

LEXANTM COPOLYMER HFD1034

REGION AMERICAS

DESCRIPTION

7 MFR LEXAN HFD Copolymer UV-stabilized, available in transparent colors only

TYPICAL PROPERTY VALUES

Revision 20240621

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
	THICKE VALUES	0.4.13	TEST WILLIIODS
MECHANICAL (1)			
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	142	%	ASTM D638
Tensile Modulus, 5 mm/min	2260	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	2240	MPa	ASTM D790
Hardness, Rockwell R	120	-	ASTM D785
Tensile Stress, yield, 50 mm/min	60	MPa	ISO 527
Tensile Stress, break, 50 mm/min	73	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	6	%	ISO 527
Tensile Strain, break, 50 mm/min	141	%	ISO 527
Tensile Modulus, 1 mm/min	2080	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	89	MPa	ISO 178
Flexural Modulus, 2 mm/min	2070	MPa	ISO 178
IMPACT (1)			
Izod Impact, notched, 23°C	966	J/m	ASTM D256
Izod Impact, notched, -30°C	899	J/m	ASTM D256
Multiaxial Impact	134	J	ISO 6603
Instrumented Dart Impact Total Energy, 23°C	78	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	72	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*3 -30°C	63	kJ/m²	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*3 sp=62mm	82	kJ/m²	ISO 179/1eA
Charpy -30°C, V-notch Edgew 80*10*3 sp=62mm	69	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 (1)			
Vicat Softening Temp, Rate B/50	136	°C	ASTM D1525
HDT, 0.45 MPa, 3.2 mm, unannealed	125	°C	ASTM D648
HDT, 1.82 MPa, 3.2mm, unannealed	115	°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
CTE, -40°C to 40°C, flow	8.E-05	1/°C	ISO 11359-2



