

# LEXANTM COPOLYMER HFD1413

REGION EUROPE

## DESCRIPTION

11 MFR LEXAN High Flow Ductile Copolymer

## TYPICAL PROPERTY VALUES

Revision 20240621

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL <sup>(1)</sup>			
Tensile Stress, yld, Type I, 50 mm/min	58	MPa	ASTM D638
Tensile Stress, brk, Type I, 50 mm/min	67	MPa	ASTM D638
Tensile Strain, yld, Type I, 50 mm/min	6	%	ASTM D638
Tensile Strain, brk, Type I, 50 mm/min	137	%	ASTM D638
Tensile Modulus, 5 mm/min	2240	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	2230	MPa	ASTM D790
Hardness, Rockwell R	120	-	ASTM D785
Tensile Stress, yield, 50 mm/min	61	MPa	ISO 527
Tensile Stress, break, 50 mm/min	68	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	6	%	ISO 527
Tensile Strain, break, 50 mm/min	126	%	ISO 527
Tensile Modulus, 1 mm/min	2120	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	90	MPa	ISO 178
Flexural Modulus, 2 mm/min	2090	MPa	ISO 178
IMPACT <sup>(1)</sup>			
Izod Impact, notched, 23°C	903	J/m	ASTM D256
Izod Impact, notched, -20°C	859	J/m	ASTM D256
Izod Impact, notched, -30°C	435	J/m	ASTM D256
Multiaxial Impact	120	J	ISO 6603
Instrumented Dart Impact Total Energy, 23°C	77	J	ASTM D3763
Izod Impact, unnotched 80*10*3 +23°C	NB	kJ/m²	ISO 180/1U
Izod Impact, unnotched 80*10*3 -30°C	NB	kJ/m²	ISO 180/1U
Izod Impact, notched 80*10*3 +23°C	70	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*3 -30°C	32	kJ/m²	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*3 sp=62mm	80	kJ/m²	ISO 179/1eA
Charpy -30°C, V-notch Edgew 80*10*3 sp=62mm	43	kJ/m²	ISO 179/1eA
Charpy 23°C, Unnotch Edgew 80*10*3 sp=62mm	NB	kJ/m²	ISO 179/1eU
Charpy -30°C, Unnotch Edgew 80*10*3 sp=62mm	NB	kJ/m²	ISO 179/1eU
THERMAL <sup>(1)</sup>			
Vicat Softening Temp, Rate B/50	136	°C	ASTM D1525
HDT, 0.45 MPa, 3.2 mm, unannealed	124	°C	ASTM D648
HDT, 1.82 MPa, 3.2mm, unannealed	114	°C	ASTM D648
CTE, -40°C to 40°C, flow	8.E-05	1/°C	ASTM E831
CTE, -40°C to 40°C, xflow	8.E-05	1/°C	ASTM E831
		CLIENALCE	

