SABIC Innovative Plastics™

Lexan* Resin 905

Asia Pacific: COMMERCIAL

Lexan 905 resin is a high flow, opaque, flame retardant polycarbonate resin blend. It is designed with non-chlorinated, non-brominated FR systems with UL-94 listing of both V0 and 5V ratings. Its excellent processability, combined with good impact, heat and all opaque colors for aesthetics makes it an excellent candidate for thin wall applications.

Property

TYPICAL PROPERTIES (1)			
MECHANICAL	Value	Unit	Standard
Tensile Stress, yld, Type I, 50 mm/min	56	MPa	ASTM D 638
Tensile Stress, brk, Type I, 50 mm/min	51	MPa	ASTM D 638
Tensile Strain, yld, Type I, 50 mm/min	5.7	%	ASTM D 638
Tensile Strain, brk, Type I, 50 mm/min	102	%	ASTM D 638
Tensile Modulus, 50 mm/min	2250	MPa	ASTM D 638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	93	MPa	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	2150	MPa	ASTM D 790
Tensile Stress, yield, 50 mm/min	55	MPa	ISO 527
Tensile Stress, break, 50 mm/min	50	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	5.7	%	ISO 527
Tensile Strain, break, 50 mm/min	97	%	ISO 527
Tensile Modulus, 1 mm/min	2200	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	92	MPa	ISO 178
Flexural Modulus, 2 mm/min	2300	MPa	ISO 178
IMPACT	Value	Unit	Standard
Izod Impact, unnotched, 23°C	2150	J/m	ASTM D 4812
Izod Impact, unnotched, -30°C	2000	J/m	ASTM D 4812
Izod Impact, notched, 23°C	740	J/m	ASTM D 256
Izod Impact, notched, -30°C	230	J/m	ASTM D 256
Instrumented Impact Total Energy, 23°C	69	J	ASTM D 3763
Izod Impact, unnotched 80*10*3 +23°C	184	kJ/m²	ISO 180/1U
Izod Impact, unnotched 80*10*3 -30°C	183	kJ/m²	ISO 180/1U
Izod Impact, notched 80*10*3 +23°C	58	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*3 -30°C	21	kJ/m²	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*3 sp=62mm	50	kJ/m²	ISO 179/1eA
Charpy -30°C, V-notch Edgew 80*10*3 sp=62mm	16	kJ/m²	ISO 179/1eA
Charpy 23°C, Unnotch Edgew 80*10*3 sp=62mm	135	kJ/m²	ISO 179/1eU
Charpy -30°C, Unnotch Edgew 80*10*3 sp=62mm	134	kJ/m²	ISO 179/1eU
THERMAL	Value	Unit	Standard
Vicat Softening Temp, Rate B/50	136	°C	ASTM D 1525
HDT, 0.45 MPa, 3.2 mm, unannealed	130	°C	ASTM D 648
HDT, 1.82 MPa, 3.2mm, unannealed	118	°C	ASTM D 648
CTE, -40°C to 40°C, flow	6.9E-05	1/°C	ASTM E 831
CTE, -40°C to 40°C, xflow	7.1E-05	1/°C	ASTM E 831
CTE, 23°C to 80°C, flow	7.E-05	1/°C	ISO 11359-2
CTE, 23°C to 80°C, xflow	6.9E-05	1/°C	ISO 11359-2
Ball Pressure Test, 125°C +/- 2°C	Pass	-	IEC 60695-10-2

Vicat Softening Temp, Rate B/50	137	°C	ISO 306
Vicat Softening Temp, Rate B/120	138	°C	ISO 306
HDT/Be, 0.45MPa Edgew 120*10*4 sp=100mm	131	°C	ISO 75/Be
HDT/Ae, 1.8 MPa Edgew 120*10*4 sp=100mm	119	°C	ISO 75/Ae
PHYSICAL	Value	Unit	Standard
Specific Gravity	1.19	-	ASTM D 792
Mold Shrinkage, flow, 3.2 mm	0.6 - 0.8	%	SABIC Method
Mold Shrinkage, xflow, 3.2 mm	0.6 - 0.8	%	SABIC Method
Melt Flow Rate, 300°C/1.2 kgf	30	g/10 min	ASTM D 1238
Density	1.19	g/cm³	ISO 1183
Water Absorption, (23°C/sat)	0.26	%	ISO 62
Moisture Absorption (23°C / 50% RH)	0.07	%	ISO 62
Melt Volume Rate, MVR at 300°C/1.2 kg	29	cm³/10 min	ISO 1133
ELECTRICAL	Value	Unit	Standard
Volume Resistivity	1.E+15 - 1.E+16	Ohm-cm	ASTM D 257
Surface Resistivity	1.E+15 - 1.E+16	Ohm	ASTM D 257
Comparative Tracking Index (UL) {PLC}	3	PLC Code	UL 746A
FLAME CHARACTERISTICS	Value	Unit	Standard
UL Recognized, 94V-1 Flame Class Rating (3)	0.75	mm	UL 94
UL Recognized, 94V-0 Flame Class Rating (3)	1.1	mm	UL 94
UL Recognized, 94-5VA Rating (3)	2.8	mm	UL 94
UL Recognized, 94-5VB Rating (3)	2	mm	UL 94
Glow Wire Flammability Index 960°C, passes at	2	mm	IEC 60695-2-12
Glow Wire Ignitability Temperature, 1.0 mm	875	°C	IEC 60695-2-13

Source GMD, last updated:10/17/2008

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	270 - 295	°C
Nozzle Temperature	265 - 290	°C
Front - Zone 3 Temperature	270 - 295	°C
Middle - Zone 2 Temperature	260 - 280	°C
Rear - Zone 1 Temperature	250 - 270	°C
Mold Temperature	70 - 95	°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:10/17/2008

THESE PROPERTY VALUES ARE NOT INTENDED FOR SPECIFICATION PURPOSES.

PLEASE CHECK WITH YOUR (LOCAL SALES OFFICE) FOR AVAILABILITY IN YOUR REGION

(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.

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