PRODERIES TYPICAL VALUES UNITS TEST METHODS CIF., 40°C to 40°Cx, 40°Cx \$8.05 1.°C \$8.11539.2 Ball Pressure Text, 128°C+1-2°C 90.55 2.0 \$8.050 Vicat Softening Temp, Rate 8/190 131 °C \$9.306 Vicat Softening Temp, Rate 8/190 151 °C \$9.75/µ Relative Temp Index, Mete 19/104 4.9 r84mm 15 °C \$0.75/µ Relative Temp Index, Mete (19/104 pre4mm) 105 °C \$0.75/µ Relative Temp Index, Mete (19/104 pre4mm) 105 °C \$0.74 black Relative Temp Index, Mete (19/104 pre4mm) 12 °C \$1.04 flee Relative Temp Index, Mete (19/104 pre4mm) 12 °C \$5.07 flee Relative Temp Index, Mete (19/104 pre4mm) 12 °C \$5.07 flee Relative Temp Index, Mete (19/104 pre4mm) \$6.00 flee \$7.00 flee \$6.00 flee William (19/104 pre4mm) \$6.00 flee \$6.00 flee \$6.00 flee \$6.00 flee William (19/104 pre4mm) \$6.00 flee \$6.00 flee \$6.00 flee \$6.00 flee				
Ball Presume Test, 125°C+ /- 2°C Mics Oschering Temp, Rate ® J9.0 J30 Ce B0.056 Vicat Softening Temp, Rate ® J9.0 31 C B0.056 HDT /K.1.8 MPR FlatW 80°10°4 speldum 115 C B0.05 B0.73/IT Relative Temp Index, Bite ® J 105 C U.746B B0.05 Relative Temp Index, Mich w/l impact ® J 105 C U.746B L246B Relative Temp Index, Mich w/l impact ® J 105 C U.746B L246B Relative Temp Index, Mich w/l impact ® J 105 C U.746B L246B Relative Temp Index, Mich w/l impact ® J 20 L276B MSTM D792 L246B L246B MSTM D792	PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Vicat Softening Temp, Rate 8/190 130 °C 150 506 Vicat Softening Temp, Rate 8/120 131 °C 150 75/14 Relative Temp Index, Riec (°°) 105 °C 150 75/14 Relative Temp Index, Mech w/impact (°°) 105 °C 107 468 Relative Temp Index, Mech w/impact (°°) 105 °C 107 468 Relative Temp Index, Mech w/impact (°°) 105 °C 017 468 Relative Temp Index, Mech w/impact (°°) 105 °C 017 468 Relative Temp Index, Mech w/impact (°°) 12 °C ASTM 0792 Problem Care (°°) 12 0.00 35 M0792 Dessity 12 10 min ASTM 0792 Mel How Marca, 300°C/1.2 kgf 12 10 min ASTM 01238 Moisture Absorption, (23°C/sturted) 0.15 % 0.02 Moisture Absorption (23°C/s box 8h) 0.15 % 0.02 Moisture Absorption (23°C/s box 8h) 1.5 % 0.02 Moisture Absorption (23°C/s box 8h) 1.5 % 0.02	CTE, -40°C to 40°C, xflow	8.E-05	1/°C	ISO 11359-2
Victa Softening Temp, Rate #1720 131 °C 807 (AI - 1.8 MPs Pataw 901'04 sp=64mm 115 °C 157 (AI - 1.8 MPs Pataw 901'04 sp=64mm 115 °C 157 (AI - 1.8 MPs Pataw 901'04 sp=64mm 115 °C 157 (AI - 1.8 MPs Pataw 901'04 sp=64mm 115 °C 157 (AI - 1.8 MPs Pataw 901'04 sp=64mm) 120 °C 12 (AI - 1.8 MPs Pataw 901'04 sp=64mm)	Ball Pressure Test, 125°C +/- 2°C	PASS	-	IEC 60695-10-2
BOT/AL 1.5 MPa Flatw 80°10'4 spe4mm 15 °C No 57/A/7 Relative Temp Index, Elec (°) 105 °C U.7 468 Relative Temp Index, Mech Wijmact (°) 105 °C U.7 468 Relative Temp Index, Mech Wijmact (°) 105 °C U.7 468 PHYSICAL (°) ************************************	Vicat Softening Temp, Rate B/50	130	°C	ISO 306
Relative Temp Index, Relecting 105 "C Ut 746 Relative Temp Index, Mech w/impact (**) 105 "C Ut 746 Relative Temp Index, Mech w/o impact (**) 105 "C Ut 746 Project Feature Findex, Mech w/o impact (**) 12 "C ASTM D792 Boedife Gravity 1.2 4.0 SATM D792 Boedife Gravity 1.2 9.0 ASTM D792 Mold Shrinkage, flow, 3.2 mm (**) 1.2 9.0 ASTM D792 Mold Flow Rate, 300°C/1.2 kg/f 1.2 9.0 9.0 ASTM D792 Water Absorption (23°C) Fabrated) 3.0 3.2 8.0 6.2 Molsture Absorption (23°C) Fox Rel) 6.2 9.0	Vicat Softening Temp, Rate B/120	131	°C	ISO 306
