

LEXAN™ EXL1434 resin

Monday, March 09, 2015

General Information

Product Description

LEXAN EXL1434 polycarbonate (PC) siloxane copolymer resin is a medium flow opaque injection molding (IM) grade and is UV stabilized. This resin offers extreme low temperature (-40 C), exhibits excellent processability and release with opportunities for shorter IM cycle times compared to standard PC. LEXAN EXL1434 resin is a product available in wide range of opaque colors and may be an excellent candidate for a wide variety of applications.

General

Material Status	• Commercial: Active		
Availability	• Asia Pacific		
Additive	• UV Stabilizer		
Features	• Copolymer	• General Purpose	• Good Processability
	• Fast Molding Cycle	• Good Mold Release	• Medium Flow
Uses	• General Purpose		
Appearance	• Colors Available	• Opaque	
Processing Method	• Injection Molding		

ASTM & ISO Properties ¹

Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.18		ASTM D792
Density	1.19	g/cm ³	ISO 1183
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	10	g/10 min	ASTM D1238
Melt Volume-Flow Rate (MVR) (300°C/1.2 kg)	0.549	in ³ /10min	ISO 1133
Molding Shrinkage - Flow (0.126 in)	4.0E-3 to 8.0E-3	in/in	Internal Method
Molding Shrinkage - Across Flow (0.126 in)	4.0E-3 to 8.0E-3	in/in	Internal Method
Water Absorption (Saturation, 73°F)	0.35	%	ISO 62
Water Absorption (Equilibrium, 73°F, 50% RH)	0.15	%	ISO 62
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus ²	293000	psi	ASTM D638
Tensile Modulus	312000	psi	ISO 527-2/1
Tensile Strength ³ (Yield)	8050	psi	ASTM D638
Tensile Stress (Yield)	8270	psi	ISO 527-2/50
Tensile Strength ³ (Break)	7300	psi	ASTM D638
Tensile Stress (Break)	8700	psi	ISO 527-2/50
Tensile Elongation ³ (Yield)	6.0	%	ASTM D638
Tensile Strain (Yield)	6.0	%	ISO 527-2/50
Tensile Elongation ³ (Break)	98	%	ASTM D638
Tensile Strain (Break)	120	%	ISO 527-2/50
Flexural Modulus ⁴ (1.97 in Span)	324000	psi	ASTM D790

Disclaimer : THE MATERIALS, PRODUCTS AND SERVICES OF SAUDI BASIC INDUSTRIES CORPORATION (SABIC) OR ITS SUBSIDIARIES OR AFFILIATES ("SELLER") ARE SOLD SUBJECT TO SELLER'S STANDARD CONDITIONS OF SALE, WHICH ARE AVAILABLE UPON REQUEST. INFORMATION AND RECOMMENDATIONS CONTAINED IN THIS DOCUMENT ARE GIVEN IN GOOD FAITH. HOWEVER, SELLER MAKES NO EXPRESS OR IMPLIED REPRESENTATION, WARRANTY OR GUARANTEE (i) THAT ANY RESULTS DESCRIBED IN THIS DOCUMENT WILL BE OBTAINED UNDER END-USE CONDITIONS, OR (ii) AS TO THE EFFECTIVENESS OR SAFETY OF ANY DESIGN OR APPLICATION INCORPORATING SELLER'S MATERIALS, PRODUCTS, SERVICES OR RECOMMENDATIONS. UNLESS OTHERWISE PROVIDED IN SELLER'S STANDARD CONDITIONS OF SALE, SELLER SHALL NOT BE RESPONSIBLE FOR ANY LOSS RESULTING FROM ANY USE OF ITS MATERIALS, PRODUCTS, SERVICES OR RECOMMENDATIONS DESCRIBED IN THIS DOCUMENT. Each user is responsible for making its own determination as to the suitability of Seller's materials, products, services or recommendations for the user's particular use through appropriate end-use and other testing and analysis. Nothing in any document or oral statement shall be deemed to alter or waive any provision of Seller's Standard Conditions of Sale or this Disclaimer, unless it is specifically agreed to in a writing signed by Seller. Statements by Seller concerning a possible use of any material, product, service or design do not, are not intended to, and should not be construed to grant any license under any patent or other intellectual property right of Seller or as a recommendation for the use of any material, product, service or design in a manner that infringes any patent or other intellectual property right.

SABIC and brands marked with ™ are trademarks of SABIC or its subsidiaries or affiliates.

© 2015 Saudi Basic Industries Corporation (SABIC). All Rights Reserved.

