

LEXAN™ 3412ECR resin

Polycarbonate

SABIC Innovative Plastics

PROSPECTOR®

www.ulprospector.com

Technical Data

Product Description

LEXAN 3412ECR Polycarbonate (PC) resin is a 20% glass fiber filled, injection moldable grade. This non-chlorinated, non-brominated flame retardant GF-PC has an UL-94 V0 rating and is available in various opaque color options. LEXAN 3412ECR is a resin designed to meet the needs of high stiffness applications.

General

Material Status	• Commercial: Active
Literature ¹	• Technical Datasheet
UL Yellow Card ²	• E121562-220879
Search for UL Yellow Card	• SABIC Innovative Plastics • LEXAN™
Availability	• North America
Filler / Reinforcement	• Glass Fiber, 20% Filler by Weight
Additive	• Flame Retardant
Features	• Bromine Free • Chlorine Free • Flame Retardant • High Stiffness
Appearance	• Opaque
Processing Method	• Injection Molding

Physical	Nominal Value Unit	Test Method
Specific Gravity		
--	1.30 g/cm ³	ASTM D792
--	1.36 g/cm ³	ISO 1183
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	7.0 g/10 min	ASTM D1238
Melt Volume-Flow Rate (MVR) (300°C/1.2 kg)	7.00 cm ³ /10min	ISO 1133
Molding Shrinkage		Internal Method
Flow : 3.20 mm	0.20 to 0.50 %	
Across Flow : 3.20 mm	0.20 to 0.50 %	
Water Absorption		ISO 62
Saturation, 23°C	0.29 %	
Equilibrium, 23°C, 50% RH	0.12 %	

Mechanical	Nominal Value Unit	Test Method
Tensile Modulus		
-- ⁴	5500 MPa	ASTM D638
--	6000 MPa	ISO 527-2/1
Tensile Strength		
Yield ⁵	90.0 MPa	ASTM D638
Yield	95.0 MPa	ISO 527-2/5
Break ⁵	87.0 MPa	ASTM D638
Break	90.0 MPa	ISO 527-2/5
Tensile Elongation		
Yield ⁵	3.1 %	ASTM D638
Yield	2.8 %	ISO 527-2/5
Break	3.2 %	ISO 527-2/5
Flexural Modulus		
50.0 mm Span ⁶	5000 MPa	ASTM D790
-- ⁷	5500 MPa	ISO 178
Flexural Stress		
-- ^{7, 8}	140 MPa	ISO 178
Yield, 50.0 mm Span ⁶	156 MPa	ASTM D790



LEXAN™ 3412ECR resin

Polycarbonate

SABIC Innovative Plastics**PROSPECTOR®**

www.ulprospector.com

Impact	Nominal Value Unit	Test Method
Charpy Notched Impact Strength ⁹		ISO 179/1eA
-30°C	5.0 kJ/m ²	
23°C	6.0 kJ/m ²	
Charpy Unnotched Impact Strength ⁹		ISO 179/1eU
-30°C	40 kJ/m ²	
23°C	40 kJ/m ²	
Notched Izod Impact		
-30°C	110 J/m	ASTM D256
23°C	110 J/m	ASTM D256
-30°C ¹⁰	6.0 kJ/m ²	ISO 180/1A
23°C ¹⁰	7.0 kJ/m ²	ISO 180/1A
Unnotched Izod Impact Strength ¹⁰		ISO 180/1U
-30°C	35 kJ/m ²	
23°C	35 kJ/m ²	
Instrumented Dart Impact		ASTM D3763
23°C, Total Energy	20.0 J	
Thermal	Nominal Value Unit	Test Method
Heat Deflection Temperature		
0.45 MPa, Unannealed, 64.0 mm Span ¹¹	141 °C	ISO 75-2/Bf
1.8 MPa, Unannealed, 3.20 mm	141 °C	ASTM D648
1.8 MPa, Unannealed, 64.0 mm Span ¹¹	136 °C	ISO 75-2/Af
Vicat Softening Temperature		
--	147 °C	ASTM D1525 ¹²
--	145 °C	ISO 306/B50
--	146 °C	ISO 306/B120
Ball Pressure Test (125°C)	Pass	IEC 60695-10-2
CLTE		
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
Transverse : -40 to 40°C	7.0E-5 cm/cm/°C	ASTM E831
Transverse : 23 to 80°C	7.0E-5 cm/cm/°C	ISO 11359-2
RTI Elec	130 °C	UL 746
RTI Imp	130 °C	UL 746
RTI Str	130 °C	UL 746
Electrical	Nominal Value Unit	Test Method
Surface Resistivity	> 1.0E+15 ohms	IEC 60093
Volume Resistivity	> 1.0E+15 ohms·cm	IEC 60093
Relative Permittivity		IEC 60250
50 Hz	3.30	
60 Hz	3.30	
1 MHz	3.30	
Dissipation Factor		IEC 60250
50 Hz	0.020	
60 Hz	0.020	
1 MHz	0.010	
Arc Resistance ¹³	PLC 7	ASTM D495
Comparative Tracking Index (CTI)	PLC 3	UL 746
High Amp Arc Ignition (HAI)	PLC 3	UL 746
High Voltage Arc Tracking Rate (HVTR)	PLC 3	UL 746
Hot-wire Ignition (HWI)	PLC 0	UL 746



