

LEXAN™ HFD4412 resin

Polycarbonate

SABIC Innovative Plastics Asia Pacific

Message:

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

General Information			
UL YellowCard	E121562-100872100		
Filler / Reinforcement	Glass fiber reinforced material, 20% filler by weight		
Additive	demoulding		
Features	High liquidity		
	Excellent appearance		
Processing Method	Injection molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity			
--	1.30	g/cm ³	ASTM D792
--	1.35	g/cm ³	ISO 1183
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	15	g/10 min	ASTM D1238
Melt Volume-Flow Rate (MVR) (300°C/1.2 kg)	14.0	cm ³ /10min	ISO 1133
Molding Shrinkage			Internal method
Flow: 3.20mm	0.10 - 0.30	%	Internal method
Transverse flow: 3.20mm	0.10 - 0.30	%	Internal method
Water Absorption			ISO 62
Saturated, 23°C	0.30	%	ISO 62
Equilibrium, 23°C, 50% RH	0.12	%	ISO 62
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus ¹	6400	MPa	ASTM D638
Tensile Strength			
Yield ²	96.0	MPa	ASTM D638
Yield	110	MPa	ISO 527-2/5
Fracture ³	96.0	MPa	ASTM D638
Fracture	110	MPa	ISO 527-2/5
Tensile Elongation			
Yield ⁴	3.0	%	ASTM D638
Yield	2.8	%	ISO 527-2/5
Fracture	2.7	%	ISO 527-2/5
Flexural Modulus ⁵ (50.0 mm Span)	5850	MPa	ASTM D790
Flexural Strength ⁶ (Yield, 50.0 mm Span)	159	MPa	ASTM D790

Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength ⁷			ISO 179/1eA
-30°C	8.0	kJ/m ²	ISO 179/1eA
23°C	8.0	kJ/m ²	ISO 179/1eA
Charpy Unnotched Impact Strength ⁸			ISO 179/1eU
-30°C	48	kJ/m ²	ISO 179/1eU
23°C	43	kJ/m ²	ISO 179/1eU
Notched Izod Impact			
23°C	110	J/m	ASTM D256
-30°C ⁹	7.0	kJ/m ²	ISO 180/1A
23°C ¹⁰	7.0	kJ/m ²	ISO 180/1A
Unnotched Izod Impact			
23°C	830	J/m	ASTM D4812
-30°C ¹¹	40	kJ/m ²	ISO 180/1U
23°C ¹²	42	kJ/m ²	ISO 180/1U
Instrumented Dart Impact (23°C, Total Energy)	21.0	J	ASTM D3763
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			
0.45 MPa, unannealed, 3.20mm	130	°C	ASTM D648
1.8 MPa, unannealed, 3.20mm	125	°C	ASTM D648
1.8 MPa, unannealed, 64.0mm span ¹³	127	°C	ISO 75-2/Af
Vicat Softening Temperature	143	°C	ISO 306/B120
Ball Pressure Test (125°C)	Pass		IEC 60695-10-2
Linear thermal expansion coefficient			
Flow: -40 to 40°C	3.0E-5	cm/cm/°C	ASTM E831
Flow: 23 to 80°C	3.0E-5	cm/cm/°C	ISO 11359-2
Lateral: -40 to 40°C	7.0E-5	cm/cm/°C	ASTM E831
Lateral: 23 to 80°C	7.0E-5	cm/cm/°C	ISO 11359-2
RTI Elec	80.0	°C	UL 746
RTI Imp	80.0	°C	UL 746
RTI	80.0	°C	UL 746
Flammability	Nominal Value	Unit	Test Method
Flame Rating (0.300 mm)	HB		UL 94
Glow Wire Flammability Index (2.00 mm)	960	°C	IEC 60695-2-12
Glow Wire Ignition Temperature (1.00 mm)	850	°C	IEC 60695-2-13
Injection	Nominal Value	Unit	
Drying Temperature	121	°C	
Drying Time	3.0 - 4.0	hr	
Drying Time, Maximum	48	hr	
Suggested Max Moisture	0.020	%	
Suggested Shot Size	40 - 60	%	

Rear Temperature	266 - 288	°C
Middle Temperature	277 - 299	°C
Front Temperature	288 - 310	°C
Nozzle Temperature	282 - 304	°C
Processing (Melt) Temp	288 - 310	°C
Mold Temperature	71.1 - 93.3	°C
Back Pressure	0.345 - 0.689	MPa
Screw Speed	40 - 70	rpm
Vent Depth	0.025 - 0.076	mm

NOTE

1.	5.0 mm/min
2.	Type 1, 5.0 mm/min
3.	Type 1, 5.0 mm/min
4.	Type 1, 5.0 mm/min
5.	1.3 mm/min
6.	1.3 mm/min
7.	80*10*3 sp=62mm
8.	80*10*3 sp=62mm
9.	80*10*3
10.	80*10*3
11.	80*10*3
12.	80*10*3
13.	80*10*4 mm

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