

LEXAN™ 203R resin

Friday, February 24, 2017

General Information

Product Description

7.0 MFR, for thicker sections without sinks. Improved flame retardance. UV stabilized for outdoor and lighting. Internal mold release.

General

Material Status	• Commercial: Active
Availability	• North America
Additive	• Mold Release • UV Stabilizer
Features	• Flame Retardant
Processing Method	• Injection Molding

ASTM & ISO Properties ¹

Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.20		ASTM D792
Specific Volume	23.0	in ³ /lb	ASTM D792
Density	1.19	g/cm ³	ASTM D792
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	7.0	g/10 min	ASTM D1238
Molding Shrinkage - Flow (0.126 in)	5.0E-3 to 7.0E-3	in/in	Internal Method
Water Absorption (24 hr)	0.15	%	ASTM D570
Water Absorption			ASTM D570
Equilibrium, 73°F	0.35	%	
Equilibrium, 212°F	0.58	%	
Outdoor Suitability	f1		UL 746C
Mechanical	Nominal Value	Unit	Test Method
Tensile Strength ² (Yield)	9000	psi	ASTM D638
Tensile Strength ² (Break)	9500	psi	ASTM D638
Tensile Elongation ² (Yield)	7.0	%	ASTM D638
Tensile Elongation ² (Break)	110	%	ASTM D638
Flexural Modulus ³ (1.97 in Span)	340000	psi	ASTM D790
Flexural Strength ³ (Yield, 1.97 in Span)	13500	psi	ASTM D790
Taber Abrasion Resistance			ASTM D1044
1000 Cycles, 1000 g, CS-17 Wheel	10.0	mg	
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact (73°F)	17	ft-lb/in	ASTM D256
Unnotched Izod Impact (73°F)	60	ft-lb/in	ASTM D4812
Gardner Impact (73°F)	1500	in-lb	ASTM D3029
Tensile Impact Strength ⁴	260	ft-lb/in ²	ASTM D1822

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.

© 2017 Saudi Basic Industries Corporation (SABIC). All Rights Reserved.

LEXAN™ 203R resin

SABIC Innovative Plastics - Polycarbonate

Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness			ASTM D785
M-Scale	70		
R-Scale	118		
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			ASTM D648
66 psi, Unannealed, 0.252 in	280	°F	
Deflection Temperature Under Load			ASTM D648
264 psi, Unannealed, 0.252 in	270	°F	
Vicat Softening Temperature	310	°F	ASTM D1525 ⁵
CLTE - Flow (-40 to 203°F)	3.8E-5	in/in/°F	ASTM E831
Specific Heat	0.301	Btu/lb/°F	ASTM C351
Thermal Conductivity	2.0	Btu·in/hr/ft²/°F	ASTM C177
RTI Elec	266	°F	UL 746
RTI Imp	266	°F	UL 746
RTI Str	266	°F	UL 746
Electrical	Nominal Value	Unit	Test Method
Volume Resistivity	> 1.0E+17	ohms·cm	ASTM D257
Dielectric Strength (0.126 in, in Air)	380	V/mil	ASTM D149
Dielectric Constant			ASTM D150
50 Hz	3.17		
60 Hz	3.17		
1 MHz	2.96		
Dissipation Factor			ASTM D150
50 Hz	9.0E-4		
60 Hz	9.0E-4		
1 MHz	0.010		
Comparative Tracking Index (CTI)	PLC 2		UL 746
High Amp Arc Ignition (HAI)	PLC 1		UL 746
High Voltage Arc Tracking Rate (HVTR)	PLC 2		UL 746
Hot-wire Ignition (HWI)	PLC 4		UL 746
Flammability	Nominal Value	Unit	Test Method
Flame Rating			UL 94
0.030 in	V-2		
0.24 in	V-0		
Optical	Nominal Value	Unit	Test Method
Refractive Index	1.586		ASTM D542
Transmittance (100 mil)	88.0	%	ASTM D1003
Haze (100 mil)	1.0	%	ASTM D1003

Processing Information

Injection	Nominal Value	Unit
Drying Temperature	250	°F
Drying Time	3.0 to 4.0	hr

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.

© 2017 Saudi Basic Industries Corporation (SABIC). All Rights Reserved.

LEXAN™ 203R resin

SABIC Innovative Plastics - Polycarbonate

Injection	Nominal Value	Unit
Drying Time, Maximum	48	hr
Suggested Max Moisture	0.020	%
Suggested Shot Size	40 to 60	%
Rear Temperature	550 to 590	°F
Middle Temperature	570 to 610	°F
Front Temperature	590 to 630	°F
Nozzle Temperature	580 to 620	°F
Processing (Melt) Temp	590 to 630	°F
Mold Temperature	180 to 240	°F
Back Pressure	50.0 to 100	psi
Screw Speed	40 to 70	rpm
Vent Depth	1.0E-3 to 3.0E-3	in

Notes

¹ Typical properties: these are not to be construed as specifications.

² Type I, 2.0 in/min

³ 0.051 in/min

⁴ Type S

⁵ 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.

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

© 2017 Saudi Basic Industries Corporation (SABIC). All Rights Reserved.