

LEXAN™ ML3999 resin

Polycarbonate

SABIC Innovative Plastics Europe

Message:

LEXAN ML3999 is a medium viscosity, 20% glass reinforced grade. It offers excellent flame retardancy and is especially designed for applications requiring high rigidity together with high heat.

General Information			
UL YellowCard	E45329-236652		
Filler / Reinforcement	Glass Fiber,20% Filler by Weight		
Features	Flame Retardant		
	High Heat Resistance		
	High Rigidity		
	Medium Viscosity		
RoHS Compliance	RoHS Compliant		
Processing Method	Injection Molding		
Physical	Nominal Value	Unit	Test Method
Density	1.35	g/cm ³	ISO 1183
Melt Volume-Flow Rate (MVR) (300°C/1.2 kg)	9.00	cm ³ /10min	ISO 1133
Molding Shrinkage - Flow ¹	0.20 to 0.50	%	Internal Method
Water Absorption			ISO 62
Saturation, 23°C	0.29	%	
Equilibrium, 23°C, 50% RH	0.12	%	
Hardness	Nominal Value	Unit	Test Method
Ball Indentation Hardness (H 358/30)	125	MPa	ISO 2039-1
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	6000	MPa	ISO 527-2/1
Tensile Stress (Break)	90.0	MPa	ISO 527-2/5
Tensile Strain (Break)	2.0	%	ISO 527-2/5
Flexural Modulus ²	5500	MPa	ISO 178
Flexural Stress	120	MPa	ISO 178
Taber Abrasion Resistance (1000 Cycles, 1000 g, CS-17 Wheel)	17.0	mg	Internal Method
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength			
-30°C ³	5.0	kJ/m ²	ISO 179/1eA
23°C ⁴	6.0	kJ/m ²	ISO 179/1eA
23°C	9.0	kJ/m ²	ISO 179/2C
Charpy Unnotched Impact Strength ⁵			ISO 179/1eU

-30°C	35	kJ/m ²	
23°C	35	kJ/m ²	
Notched Izod Impact Strength ⁶			ISO 180/1A
-30°C	6.0	kJ/m ²	
23°C	7.0	kJ/m ²	
Unnotched Izod Impact Strength ⁷			ISO 180/1U
-30°C	30	kJ/m ²	
23°C	30	kJ/m ²	
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature ⁸			
0.45 MPa, Unannealed, 100 mm Span	143	°C	ISO 75-2/Be
1.8 MPa, Unannealed, 100 mm Span	138	°C	ISO 75-2/Ae
Vicat Softening Temperature			
--	154	°C	ISO 306/A50
--	145	°C	ISO 306/B50
--	144	°C	ISO 306/B120
Ball Pressure Test (125°C)	Pass		IEC 60695-10-2
CLTE - Flow (23 to 80°C)	3.0E-5	cm/cm/°C	ISO 11359-2
Thermal Conductivity	0.22	W/m/K	ISO 8302
RTI Elec	130	°C	UL 746
RTI Imp	125	°C	UL 746
RTI Str	130	°C	UL 746
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	> 1.0E+15	ohms	IEC 60093
Volume Resistivity	> 1.0E+15	ohms · cm	IEC 60093
Electric Strength			IEC 60243-1
0.800 mm, in Oil	33	kV/mm	
1.00 mm ⁹	20	kV/mm	
1.60 mm, in Oil	25	kV/mm	
3.20 mm, in Oil	16	kV/mm	
Relative Permittivity			IEC 60250
50 Hz	3.00		
60 Hz	3.00		
1 MHz	2.90		
Dissipation Factor			IEC 60250
50 Hz	1.0E-3		
60 Hz	1.0E-3		
1 MHz	0.010		
Comparative Tracking Index	150	V	IEC 60112
Flammability	Nominal Value	Unit	Test Method
Flame Rating (1.50 mm)	V-0		UL 94
Glow Wire Flammability Index			IEC 60695-2-12

1.00 mm	850	°C	
1.60 mm	960	°C	
Oxygen Index	37	%	ISO 4589-2
Injection	Nominal Value	Unit	
Drying Temperature	120	°C	
Drying Time	2.0 to 4.0	hr	
Suggested Max Moisture	0.020	%	
Hopper Temperature	60.0 to 80.0	°C	
Rear Temperature	270 to 300	°C	
Middle Temperature	280 to 310	°C	
Front Temperature	290 to 320	°C	
Nozzle Temperature	280 to 310	°C	
Processing (Melt) Temp	290 to 320	°C	
Mold Temperature	80.0 to 120	°C	

NOTE		
1.	Tensile Bar	
2.	2.0 mm/min	
3.	80*10*3 sp=62mm	
4.	80*10*3 sp=62mm	
5.	80*10*3 sp=62mm	
6.	80*10*3	
7.	80*10*3	
8.	120*10*4 mm	
9.	Short-Time	

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