Relative Temp Index, Mech w/j impact (°) 105 "C U.746 Relative Temp Index, Mech w/j impact (°) 105 "C U.746 NYSSEAL** (") Entysicul* (") U.2 4 AMD 1972 Denity 1.2 4 AMD 1972 Bod Shriklage, flow, 3.2 mm (°) 1.2 4 AMD 1972 Molt Flow Rate, 300°(-12 kg) 2.2 9/m² ASTI UT38 Well Flow Rate, 300°(-12 kg) 1.2 9/m² ASTI UT38 Water Absorption, (23°C) Suturated) 1.2 9/m² 105 13 Well Volume Rate, Mark 300°(-12 kg) 1.2 9/m² 105 13 13 14		115	°C	ISO 75/Af
Relative Temp Index, Mech w/ pimpart (a)105v. 107PHYSICAL (b)Problem (Gravity)1.23.03.03.0Boerlic Gravity1.23.03.03.0Mold Shrinkage, flow, 3.2 mm (b)2.03.03.03.0Mold Shrinkage, flow, 3.2 mm (b)2.03.03.03.0Dentity2.03.03.03.03.0Molture Absorption (23°C/3 sturated)3.03.03.03.0Molture Absorption (23°C/5 sk Rh)3.03.03.03.0Molture Absorption (23°C/5 sk Rh)3.03.03.03.0Beace, 25 mm3.03.03.03.03.0Beace, 25 mm3.03.03.03.03.03.0Beace, 25 mm3.03.03.03.03.03.0Moltace, 25 mm3.03.03.03.03.03.0Moltace, 25 mm3.03.03.03.03.03.0Moltace, 25 mm3.03.03.03.0	Relative Temp Index, Elec ⁽²⁾	105	°C	UL 746B
Physicial (Financial Presentation Formation Formatio	Relative Temp Index, Mech w/impact (2)	105	°C	UL 746B
Specific Gravity1.2	Relative Temp Index, Mech w/o impact (2)	105	°C	UL 746B
Density Jean of Same (Private) 12 gloral (Private) SAMD (Private) Mold Shrinkage, flow, 3.2 mm (Private) 5.5.0.7 \$10 min ASIM (Private) Density 1.2 (Private) \$10 min ASIM (Private) Water Absorption (23°C / 50% RH) 0.15 \$10 min \$10 min \$10 min Molisture Absorption (23°C / 50% RH) 0.15 \$10 min \$10 min \$10 min Molisture Absorption (23°C / 50% RH) 0.15 \$10 min \$10 min </th <th>PHYSICAL (1)</th> <th></th> <th></th> <th></th>	PHYSICAL (1)			
Mold Shrinkage, flow, 3.2 mm. ¹⁹ 0.5-0.7 % Horizon (1) min (2) min	Specific Gravity	1.2	-	ASTM D792
Melt Flow Rate, 300°C/1.2 kgf 7 g/10 min ASTM D1238 Density 1.2 g/m² 50 1183 Water Absorption, (23°C/saturated) 0.3 % 50 62-1 Moisture Absorption, (23°C/50%RH) 0.15 % 50 62-1 Melt Volume Rate, MVR at 300°C/1.2 kg 6 m²/10 m²/10 50 133 OPTICAL*** Light Transmission, 2.54 mm 8 % ASTM D1003 Refract be Index 1.5 2 ASTM D1003 Refract le Medx % ASTM D1003 400-2 LE LABACTERISTICS*** * ASTM D1003 450-2 * LE LABACTERISTICS*** * <t< th=""><th>Density</th><th>1.2</th><th>g/cm³</th><th>ASTM D792</th></t<>	Density	1.2	g/cm³	ASTM D792
Density 1.2 g/cm² ISO 183 Water Absorption (23°C/ saturated) 0.3 % ISO 62-1 Moisture Absorption (23°C / 50% RH) 0.15 % 50 62-1 Melt Volume Rate, MVR at 300°C/1.2 kg 6 cm²/l 10min 150 62-1 Melt Volume Rate, MVR at 300°C/1.2 kg 8 x ASTM D1003 Haze, 2.54 mm 8 % ASTM D1003 Refractive Index 1.582 x XSTM D1003 Refractive Index 1.5252-100987584 x XSTM D1003 UI Recognized, 94HB Flame Class Rating 80.8 x X X UI Recognized, 94HB Flame Class Rating 105-110 x° X	Mold Shrinkage, flow, 3.2 mm ⁽³⁾	0.5 – 0.7	%	SABIC method
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 6 cm²/10 min ISO 1133 OPTICAL ¹⁹ Using Transmission, 2.54 mm 88 % ASTM D1003 Refractive Index 1.582 a ASTM D1003 Refractive Index 1.582 a ASTM D1003 Refractive Index 1.582 a ASTM D1003 Value CHARCTERISTICS ⁽²⁾ U. Yellow Card Link 5 a a 4 U. Yellow Card Link 5 a a 4	Melt Flow Rate, 300°C/1.2 kgf	7	g/10 min	ASTM D1238
Moisture Absorption (23°C / 50% RH) 0.15 % en on	Density	1.2	g/cm³	ISO 1183
