



LEXAN™ Resin FXD1413T
Americas: COMMERCIAL

Clear PC-siloxane copolymer with excellent processability, in special light diffusion colors. Medium flow. Improved toughness compared to medium flow standard PC in same color. Color package may affect performance.

TYPICAL PROPERTIES ¹	TYPICAL VALUE	Unit	Standard
MECHANICAL			
Tensile Stress, yld, Type I, 50 mm/min	610	kgf/cm ²	ASTM D 638
Tensile Stress, brk, Type I, 50 mm/min	670	kgf/cm ²	ASTM D 638
Tensile Strain, yld, Type I, 50 mm/min	6	%	ASTM D 638
Tensile Strain, brk, Type I, 50 mm/min	130	%	ASTM D 638
Tensile Modulus, 50 mm/min	23100	kgf/cm ²	ASTM D 638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	880	kgf/cm ²	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	23100	kgf/cm ²	ASTM D 790
Tensile Stress, yield, 50 mm/min	57	MPa	ISO 527
Tensile Stress, break, 50 mm/min	58	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	5.6	%	ISO 527
Tensile Strain, break, 50 mm/min	116	%	ISO 527
Tensile Modulus, 1 mm/min	2310	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	91	MPa	ISO 178
Flexural Modulus, 2 mm/min	2190	MPa	ISO 178
IMPACT			
Izod Impact, notched, 23°C	90	cm-kgf/cm	ASTM D 256
Izod Impact, notched, -30°C	81	cm-kgf/cm	ASTM D 256
Instrumented Impact Total Energy, 23°C	836	cm-kgf	ASTM D 3763
Izod Impact, unnotched 80*10*3 +23°C	NB	kJ/m ²	ISO 180/1U
Izod Impact, unnotched 80*10*3 -30°C	NB	kJ/m ²	ISO 180/1U
Izod Impact, notched 80*10*3 +23°C	65	kJ/m ²	ISO 180/1A
Izod Impact, notched 80*10*3 -30°C	55	kJ/m ²	ISO 180/1A

(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.
 (5) 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.
 (6) Needs hard coat to consistently pass 60 sec Vertical Burn.

Source GMD, last updated:

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TYPICAL PROPERTIES ¹	TYPICAL VALUE	Unit	Standard
IMPACT			
Charpy 23°C, V-notch Edgew 80*10*3 sp=62mm	70	kJ/m ²	ISO 179/1eA
Charpy -30°C, V-notch Edgew 80*10*3 sp=62mm	60	kJ/m ²	ISO 179/1eA
Charpy 23°C, Unnotch Edgew 80*10*3 sp=62mm	NB	kJ/m ²	ISO 179/1eU
Charpy -30°C, Unnotch Edgew 80*10*3 sp=62mm	NB	kJ/m ²	ISO 179/1eU
THERMAL			
Vicat Softening Temp, Rate A/50	141	°C	ASTM D 1525
HDT, 1.82 MPa, 3.2mm, unannealed	124	°C	ASTM D 648
CTE, -40°C to 95°C, flow	7.15E-05	1/°C	ASTM E 831
CTE, -40°C to 95°C, xflow	7.93E-05	1/°C	ASTM E 831
CTE, 23°C to 80°C, flow	7.15E-05	1/°C	ISO 11359-2
CTE, 23°C to 80°C, xflow	7.93E-05	1/°C	ISO 11359-2
Ball Pressure Test, 125°C +/- 2°C	PASS	-	IEC 60695-10-2
Vicat Softening Temp, Rate B/50	141	°C	ISO 306
Vicat Softening Temp, Rate B/120	143	°C	ISO 306
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	119	°C	ISO 75/Af
PHYSICAL			
Specific Gravity	1.19	-	ASTM D 792
Mold Shrinkage on Tensile Bar, flow (2) (5)	0.4 - 0.8	%	SABIC Method
Mold Shrinkage, flow, 3.2 mm (5)	0.4 - 0.8	%	SABIC Method
Mold Shrinkage, xflow, 3.2 mm (5)	0.4 - 0.8	%	SABIC Method
Melt Flow Rate, 300°C/1.2 kgf	10	g/10 min	ASTM D 1238
Density	1.19	g/cm ³	ISO 1183
Water Absorption, (23°C/sat)	0.13	%	ISO 62
Moisture Absorption (23°C / 50% RH)	0.09	%	ISO 62
Melt Volume Rate, MVR at 220°C/5.0 kg	9	cm ³ /10 min	ISO 1133

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PROCESSING PARAMETERS	TYPICAL VALUE	Unit
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	215 - 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

• NOTE: Back Pressure, Screw Speed, Shot to Cylinder Size and Vent Depth are only mentioned as general guidelines. These may not apply or need adjustment in specific situations such as low shot sizes, thin wall molding and gas-assist molding.

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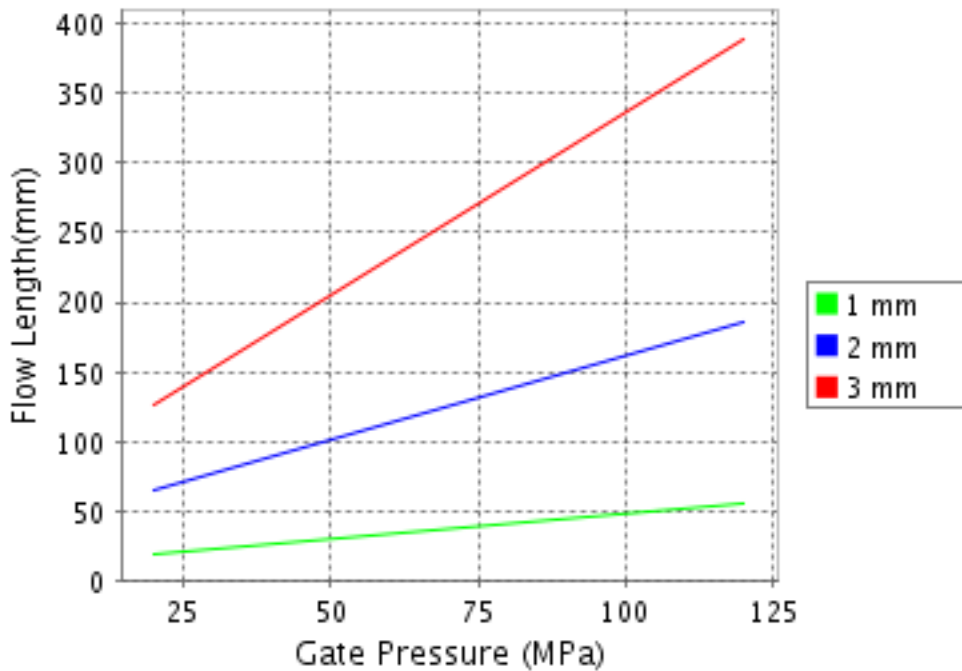
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CALCULATED FLOW LENGTH INDICATION
Moldflow® Radial Flow Analysis
LEXAN® FXD1413T
Melt Temperature : 305°C
Mold Temperature : 85°C



Note: Technical support is recommended if Gate Pressure is greater than 80 MPa. Contact your local representative.
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