

# LEXAN<sup>TM</sup> COPOLYMER EXL8414

REGION EUROPE

## DESCRIPTION

LEXAN EXL8414 is a PC/siloxane copolymer resin with medium flow, excellent low temperature impact and up to 25% post consumer recycle content. Availability of resin is restricted and lead times are longer due to limited manufacturing capability. Higher color variability and contamination risks including black specs needs to be considered before approval for use in applications. Contact your technical sales representative with questions.

## TYPICAL PROPERTY VALUES

Revision 20200610

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
<b>MECHANICAL</b>			
Tensile Stress, yld, Type I, 50 mm/min	57	MPa	ASTM D 638
Tensile Stress, brk, Type I, 50 mm/min	60	MPa	ASTM D 638
Tensile Strain, yld, Type I, 50 mm/min	6	%	ASTM D 638
Tensile Strain, brk, Type I, 50 mm/min	113	%	ASTM D 638
Tensile Modulus, 50 mm/min	2150	MPa	ASTM D 638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	91	MPa	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	2210	MPa	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	6	%	ISO 527
Tensile Strain, break, 50 mm/min	105	%	ISO 527
Tensile Modulus, 1 mm/min	2360	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	86	MPa	ISO 178
Flexural Modulus, 2 mm/min	2170	MPa	ISO 178
<b>IMPACT</b>			
Izod Impact, notched, 23°C	852	J/m	ASTM D 256
Izod Impact, notched, -30°C	741	J/m	ASTM D 256
Instrumented Impact Total Energy, 23°C	71	J	ASTM D 3763
Izod Impact, notched 80°10°4 +23°C	67	kJ/m <sup>2</sup>	ISO 180/1A
Izod Impact, notched 80°10°4 -30°C	56	kJ/m <sup>2</sup>	ISO 180/1A
Charpy 23°C, V-notch Edgew 80°10°4 sp=62mm	82	kJ/m <sup>2</sup>	ISO 179/1eA
<b>THERMAL</b>			
Vicat Softening Temp, Rate B/50	143	°C	ASTM D 1525
HDT, 0.45 MPa, 3.2 mm, unannealed	138	°C	ASTM D 648
HDT, 1.82 MPa, 3.2mm, unannealed	126	°C	ASTM D 648
CTE, -40°C to 40°C, flow	6.44E-05	1/°C	ASTM E 831
CTE, -40°C to 40°C, xflow	6.51E-05	1/°C	ASTM E 831
CTE, 23°C to 80°C, flow	7.22E-05	1/°C	ISO 11359-2
CTE, 23°C to 80°C, xflow	7.55E-05	1/°C	ISO 11359-2
Vicat Softening Temp, Rate B/50	143	°C	ISO 306
Vicat Softening Temp, Rate B/120	145	°C	ISO 306
HDT/Be, 0.45MPa Edgew 120°10°4 sp=100mm	138	°C	ISO 75/Be
HDT/Ae, 1.8 MPa Edgew 120°10°4 sp=100mm	126	°C	ISO 75/Ae

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
<b>PHYSICAL</b>			
Specific Gravity	1.18	-	ASTM D 792
Mold Shrinkage, flow, 3.2 mm	0.4 – 0.8	%	SABIC method
Mold Shrinkage, xflow, 3.2 mm	0.4 – 0.8	%	SABIC method
Melt Flow Rate, 300°C/1.2 kgf	9.2	g/10 min	ASTM D 1238
Density	1.19	g/cm <sup>3</sup>	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	8	cm <sup>3</sup> /10 min	ISO 1133
<b>INJECTION MOLDING</b>			
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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