LEXAN™ VISUALFX™ RESIN FXM141R

REGION AMERICAS

DESCRIPTION

FXM141R is a LEXAN PC grade in Metallic or Pearlescent effect, which is part of the VisualFX family. These effects have been developed to meet increasing Aesthetic demands in the Marketplace. Color Package may affect properties, Application testing always reccomended.

TYPICAL PROPERTY VALUES

Revision 20241028

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL [1]			
Tensile Stress, yld, Type I, 50 mm/min	62	MPa	ASTM D638
Tensile Stress, brk, Type I, 50 mm/min	55	MPa	ASTM D638
Tensile Strain, yld, Type I, 50 mm/min	6.2	%	ASTM D638
Tensile Strain, brk, Type I, 50 mm/min	90	%	ASTM D638
Tensile Modulus, 5 mm/min	2340	MPa	ASTM D638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	94	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	2340	MPa	ASTM D790
Tensile Stress, yield, 50 mm/min	63	MPa	ISO 527
Tensile Stress, break, 50 mm/min	55	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	6	%	ISO 527
Tensile Strain, break, 50 mm/min	50	%	ISO 527
Tensile Modulus, 1 mm/min	2350	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	90	MPa	ISO 178
Flexural Modulus, 2 mm/min	2300	MPa	ISO 178
Ball Indentation Hardness, H358/30	95	MPa	ISO 2039-1
IMPACT [1]			
Izod Impact, unnotched, 23°C	NB	J/m	ASTM D4812
Izod Impact, notched, 23°C	214	J/m	ASTM D256
Instrumented Dart Impact Total Energy, 23°C	54	J	ASTM D3763
Izod Impact, unnotched 80*10*4 +23°C	NB	kJ/m²	ISO 180/1U
Izod Impact, unnotched 80*10*4 -30°C	NB	kJ/m²	ISO 180/1U
Izod Impact, notched 80*10*4 +23°C	10	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	8	kJ/m²	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	12	kJ/m²	ISO 179/1eA
Charpy -30°C, V-notch Edgew 80*10*4 sp=62mm	13	kJ/m²	ISO 179/1eA
Charpy 23°C, Unnotch Edgew 80*10*4 sp=62mm	NB	kJ/m²	ISO 179/1eU
Charpy -30°C, Unnotch Edgew 80*10*4 sp=62mm	NB	kJ/m²	ISO 179/1eU
THERMAL [1]			
Vicat Softening Temp, Rate B/50	154	°C	ASTM D1525
HDT, 0.45 MPa, 3.2 mm, unannealed	138	°C	ASTM D648
HDT, 1.82 MPa, 3.2mm, unannealed	127	°C	ASTM D648
CTE, -40°C to 95°C, flow	6.87E-05	1/°C	ASTM E831
CTE, -40°C to 95°C, xflow	6.95E-05	1/°C	ASTM E831
CTE, 23°C to 80°C, flow	6.96E-05	1/°C	ISO 11359-2

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
CTE, 23°C to 80°C, xflow	7.06E-05	1/°C	ISO 11359-2
Ball Pressure Test, 125°C +/- 2°C	PASSES	-	IEC 60695-10-2
Vicat Softening Temp, Rate B/50	141	°C	ISO 306
Vicat Softening Temp, Rate B/120	142	°C	ISO 306
HDT/Be, 0.45MPa Edgew 120*10*4 sp=100mm	136	°C	ISO 75/Be
HDT/Ae, 1.8 MPa Edgew 120*10*4 sp=100mm	125	°C	ISO 75/Ae
Relative Temp Index, Elec [2]	130	°C	UL 746B
Relative Temp Index, Mech w/impact [2]	130	°C	UL 746B
Relative Temp Index, Mech w/o impact [2]	130	°C	UL 746B
PHYSICAL [1]			
Specific Gravity	1.2	-	ASTM D792
Mold Shrinkage on Tensile Bar, flow [3]	0.5 – 0.7	%	SABIC method
Mold Shrinkage, flow, 3.2 mm [3]	0.5 – 0.7	%	SABIC method
Mold Shrinkage, xflow, 3.2 mm [3]	0.5 – 0.7	%	SABIC method
Melt Flow Rate, 300°C/1.2 kgf	10.8	g/10 min	ASTM D1238
Density	1.2	g/cm³	ISO 1183
Water Absorption, (23°C/saturated)	0.35	%	ISO 62-1
Moisture Absorption (23°C / 50% RH)	0.15	%	ISO 62
Melt Volume Rate, MVR at 300°C/1.2 kg	11	cm³/10 min	ISO 1133
ELECTRICAL [1]			
Comparative Tracking Index (UL) {PLC}	3	PLC Code	UL 746A
High Amp Arc Ignition (HAI), PLC 0	1.5	mm	UL 746A
High Amp Arc Ignition (HAI), PLC 1	3	mm	UL 746A
High Amp Arc Ignition (HAI), PLC 2	1.1	mm	UL 746A
Hot-Wire Ignition (HWI), PLC 2	1.5	mm	UL 746A
Hot-Wire Ignition (HWI), PLC 3	1.1	mm	UL 746A
High Voltage Arc Track Rate {PLC}	2	PLC Code	UL 746A
FLAME CHARACTERISTICS [2]			
UL Yellow Card Link	E121562-220943	-	-
UL Recognized, 94HB Flame Class Rating	≥0.7	mm	UL 94
UV-light, water exposure/immersion	F2	-	UL 746C
INJECTION MOLDING [4]			
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	%	

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Vent Depth	0.025 – 0.076	mm	

(1) The information stated on Technical Datasheets should be used as indicative only for material selection purposes and not be utilized as specification or used for part or tool design.
(2) UL Ratings shown on the technical datasheet might not cover the full range of thicknesses and colors. For details, please see the UL Yellow Card.
(3) Measurements made from laboratory test coupon. Actual shrinkage may vary outside of range due to differences in processing conditions, equipment, part geometry and tool design. It is recommended that mold shrinkage studies be performed with surrogate or legacy tooling prior to cutting tools for new molded article.,The information stated on Technical Datasheets should be used as indicative only for material selection purposes and not be utilized as specification or used for part or tool design.
(4) Injection Molding parameters are only mentioned as general guidelines. These may not apply or may need adjustment in specific situations such as low shot sizes, large part molding, thin wall molding and gas-assist molding.

DISCLAIMER