Melt Volume Rate, MNR at 300°C/1.2 kg 6 m²/10 min SO 1133 OPTICAL (¹) TURCH (¹) TURCH (¹) SO ASTM D1003 Haze, 2.54 mm 8.8 % OS ASTM D1003 Refractive Index 1.582 2.0 ASTM D1003 FLAME CHARACTERISTICS (²) UL Yellow Card Link £121562-100987584 2. 2. UL Recognized, 94HB Flame Class Rating 20.8 mm U.94 UNIECTION MOLDING (³) ** ** Drying Temperature 105-110 ** ** ** Drying Time (Cumulative) 3-4 His **	Water Absorption, (23°C/saturated)	0.3	%	ISO 62-1
OPTICAL ¹¹ Light Transmission, 2.54 mm 88 \$ ASTM D1003 Haze, 2.54 mm 1.582 \$ ASTM D542 Refractive Index 1.582 • ASTM D542 FLAME CHARACTERISTICS ⁽²⁾ UL Yellow Card Link £121562-100987584 • • UL Recognized, 94HB Flame Class Rating 20.8 mm U.94 INJECTION MOLDING ⁽⁴⁾ Urying Temperature 105 – 110 °C • Drying Time (Cumulative) 24 His • Melit Temperature 200 – 305 °C • Nozzle Temperature 255 – 300 °C • Front - Zone 3 Temperature 260 – 305 °C • Rear - Zone 1 Temperature 250 – 295 °C • Rear - Zone 1 Temperature 20 – 295 °C • Mold Temperature 30 – 30.7 MPA • Screw Speed 35 – 75 pm • Screw Speed 30 – 60 • •	Moisture Absorption (23°C / 50% RH)	0.15	%	ISO 62
Light Transmission, 2.54 mm88%ASTM D1003Haze, 2.54 mm1.5822ASTM D542FLAME CHARACTERISTICS (2)*********************************	Melt Volume Rate, MVR at 300°C/1.2 kg	6	cm³/10 min	ISO 1133
Haze, 2.54 mm ASTM D1003 Refractive Index 1.582 2.0 ASTM D542 ELAME CHARACTERISTICS (2) Ut Yellow Card Link £121562-100987584 -	OPTICAL (1)			
Refractive Index ASTM D542 FLAME CHARACTERISTICS (2) UL Yellow Card Link F121562-100987584 - 0 UL Recognized, 94HB Flame Class Rating b.08 mm UL 94 INJECTION MOLDING (4) Drying Temperature 105-110 °C Drying Time (Cumulative) 3 - 4 Hrs Maximum Moisture Content 20 9 Melt Temperature 60-305 °C Nozzle Temperature 255-300 °C Font-Zone 3 Temperature 260-295 °C Middle-Zone 2 Temperature 240-280 °C Rear-Zone 1 Temperature 240-280 °C Mold Temperature 50-80 °C Mold Temperature 0.3-0.7 MP Screw Speed 9 Mold Temperature 9 °C Bold Temperature 9 9	Light Transmission, 2.54 mm	88	%	ASTM D1003
FLAME CHARACTERISTICS (2) UL Yellow Card Link 521562-100987584	Haze, 2.54 mm	<1	%	ASTM D1003
UL Yellow Card Link E121562-100987584 -	Refractive Index	1.582	-	ASTM D542
UL Recognized, 94HB Flame Class Rating ≥0.8 mm UL 94 INJECTION MOLDING (*) Drying Temperature 105 - 110 °C Drying Time 3 - 4 Hrs Drying Time (Cumulative) 24 Hrs Maximum Moisture Content 0.02 % Melt Temperature 260 - 305 °C Nozzle Temperature 255 - 300 °C Front - Zone 3 Temperature 260 - 305 °C Middle - Zone 2 Temperature 250 - 295 °C Rear - Zone 1 Temperature 240 - 280 °C Mold Temperature 50 - 80 °C Back Pressure 0.3 - 0.7 MPa Screw Speed 35 - 75 pm Screw Speed 40 - 60 %	FLAME CHARACTERISTICS (2)			
INJECTION MOLDING (4) Drying Temperature 105 – 110 °C Drying Time (Cumulative) 24 Hrs Maximum Moisture Content 0.02 % Melt Temperature 260 – 305 °C Nozzle Temperature 255 – 300 °C Front - Zone 3 Temperature 260 – 305 °C Middle - Zone 2 Temperature 260 – 305 °C Middle - Zone 2 Temperature 260 – 305 °C Mold Temperature 260 – 305 °C Rear - Zone 1 Temperature 260 – 305 °C Mold Temperature 300 °C Mold Temperature 50 – 80 °C Scew Speed 35 – 75 mpm Strew Speed 40 – 60 % Mold Temperature 50 – 80 °C Motor Speed 51 – 300 °C Motor Speed 52 – 300 °C Motor Speed 52 – 300 °C Motor Speed 53 – 75 °C Motor Speed 54 – 60 % Motor Sp	UL Yellow Card Link	<u>E121562-100987584</u>	-	-