LEXAN™ 3412ECR resin

Polycarbonate

SABIC Innovative Plastics

PROSPECTOR®

www.ulprospector.com

Flammability	Nominal Value Unit	Test Method
Flame Rating		UL 94
1.5 mm	V-0	
3.0 mm	5VA	
Glow Wire Flammability Index (1.0 mm)	960 °C	IEC 60695-2-12
Glow Wire Ignition Temperature (1.0 mm)	825 °C	IEC 60695-2-13
Oxygen Index	40 %	ISO 4589-2

Injection	Nominal Value Unit
Drying Temperature	121 °C
Drying Time	3.0 to 4.0 hr
Drying Time, Maximum	48 hr
Suggested Max Moisture	0.020 %
Suggested Shot Size	40 to 60 %
Rear Temperature	266 to 288 °C
Middle Temperature	277 to 299 °C
Front Temperature	288 to 310 °C
Nozzle Temperature	282 to 304 °C
Processing (Melt) Temp	288 to 310 °C
Mold Temperature	71 to 93 °C
Back Pressure	0.345 to 0.689 MPa
Screw Speed	40 to 70 rpm
Vent Depth	0.025 to 0.076 mm

Notes

¹ These links provide you with access to supplier literature. We work hard to keep them up to date; however you may find the most current literature from the supplier.

² A UL Yellow Card contains UL-verified flammability and electrical characteristics. UL Prospector continually works to link Yellow Cards to individual plastic materials in Prospector, however this list may not include all of the appropriate links. It is important that you verify the association between these Yellow Cards and the plastic material found in Prospector. For a complete listing of Yellow Cards, visit the UL Yellow Card Search.

³ Typical properties: these are not to be construed as specifications.

⁴ 5.0 mm/min

⁵ Type I, 5.0 mm/min

⁶ 1.3 mm/min

⁷ 2.0 mm/min

⁸ Yield

⁹ 80*10*3 sp=62mm

¹⁰ 80*10*3

¹¹ 80*10*4 mm

¹² Rate B (120°C/h), Loading 2 (50 N)

¹³ Tungsten Electrode



LEXAN™ 3412ECR resin

Polycarbonate

SABIC Innovative Plastics

PROSPECTOR®

www.ulprospector.com

Where to Buy

Supplier

SABIC Innovative Plastics

Pittsfield, MA USA

Telephone: 800-845-0600

Web: <http://www.sabic-ip.com/>

Distributor

Nexeo Solutions

Telephone: 888-594-6009

Web: <http://www.nexeosolutions.com/>

Availability: North America

Reseller

A Reseller is not a distributor authorized by the Supplier.

Guangzhou Huaxiu Plastics Co., Ltd.

Telephone: +86-20-82582555

Web: <http://www.va-so.com>

Availability: China

