LEXAN™ FR RESINS FL905

REGION AMERICAS

DESCRIPTION

LEXAN™ FL905 resin is a 5% glass fiber filled, 3.2 MFR foamable polycarbonate, MVR of 3. Non-chlorinated and non-brominated flame retardant, UL94 V0 rated. Injection moldable.

TYPICAL PROPERTY VALUES

Revision 20201125

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL			
Tensile Stress, yld, Type I, 50 mm/min	58	MPa	ASTM D638
Tensile Stress, brk, Type I, 50 mm/min	47	MPa	ASTM D638
Tensile Strain, yld, Type I, 50 mm/min	5.7	%	ASTM D638
Tensile Strain, brk, Type I, 50 mm/min	30	%	ASTM D638
Tensile Modulus, 50 mm/min	2810	MPa	ASTM D638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	98	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	2670	MPa	ASTM D790
Tensile Stress, yield, 50 mm/min	57	MPa	ISO 527
Tensile Stress, break, 50 mm/min	44	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	5.9	%	ISO 527
Tensile Strain, break, 50 mm/min	25	%	ISO 527
Tensile Modulus, 1 mm/min	2790	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	91	MPa	ISO 178
Flexural Modulus, 2 mm/min	2680	MPa	ISO 178
IMPACT			
Izod Impact, notched, 23°C	520	J/m	ASTM D256
Izod Impact, notched, -30°C	137	J/m	ASTM D256
Instrumented Dart Impact Total Energy, 23°C	53	J	ASTM D3763
Instrumented Dart Impact Total Energy, -30°C	46	J	ASTM D3763
Izod Impact, unnotched 80*10*3 +23°C	171	kJ/m²	ISO 180/1U
Izod Impact, unnotched 80*10*3 -30°C	172	kJ/m²	ISO 180/1U
Izod Impact, notched 80*10*3 +23°C	27	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*3 -30°C	12	kJ/m²	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*3 sp=62mm	31	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	335	kJ/m²	ISO 179/1eU
Charpy -30°C, Unnotch Edgew 80*10*3 sp=62mm	313	kJ/m²	ISO 179/1eU
THERMAL			
Vicat Softening Temp, Rate A/50	148	°C	ASTM D1525
HDT, 0.45 MPa, 3.2 mm, unannealed	146	°C	ASTM D648
HDT, 1.82 MPa, 3.2mm, unannealed	140	°C	ASTM D648
CTE, -40°C to 95°C, flow	5.4E-05	1/°C	ASTM E831
CTE, -40°C to 95°C, xflow	8.E-05	1/°C	ASTM E831
CTE, 23°C to 80°C, flow	5.2E-05	1/°C	ISO 11359-2

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
CTE, 23°C to 80°C, xflow	7.6E-05	1/°C	ISO 11359-2
Vicat Softening Temp, Rate B/50	147	°C	ISO 306
Vicat Softening Temp, Rate B/120	149	°C	ISO 306
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	145	°C	ISO 75/Bf
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	134	°C	ISO 75/Af
PHYSICAL			
Specific Gravity	1.2	-	ASTM D792
Mold Shrinkage, flow, 3.2 mm	0.6	%	SABIC method
Mold Shrinkage, xflow, 3.2 mm	0.5	%	SABIC method
Melt Flow Rate, 300°C/1.2 kgf	3.2	g/10 min	ASTM D1238
Density	1.2	g/cm³	ISO 1183
Melt Volume Rate, MVR at 300°C/1.2 kg	3	cm³/10 min	ISO 1133
FLAME CHARACTERISTICS			
UL Yellow Card Link	E121562-102006767	-	-
FOAM - Flame Class Minimum Density	0.9	g/cm³	-
UL Recognized, 94V-0 Flame Class Rating	3	mm	UL 94
UL Recognized, 94-5VA Flame Class Rating	6	mm	UL 94
INJECTION MOLDING			
Drying Temperature	120	°C	
Drying Time	3 – 4	Hrs	
Drying Time (Cumulative)	48	Hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	295 – 315	°C	
Nozzle Temperature	290 – 310	°C	
Front - Zone 3 Temperature	295 – 315	°C	
Middle - Zone 2 Temperature	280 – 305	°C	
Rear - Zone 1 Temperature	270 – 295	°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	

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