

# LEXAN™ COPOLYMER HFD4413

REGION ASIA

## DESCRIPTION

LEXAN HFD4413 is a 30% glass filled, injection moldable grade designed for high flow and superior surface appearance. Internal mold release.

## TYPICAL PROPERTY VALUES

Revision 20180906

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
<b>MECHANICAL</b>			
Tensile Stress, yld, Type I, 5 mm/min	111	MPa	ASTM D 638
Tensile Stress, brk, Type I, 5 mm/min	111	MPa	ASTM D 638
Tensile Strain, yld, Type I, 5 mm/min	3	%	ASTM D 638
Tensile Modulus, 5 mm/min	7870	MPa	ASTM D 638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	182	MPa	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	7760	MPa	ASTM D 790
Tensile Stress, yield, 5 mm/min	115	MPa	ISO 527
Tensile Stress, break, 5 mm/min	125	MPa	ISO 527
Tensile Strain, yield, 5 mm/min	2.5	%	ISO 527
Tensile Strain, break, 5 mm/min	2.1	%	ISO 527
<b>IMPACT</b>			
Izod Impact, unnotched, 23°C	852	J/m	ASTM D 4812
Izod Impact, notched, 23°C	133	J/m	ASTM D 256
Instrumented Impact Total Energy, 23°C	17	J	ASTM D 3763
Izod Impact, unnotched 80°10'3 +23°C	37	kJ/m <sup>2</sup>	ISO 180/1U
Izod Impact, unnotched 80°10'3 -30°C	30	kJ/m <sup>2</sup>	ISO 180/1U
Izod Impact, notched 80°10'3 +23°C	10	kJ/m <sup>2</sup>	ISO 180/1A
Izod Impact, notched 80°10'3 -30°C	10	kJ/m <sup>2</sup>	ISO 180/1A
Charpy 23°C, V-notch Edgew 80°10'3 sp=62mm	12	kJ/m <sup>2</sup>	ISO 179/1eA
Charpy -30°C, V-notch Edgew 80°10'3 sp=62mm	11	kJ/m <sup>2</sup>	ISO 179/1eA
Charpy 23°C, Unnotch Edgew 80°10'3 sp=62mm	40	kJ/m <sup>2</sup>	ISO 179/1eU
Charpy -30°C, Unnotch Edgew 80°10'3 sp=62mm	49	kJ/m <sup>2</sup>	ISO 179/1eU
<b>THERMAL</b>			
HDT, 0.45 MPa, 3.2 mm, unannealed	130	°C	ASTM D 648
HDT, 1.82 MPa, 3.2mm, unannealed	125	°C	ASTM D 648
CTE, -40°C to 40°C, flow	3.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	7.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	143	°C	ISO 306
HDT/Af, 1.8 MPa Flatw 80°10'4 sp=64mm	129	°C	ISO 75/Af
Relative Temp Index, Elec	80	°C	UL 746B
Relative Temp Index, Mech w/impact	80	°C	UL 746B
Relative Temp Index, Mech w/o impact	80	°C	UL 746B

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
<b>PHYSICAL</b>			
Specific Gravity	1.43	-	ASTM D 792
Mold Shrinkage, flow, 3.2 mm	0.1 – 0.3	%	SABIC method
Mold Shrinkage, xflow, 3.2 mm	0.1 – 0.3	%	SABIC method
Melt Flow Rate, 300°C/1.2 kgf	16	g/10 min	ASTM D 1238
Density	1.44	g/cm <sup>3</sup>	ISO 1183
Water Absorption, (23°C/sat)	0.3	%	ISO 62
Moisture Absorption (23°C / 50% RH)	0.12	%	ISO 62
Melt Volume Rate, MVR at 300°C/1.2 kg	18	cm <sup>3</sup> /10 min	ISO 1133
<b>FLAME CHARACTERISTICS</b>			
UL Recognized, 94HB Flame Class Rating	0.3	mm	UL 94
Glow Wire Flammability Index 960°C, passes at	2	mm	IEC 60695-2-12
Glow Wire Ignitability Temperature, 1.0 mm	850	°C	IEC 60695-2-13
<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	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	

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