



LEXAN™ Resin HFD4412
Americas: COMMERCIAL

LEXAN HFD4412 is a 20% glass filled, injection moldable grade designed for high flow and superior surface appearance. Internal mold release.

TYPICAL PROPERTIES ¹	TYPICAL VALUE	Unit	Standard
MECHANICAL			
Tensile Stress, yld, Type I, 5 mm/min	970	kgf/cm ²	ASTM D 638
Tensile Stress, brk, Type I, 5 mm/min	970	kgf/cm ²	ASTM D 638
Tensile Strain, yld, Type I, 5 mm/min	3	%	ASTM D 638
Tensile Modulus, 5 mm/min	65200	kgf/cm ²	ASTM D 638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	1620	kgf/cm ²	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	59600	kgf/cm ²	ASTM D 790
Tensile Stress, yield, 5 mm/min	110	MPa	ISO 527
Tensile Stress, break, 5 mm/min	110	MPa	ISO 527
Tensile Strain, yield, 5 mm/min	2.8	%	ISO 527
Tensile Strain, break, 5 mm/min	2.7	%	ISO 527
IMPACT			
Izod Impact, unnotched, 23°C	84	cm-kgf/cm	ASTM D 4812
Izod Impact, notched, 23°C	11	cm-kgf/cm	ASTM D 256
Instrumented Impact Total Energy, 23°C	214	cm-kgf	ASTM D 3763
Izod Impact, unnotched 80*10*3 +23°C	42	kJ/m ²	ISO 180/1U
Izod Impact, unnotched 80*10*3 -30°C	40	kJ/m ²	ISO 180/1U
Izod Impact, notched 80*10*3 +23°C	7	kJ/m ²	ISO 180/1A
Izod Impact, notched 80*10*3 -30°C	7	kJ/m ²	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*3 sp=62mm	8	kJ/m ²	ISO 179/1eA
Charpy -30°C, V-notch Edgew 80*10*3 sp=62mm	8	kJ/m ²	ISO 179/1eA
Charpy 23°C, Unnotch Edgew 80*10*3 sp=62mm	43	kJ/m ²	ISO 179/1eU
Charpy -30°C, Unnotch Edgew 80*10*3 sp=62mm	48	kJ/m ²	ISO 179/1eU



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THERMAL			
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	127	°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
PHYSICAL			
Specific Gravity	1.3	-	ASTM D 792
Mold Shrinkage, flow, 3.2 mm (5)	0.1 - 0.3	%	SABIC Method
Mold Shrinkage, xflow, 3.2 mm (5)	0.1 - 0.3	%	SABIC Method
Melt Flow Rate, 300°C/1.2 kgf	15	g/10 min	ASTM D 1238
Density	1.35	g/cm ³	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	14	cm ³ /10 min	ISO 1133
FLAME CHARACTERISTICS			
UL Recognized, 94HB Flame Class Rating (3)	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



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PROCESSING PARAMETERS	TYPICAL VALUE	Unit
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



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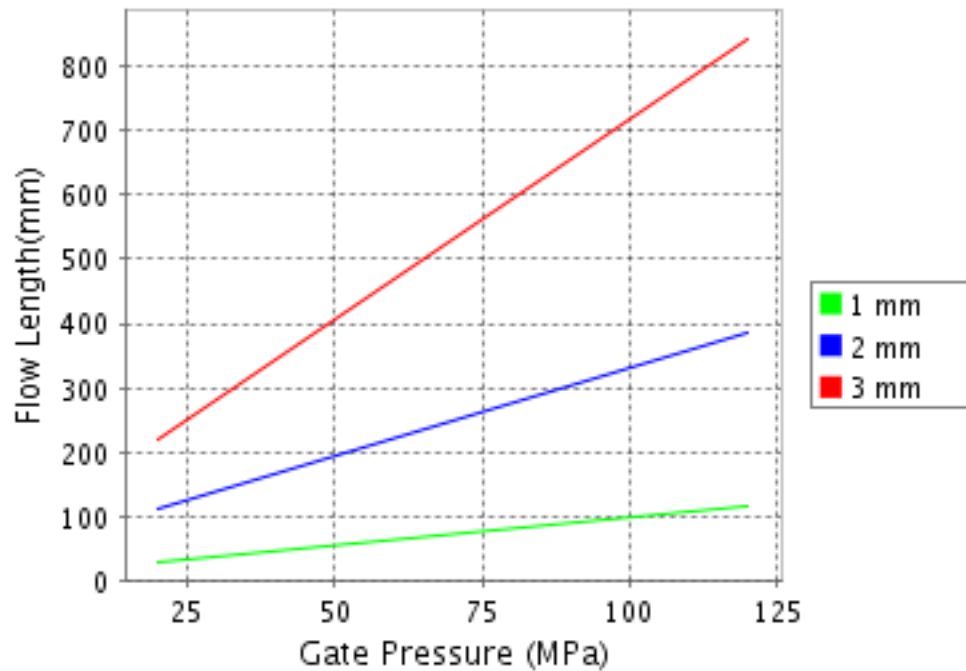
CALCULATED FLOW LENGTH INDICATION

Moldflow® Radial Flow Analysis

LEXAN® HFD4412

Melt Temperature : 315°C

Mold Temperature : 95°C



Note: Technical support is recommended if Gate Pressure is greater than 80 MPa. Contact your local representative.

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