LEXAN™ EXL1434 resin

SABIC Innovative Plastics Asia Pacific - Polycarbonate

Mechanical	Nominal Value	Unit	Test Method
Flexural Modulus ⁵	326000	psi	ISO 178
Flexural Stress ^{5,6}	12300	psi	ISO 178
Flexural Strength ⁴ (Yield, 1.97 in Span)	13400	psi	ASTM D790
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength ⁷			ISO 179/1eA
-22°F	31	ft-lb/in ²	
73°F	33	ft-lb/in ²	
Charpy Unnotched Impact Strength ⁷			ISO 179/1eU
-22°F	No Break		
73°F	No Break		
Notched Izod Impact			ASTM D256
-22°F	15	ft-lb/in	
73°F	16	ft-lb/in	
Notched Izod Impact Strength ⁸			ISO 180/1A
-22°F	29	ft-lb/in ²	
73°F	33	ft-lb/in ²	
Unnotched Izod Impact Strength ⁸			ISO 180/1U
-22°F	No Break		
73°F	No Break		
Instrumented Dart Impact (73°F, Total Energy)	620	in-lb	ASTM D3763
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness			ASTM D785
L-Scale	89		
R-Scale	121		
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			ASTM D648
66 psi, Unannealed, 0.126 in	283	°F	
Heat Deflection Temperature ⁹			ISO 75-2/Be
66 psi, Unannealed, 3.94 in Span	284	°F	
Deflection Temperature Under Load			ASTM D648
264 psi, Unannealed, 0.126 in	256	°F	
Heat Deflection Temperature ⁹			ISO 75-2/Ae
264 psi, Unannealed, 3.94 in Span	262	°F	
Vicat Softening Temperature	293	°F	ASTM D1525 ¹⁰
Vicat Softening Temperature			
--	293	°F	ISO 306/B50
--	295	°F	ISO 306/B120
Ball Pressure Test (257°F)	Pass		IEC 60695-10-2
CLTE - Flow (-40 to 104°F)	3.9E-5	in/in/°F	ASTM E831
CLTE - Flow (73 to 176°F)	4.0E-5	in/in/°F	ISO 11359-2
CLTE - Transverse (-40 to 104°F)	4.2E-5	in/in/°F	ASTM E831
CLTE - Transverse (73 to 176°F)	4.0E-5	in/in/°F	ISO 11359-2
RTI Elec	266	°F	UL 746

Disclaimer : THE MATERIALS, PRODUCTS AND SERVICES OF SAUDI BASIC INDUSTRIES CORPORATION (SABIC) OR ITS SUBSIDIARIES OR AFFILIATES ("SELLER") ARE SOLD SUBJECT TO SELLER'S STANDARD CONDITIONS OF SALE, WHICH ARE AVAILABLE UPON REQUEST. INFORMATION AND RECOMMENDATIONS CONTAINED IN THIS DOCUMENT ARE GIVEN IN GOOD FAITH. HOWEVER, SELLER MAKES NO EXPRESS OR IMPLIED REPRESENTATION, WARRANTY OR GUARANTEE (i) THAT ANY RESULTS DESCRIBED IN THIS DOCUMENT WILL BE OBTAINED UNDER END-USE CONDITIONS, OR (ii) AS TO THE EFFECTIVENESS OR SAFETY OF ANY DESIGN OR APPLICATION INCORPORATING SELLER'S MATERIALS, PRODUCTS, SERVICES OR RECOMMENDATIONS. UNLESS OTHERWISE PROVIDED IN SELLER'S STANDARD CONDITIONS OF SALE, SELLER SHALL NOT BE RESPONSIBLE FOR ANY LOSS RESULTING FROM ANY USE OF ITS MATERIALS, PRODUCTS, SERVICES OR RECOMMENDATIONS DESCRIBED IN THIS DOCUMENT. Each user is responsible for making its own determination as to the suitability of Seller's materials, products, services or recommendations for the user's particular use through appropriate end-use and other testing and analysis. Nothing in any document or oral statement shall be deemed to alter or waive any provision of Seller's Standard Conditions of Sale or this Disclaimer, unless it is specifically agreed to in a writing signed by Seller. Statements by Seller concerning a possible use of any material, product, service or design do not, are not intended to, and should not be construed to grant any license under any patent or other intellectual property right of Seller or as a recommendation for the use of any material, product, service or design in a manner that infringes any patent or other intellectual property right.

SABIC and brands marked with ™ are trademarks of SABIC or its subsidiaries or affiliates.

© 2015 Saudi Basic Industries Corporation (SABIC). All Rights Reserved.

LEXAN™ EXL1434 resin

SABIC Innovative Plastics Asia Pacific - Polycarbonate

Thermal	Nominal Value	Unit	Test Method
RTI Imp	248	°F	UL 746
RTI Str	257	°F	UL 746
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	> 1.0E+15	ohm	ASTM D257
Volume Resistivity	> 1.0E+15	ohm·cm	ASTM D257
Dielectric Strength (0.0315 in, in Oil)	410	V/mil	ASTM D149
Dielectric Constant			ASTM D150
100 Hz	2.68		
1 MHz	2.64		
Dissipation Factor			ASTM D150
100 Hz	1.2E-3		
1 MHz	9.3E-3		
Flammability	Nominal Value	Unit	Test Method
Flame Rating (0.118 in)	HB		UL 94
Glow Wire Flammability Index			IEC 60695-2-12
0.0315 in	1560	°F	
0.0394 in	1760	°F	
Glow Wire Ignition Temperature			IEC 60695-2-13
0.0394 in	1610	°F	
0.118 in	1610	°F	
Oxygen Index	37	%	ISO 4589-2