Drying Temperature 105 – 110 °C Drying Time 3 – 4 Hrs Drying Time (Cumulative) 24 Hrs Maximum Moisture Content 0.02 % Melt Temperature 260 – 305 °C Nozzle Temperature 255 – 300 °C Middle - Zone 3 Temperature 260 – 305 °C Middle - Zone 2 Temperature 250 – 295 °C Rear - Zone 1 Temperature 240 – 280 °C Mold Temperature 50 – 80 °C Back Pressure 0.3 – 0.7 MPa Screw Speed 35 – 75 rpm Shot to Cylinder Size 40 – 60 %	UL Recognized, 94HB Flame Class Rating	≥0.8	mm	UL 94
Drying Temperature 105 – 110 °C Drying Time 3 – 4 Hrs Drying Time (Cumulative) 24 Hrs Maximum Moisture Content 0.02 % Melt Temperature 260 – 305 °C Nozzle Temperature 255 – 300 °C Middle - Zone 3 Temperature 260 – 305 °C Middle - Zone 2 Temperature 250 – 295 °C Rear - Zone 1 Temperature 240 – 280 °C Mold Temperature 50 – 80 °C Back Pressure 0.3 – 0.7 MPa Screw Speed 35 – 75 rpm Shot to Cylinder Size 40 – 60 %	INJECTION MOLDING (4)			
Drying Time3 - 4HrsDrying Time (Cumulative)24HrsMaximum Moisture Content0.02%Melt Temperature260 - 305°CNozzle Temperature255 - 300°CFront - Zone 3 Temperature260 - 305°CMiddle- Zone 2 Temperature250 - 295°CRear - Zone 1 Temperature240 - 280°CMold Temperature50 - 80°CBack Pressure0.3 - 0.7MPaScrew Speed35 - 75rpmShot to Cylinder Size40 - 60%		105 – 110	°C	
Maximum Moisture Content 0.02 % Melt Temperature 260 - 305 °C Nozzle Temperature 255 - 300 °C Front - Zone 3 Temperature 260 - 305 °C Middle - Zone 2 Temperature 250 - 295 °C Rear - Zone 1 Temperature 240 - 280 °C Mold Temperature 50 - 80 °C Back Pressure 0.3 - 0.7 MPa Screw Speed 35 - 75 rpm Shot to Cylinder Size 40 - 60 %		3 – 4	Hrs	
Maximum Moisture Content 0.02 % Melt Temperature 260 - 305 °C Nozzle Temperature 255 - 300 °C Front - Zone 3 Temperature 260 - 305 °C Middle - Zone 2 Temperature 250 - 295 °C Rear - Zone 1 Temperature 240 - 280 °C Mold Temperature 50 - 80 °C Back Pressure 0.3 - 0.7 MPa Screw Speed 35 - 75 rpm Shot to Cylinder Size 40 - 60 %		24	Hrs	
Nozzle Temperature 255 – 300 °C Front - Zone 3 Temperature 260 – 305 °C Middle - Zone 2 Temperature 250 – 295 °C Rear - Zone 1 Temperature 240 – 280 °C Mold Temperature 50 – 80 °C Back Pressure 0.3 – 0.7 MPa Screw Speed 35 – 75 rpm Shot to Cylinder Size 40 – 60 %		0.02	%	
Front - Zone 3 Temperature 260 – 305 °C Middle - Zone 2 Temperature 250 – 295 °C Rear - Zone 1 Temperature 240 – 280 °C Mold Temperature 50 – 80 °C Back Pressure 0.3 – 0.7 MPa Screw Speed 35 – 75 rpm Shot to Cylinder Size 40 – 60 %	Melt Temperature	260 – 305	°C	
Middle - Zone 2 Temperature 250 – 295 °C Rear - Zone 1 Temperature 240 – 280 °C Mold Temperature 50 – 80 °C Back Pressure 0.3 – 0.7 MPa Screw Speed 35 – 75 rpm Shot to Cylinder Size 40 – 60 %	Nozzle Temperature	255 – 300	°C	
Rear - Zone 1 Temperature 240 – 280 °C Mold Temperature 50 – 80 °C Back Pressure 0.3 – 0.7 MPa Screw Speed 35 – 75 rpm Shot to Cylinder Size 40 – 60 %	Front - Zone 3 Temperature	260 – 305	°C	
Mold Temperature 50 – 80 °C Back Pressure 0.3 – 0.7 MPa Screw Speed 35 – 75 rpm Shot to Cylinder Size 40 – 60 %	Middle - Zone 2 Temperature	250 – 295	°C	
Back Pressure 0.3 – 0.7 MPa Screw Speed 35 – 75 rpm Shot to Cylinder Size 40 – 60 %	Rear - Zone 1 Temperature	240 – 280	°C	
Screw Speed 35 – 75 rpm Shot to Cylinder Size 40 – 60 %	Mold Temperature	50 – 80	°C	
Shot to Cylinder Size 40 – 60 %	Back Pressure	0.3 – 0.7	MPa	
·	Screw Speed	35 – 75	rpm	
Vent Depth 0.038 – 0.076 mm	Shot to Cylinder Size	40 – 60	%	
	Vent Depth	0.038 - 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.

MORE INFORMATION

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

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