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# CHEMISTRY THAT MATTERS



PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
CTE, -40°C to 40°C, flow	8.E-05	1/°C	ISO 11359-2
CTE, -40°C to 40°C, xflow	8.E-05	1/°C	ISO 11359-2
Ball Pressure Test, 125°C +/- 2°C	PASS		IEC 60695-10-2
Vicat Softening Temp, Rate B/50	130	°C	ISO 306
Vicat Softening Temp, Rate B/120	131	°C	ISO 306
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	115	°C	ISO 75/Af
Relative Temp Index, Elec <sup>(2)</sup>	105	°C	UL 746B
Relative Temp Index, Mech w/impact <sup>(2)</sup>	105	°C	UL 746B
Relative Temp Index, Mech w/o impact <sup>(2)</sup>	105	°C	UL 746B
PHYSICAL <sup>(1)</sup>			
Specific Gravity	1.2	-	ASTM D792
Density	1.2	g/cm <sup>3</sup>	ASTM D792
Mold Shrinkage, flow, 3.2 mm <sup>(3)</sup>	0.5 – 0.7	%	SABIC method
Melt Flow Rate, 300°C/1.2 kgf	11	g/10 min	ASTM D1238
Density	1.2	g/cm³	ISO 1183
Water Absorption, (23°C/saturated)	0.3	%	ISO 62-1
Moisture Absorption (23°C / 50% RH)	0.15	%	ISO 62
Melt Volume Rate, MVR at 300°C/1.2 kg	10	cm³/10 min	ISO 1133
OPTICAL <sup>(1)</sup>			
Light Transmission, 2.54 mm	88	%	ASTM D1003
Haze, 2.54 mm	<1	%	ASTM D1003
Refractive Index	1.582	-	ASTM D542
FLAME CHARACTERISTICS (2)			
UL Yellow Card Link	<u>E45329-100911710</u>		
UL Recognized, 94HB Flame Class Rating			
er neeeg nized, e nie name eners nating	≥0.75	mm	UL 94
INJECTION MOLDING <sup>(4)</sup>	≥0.75	mm	UL 94
	≥0.75 105 - 110	mm °C	UL 94
INJECTION MOLDING <sup>(4)</sup>			UL 94
INJECTION MOLDING <sup>(4)</sup> Drying Temperature	105 – 110	°C	UL 94
INJECTION MOLDING <sup>(4)</sup> Drying Temperature Drying Time	105 – 110 3 – 4	°C Hrs	UL 94
INJECTION MOLDING <sup>(4)</sup> Drying Temperature Drying Time Drying Time (Cumulative)	105 – 110 3 – 4 24	°C Hrs Hrs	UL 94
INJECTION MOLDING <sup>(4)</sup> Drying Temperature Drying Time Drying Time (Cumulative) Maximum Moisture Content	105 – 110 3 – 4 24 0.02	°C Hrs Hrs %	UL 94
INJECTION MOLDING <sup>(4)</sup> Drying Temperature Drying Time Drying Time (Cumulative) Maximum Moisture Content Melt Temperature	105 – 110 3 – 4 24 0.02 260 – 305	°C Hrs Hrs %	UL 94
INJECTION MOLDING <sup>(4)</sup> Drying Temperature Drying Time Drying Time (Cumulative) Maximum Moisture Content Melt Temperature Nozzle Temperature	105 - 110       3 - 4       24       0.02       260 - 305       255 - 300	°C Hrs Hrs % °C °C	UL 94
INJECTION MOLDING <sup>(4)</sup> Drying Temperature Drying Time Drying Time (Cumulative) Maximum Moisture Content Melt Temperature Nozzle Temperature Front - Zone 3 Temperature	105 - 110       3 - 4       24       0.02       260 - 305       255 - 300       260 - 305	°C Hrs Hrs % °C °C	UL 94
INJECTION MOLDING <sup>(4)</sup> Drying Temperature Drying Time Drying Time (Cumulative) Maximum Moisture Content Melt Temperature Nozzle Temperature Front - Zone 3 Temperature Middle - Zone 2 Temperature	105 - 110       3 - 4       24       0.02       260 - 305       255 - 300       260 - 305       250 - 295	°C Hrs Hrs °C °C °C	UL 94
INJECTION MOLDING <sup>(4)</sup> Drying Temperature Drying Time Drying Time (Cumulative) Maximum Moisture Content Melt Temperature Nozzle Temperature Front - Zone 3 Temperature Middle - Zone 2 Temperature Rear - Zone 1 Temperature	105 - 110       3 - 4       24       0.02       260 - 305       255 - 300       260 - 305       250 - 295       240 - 280	°C     Hrs     %     °C	UL 94
INJECTION MOLDING (4)Drying TemperatureDrying TimeDrying Time (Cumulative)Maximum Moisture ContentMelt TemperatureNozzle TemperatureFront - Zone 3 TemperatureMiddle - Zone 2 TemperatureRear - Zone 1 TemperatureMold Temperature	105 - 110       3 - 4       24       0.02       260 - 305       255 - 300       260 - 305       250 - 295       240 - 280       50 - 80	°C     Hrs     %     °C	UL 94
INJECTION MOLDING <sup>(4)</sup> Drying Temperature Drying Time Drying Time (Cumulative) Maximum Moisture Content Melt Temperature Nozzle Temperature Front - Zone 3 Temperature Middle - Zone 2 Temperature Rear - Zone 1 Temperature Mold Temperature Back Pressure	105 - 110       3 - 4       24       0.02       260 - 305       255 - 300       260 - 305       250 - 295       240 - 280       50 - 80       0.3 - 0.7	°C     Hrs     %     °C     °D     °D <th>UL 94</th>	UL 94



- (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.

### **MORE INFORMATION**

For curve data and CAE cards, please visit and register at https://materialfinder.sabic-specialties.com

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