Processing Information

Injection	Nominal Value	Unit
Drying Temperature	250	°F
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	423 to 559	°F
Middle Temperature	540 to 579	°F
Front Temperature	559 to 601	°F
Nozzle Temperature	550 to 590	°F
Processing (Melt) Temp	559 to 601	°F
Mold Temperature	160 to 199	°F
Back Pressure	50.0 to 100	psi
Screw Speed	40 to 70	rpm
Vent Depth	1.0E-3 to 3.0E-3	in

Disclaimer : THE MATERIALS, PRODUCTS AND SERVICES OF SAUDI BASIC INDUSTRIES CORPORATION (SABIC) OR ITS SUBSIDIARIES OR AFFILIATES ("SELLER") ARE SOLD SUBJECT TO SELLER'S STANDARD CONDITIONS OF SALE, WHICH ARE AVAILABLE UPON REQUEST. INFORMATION AND RECOMMENDATIONS CONTAINED IN THIS DOCUMENT ARE GIVEN IN GOOD FAITH. HOWEVER, SELLER MAKES NO EXPRESS OR IMPLIED REPRESENTATION, WARRANTY OR GUARANTEE (i) THAT ANY RESULTS DESCRIBED IN THIS DOCUMENT WILL BE OBTAINED UNDER END-USE CONDITIONS, OR (ii) AS TO THE EFFECTIVENESS OR SAFETY OF ANY DESIGN OR APPLICATION INCORPORATING SELLER'S MATERIALS, PRODUCTS, SERVICES OR RECOMMENDATIONS. UNLESS OTHERWISE PROVIDED IN SELLER'S STANDARD CONDITIONS OF SALE, SELLER SHALL NOT BE RESPONSIBLE FOR ANY LOSS RESULTING FROM ANY USE OF ITS MATERIALS, PRODUCTS, SERVICES OR RECOMMENDATIONS DESCRIBED IN THIS DOCUMENT. Each user is responsible for making its own determination as to the suitability of Seller's materials, products, services or recommendations for the user's particular use through appropriate end-use and other testing and analysis. Nothing in any document or oral statement shall be deemed to alter or waive any provision of Seller's Standard Conditions of Sale or this Disclaimer, unless it is specifically agreed to in a writing signed by Seller. Statements by Seller concerning a possible use of any material, product, service or design do not, are not intended to, and should not be construed to grant any license under any patent or other intellectual property right of Seller or as a recommendation for the use of any material, product, service or design in a manner that infringes any patent or other intellectual property right.

SABIC and brands marked with ™ are trademarks of SABIC or its subsidiaries or affiliates.

© 2015 Saudi Basic Industries Corporation (SABIC). All Rights Reserved.

LEXAN™ EXL1434 resin

SABIC Innovative Plastics Asia Pacific - Polycarbonate

Notes

¹ Typical properties: these are not to be construed as specifications.
² 2.0 in/min
³ Type I, 2.0 in/min
⁴ 0.051 in/min
⁵ 0.079 in/min
⁶ Yield
⁷ 80*10*3 sp=62mm
⁸ 80*10*3
⁹ 120*10*4 mm
¹⁰ Rate B (120°C/h), Loading 2 (50 N)

Disclaimer : THE MATERIALS, PRODUCTS AND SERVICES OF SAUDI BASIC INDUSTRIES CORPORATION (SABIC) OR ITS SUBSIDIARIES OR AFFILIATES (“SELLER”) ARE SOLD SUBJECT TO SELLER’S STANDARD CONDITIONS OF SALE, WHICH ARE AVAILABLE UPON REQUEST. INFORMATION AND RECOMMENDATIONS CONTAINED IN THIS DOCUMENT ARE GIVEN IN GOOD FAITH. HOWEVER, SELLER MAKES NO EXPRESS OR IMPLIED REPRESENTATION, WARRANTY OR GUARANTEE (i) THAT ANY RESULTS DESCRIBED IN THIS DOCUMENT WILL BE OBTAINED UNDER END-USE CONDITIONS, OR (ii) AS TO THE EFFECTIVENESS OR SAFETY OF ANY DESIGN OR APPLICATION INCORPORATING SELLER’S MATERIALS, PRODUCTS, SERVICES OR RECOMMENDATIONS. UNLESS OTHERWISE PROVIDED IN SELLER’S STANDARD CONDITIONS OF SALE, SELLER SHALL NOT BE RESPONSIBLE FOR ANY LOSS RESULTING FROM ANY USE OF ITS MATERIALS, PRODUCTS, SERVICES OR RECOMMENDATIONS DESCRIBED IN THIS DOCUMENT. Each user is responsible for making its own determination as to the suitability of Seller’s materials, products, services or recommendations for the user’s particular use through appropriate end-use and other testing and analysis. Nothing in any document or oral statement shall be deemed to alter or waive any provision of Seller’s Standard Conditions of Sale or this Disclaimer, unless it is specifically agreed to in a writing signed by Seller. Statements by Seller concerning a possible use of any material, product, service or design do not, are not intended to, and should not be construed to grant any license under any patent or other intellectual property right of Seller or as a recommendation for the use of any material, product, service or design in a manner that infringes any patent or other intellectual property right.