	IEC 60695-2-13
Glow Wire Ignitability Temperature, 3.0 mm	875	°C	IEC 60695-2-13
UV-light, water exposure/immersion	F1	-	UL 746C

Source GMD, last updated:09/18/2007

Processing

Parameter Injection Molding	Value	Unit
Drying Temperature	120	°C
Drying Time	3 - 4	hrs
Drying Time (Cumulative)	48	hrs
Maximum Moisture Content	0.02	%
Melt Temperature	310 - 330	°C
Nozzle Temperature	305 - 325	°C
Front - Zone 3 Temperature	310 - 330	°C
Middle - Zone 2 Temperature	300 - 320	°C
Rear - Zone 1 Temperature	290 - 310	°C
Mold Temperature	80 - 115	°C
Back Pressure	0.3 - 0.7	MPa
Screw Speed	40 - 70	rpm
Shot to Cylinder Size	40 - 60	%
Vent Depth	0.025 - 0.076	mm

Source GMD, last updated:09/18/2007

(1) Typical values only. Variations within normal tolerances are possible for various colors. All values are measured after at least 48 hours storage at 23°C/50% relative humidity. All properties, except the melt volume and melt flow rates, are measured on injection molded samples. All samples tested under ISO test standards are prepared according to ISO 294.
(2) Only typical data for selection purposes. Not to be used for part or tool design.
(3) This rating is not intended to reflect hazards presented by this or any other material under actual fire conditions.
(4) Internal measurements according to UL standards.