

LEXANTM COPOLYMER HFD4271

REGION ASIA

DESCRIPTION

LEXAN HFD4271 is a 10% glass filled, high flow, impact modified, injection moldable grade designed for high flow and superior surface appearance. HFD4271 has enhanced mold release, impact ductility and broad color space.

TYPICAL PROPERTY VALUES

Revision 20190606

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL			
Tensile Stress, yld, Type I, 5 mm/min	53	MPa	ASTM D 638
Tensile Stress, brk, Type I, 5 mm/min	39	MPa	ASTM D 638
Tensile Strain, yld, Type I, 5 mm/min	3	%	ASTM D 638
Tensile Modulus, 5 mm/min	3700	MPa	ASTM D 638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	95	MPa	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	3300	MPa	ASTM D 790
Tensile Stress, yield, 5 mm/min	59	MPa	ISO 527
Tensile Stress, break, 5 mm/min	48	MPa	ISO 527
Tensile Strain, yield, 5 mm/min	3	%	ISO 527
Tensile Strain, break, 5 mm/min	9	%	ISO 527
IMPACT			
Izod Impact, unnotched, 23°C	1700	J/m	ASTM D 4812
Izod Impact, notched, 23°C	230	J/m	ASTM D 256
Instrumented Impact Total Energy, 23°C	36	J	ASTM D 3763
Izod Impact, unnotched 80*10*3 +23°C	93	kJ/m ²	ISO 180/1U
Izod Impact, unnotched 80*10*3 -30°C	68	kJ/m ²	ISO 180/1U
Izod Impact, notched 80*10*3 +23°C	20	kJ/m ²	ISO 180/1A
Izod Impact, notched 80*10*3 -30°C	9	kJ/m ²	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*3 sp=62mm	18	kJ/m ²	ISO 179/1eA
Charpy -30°C, V-notch Edgew 80*10*3 sp=62mm	9	kJ/m ²	ISO 179/1eA
Charpy 23°C, Unnotch Edgew 80*10*3 sp=62mm	110	kJ/m ²	ISO 179/1eU
Charpy -30°C, Unnotch Edgew 80*10*3 sp=62mm	102	kJ/m ²	ISO 179/1eU
THERMAL			
HDT, 0.45 MPa, 3.2 mm, unannealed	131	°C	ASTM D 648
HDT, 1.82 MPa, 3.2mm, unannealed	125	°C	ASTM D 648
CTE, -40°C to 40°C, flow	4.E-05	1/°C	ASTM E 831
CTE, -40°C to 40°C, xflow	7.E-05	1/°C	ASTM E 831
CTE, 23°C to 80°C, flow	3.E-05	1/°C	ISO 11359-2
CTE, 23°C to 80°C, xflow	8.E-05	1/°C	ISO 11359-2
Ball Pressure Test, 125°C +/- 2°C	PASSES	-	IEC 60695-10-2
Vicat Softening Temp, Rate B/120	135	°C	ISO 306
Relative Temp Index, Elec ⁽¹⁾	80	°C	UL 746B
Relative Temp Index, Mech w/impact ⁽¹⁾	80	°C	UL 746B
Relative Temp Index, Mech w/o impact ⁽¹⁾	80	°C	UL 746B

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
PHYSICAL			
Specific Gravity	1.26	-	ASTM D 792
Mold Shrinkage, flow, 3.2 mm	0.2 – 0.3	%	SABIC method
Mold Shrinkage, xflow, 3.2 mm	0.4 – 0.5	%	SABIC method
Melt Flow Rate, 300°C/1.2 kgf	15	g/10 min	ASTM D 1238
Density	1.25	g/cm ³	ISO 1183
Water Absorption, (23°C/sat)	0.13	%	ISO 62
Moisture Absorption (23°C / 50% RH)	0.04	%	ISO 62
Melt Volume Rate, MVR at 300°C/1.2 kg	14	cm ³ /10 min	ISO 1133
FLAME CHARACTERISTICS ⁽¹⁾			
UL Yellow Card Link	E207780-101177358	-	-
UL Recognized, 94HB Flame Class Rating	≥0.4	mm	UL 94
Glow Wire Ignitability Temperature, 3.0 mm	900	°C	IEC 60695-2-13
Glow Wire Ignitability Temperature, 2.0 mm	900	°C	IEC 60695-2-13
Glow Wire Ignitability Temperature, 1.0 mm	930	°C	IEC 60695-2-13
Glow Wire Flammability Index, 3.0 mm	960	°C	IEC 60695-2-12
Glow Wire Flammability Index, 2.0 mm	960	°C	IEC 60695-2-12
Glow Wire Flammability Index, 1.0 mm	930	°C	IEC 60695-2-12
INJECTION MOLDING			
Drying Temperature	120	°C	
Drying Time	3 – 4	hrs	
Drying Time (Cumulative)	48	hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	290 – 310	°C	
Nozzle Temperature	280 – 305	°C	
Front - Zone 3 Temperature	290 – 310	°C	
Middle - Zone 2 Temperature	275 – 300	°C	
Rear - Zone 1 Temperature	265 – 290	°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	

(1) 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.

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