



## Lexan\* Resin 103R

### Europe-Africa-Middle East: COMMERCIAL

LEXAN 103R is a high viscosity multi purpose U.V. stabilized grade and contains a release agent to ensure easy processing. LEXAN 103R is available in transparent, translucent and opaque colours.

TYPICAL PROPERTIES <sup>1</sup>	TYPICAL VALUE	UNIT	STANDARD
<b>MECHANICAL</b>			
Taber Abrasion, CS-17, 1 kg	10	mg/1000cy	SABIC Method
Tensile Stress, yield, 50 mm/min	63	MPa	ISO 527
Tensile Stress, break, 50 mm/min	70	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	6	%	ISO 527
Tensile Strain, break, 50 mm/min	120	%	ISO 527
Tensile Modulus, 1 mm/min	2350	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	90	MPa	ISO 178
Flexural Modulus, 2 mm/min	2300	MPa	ISO 178
Hardness, H358/30	95	MPa	ISO 2039-1
<b>IMPACT</b>			
Izod Impact, unnotched 80*10*3 +23°C	NB	kJ/m <sup>2</sup>	ISO 180/1U
Izod Impact, unnotched 80*10*3 -30°C	NB	kJ/m <sup>2</sup>	ISO 180/1U
Izod Impact, notched 80*10*3 +23°C	70	kJ/m <sup>2</sup>	ISO 180/1A
Izod Impact, notched 80*10*3 -30°C	12	kJ/m <sup>2</sup>	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*3 sp=62mm	75	kJ/m <sup>2</sup>	ISO 179/1eA
Charpy -30°C, V-notch Edgew 80*10*3 sp=62mm	15	kJ/m <sup>2</sup>	ISO 179/1eA
Charpy 23°C, Unnotch Edgew 80*10*3 sp=62mm	NB	kJ/m <sup>2</sup>	ISO 179/1eU
Charpy -30°C, Unnotch Edgew 80*10*3 sp=62mm	NB	kJ/m <sup>2</sup>	ISO 179/1eU
Charpy Impact, notched, 23°C	35	kJ/m <sup>2</sup>	ISO 179/2C
<b>THERMAL</b>			
Thermal Conductivity	0.2	W/m-°C	ISO 8302
CTE, 23°C to 80°C, flow	7.E-05	1/°C	ISO 11359-2
Ball Pressure Test, 125°C +/- 2°C	PASSES	-	IEC 60695-10-2
Ball Pressure Test, approximate maximum	140	°C	IEC 60695-10-2
Vicat Softening Temp, Rate B/50	144	°C	ISO 306
Vicat Softening Temp, Rate B/120	145	°C	ISO 306
HDT/Be, 0.45MPa Edgew 120*10*4 sp=100mm	138	°C	ISO 75/Be

<sup>1</sup>Typical values only. Variations within normal tolerances are possible for various colours. All values are measured at least after 48 hours storage at 23°C/50% relative humidity. All properties, except the melt volume rate are measured on injection moulded samples. All samples are prepared according to ISO 294.

<sup>2</sup>Only typical data for material selection purpose. Not to be used for part or tool design.

<sup>3</sup>This rating is not intended to reflect hazards presented by this or any other material under actual fire conditions.

<sup>4</sup>Own measurement according to UL.

Source, GMD, Last Update: 03/14/2008

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TYPICAL PROPERTIES <sup>1</sup>	TYPICAL VALUE	UNIT	STANDARD
<b>THERMAL</b>			
HDT/Ae, 1.8 MPa Edgew 120*10*4 sp=100mm	127	°C	ISO 75/Ae
Relative Temp Index, Elec	130	°C	UL 746B
Relative Temp Index, Mech w/impact	125	°C	UL 746B
Relative Temp Index, Mech w/o impact	125	°C	UL 746B
<b>PHYSICAL</b>			
Mold Shrinkage on Tensile Bar, flow (2)	0.5 - 0.7	%	SABIC Method
Density	1.2	g/cm <sup>3</sup>	ISO 1183
Water Absorption, (23°C/sat)	0.35	%	ISO 62
Moisture Absorption (23°C / 50% RH)	0.15	%	ISO 62
Melt Volume Rate, MVR at 300°C/1.2 kg	6	cm <sup>3</sup> /10 min	ISO 1133
<b>OPTICAL</b>			
Light Transmission	88 - 90	%	ASTM D 1003
Haze	<0.8	%	ASTM D 1003
Refractive Index	1.586	-	ISO 489
<b>ELECTRICAL</b>			
Volume Resistivity	>1.E+15	Ohm-cm	IEC 60093
Surface Resistivity, ROA	>1.E+15	Ohm	IEC 60093
Dielectric Strength, in oil, 3.2 mm	17	kV/mm	IEC 60243-1
Relative Permittivity, 50/60 Hz	2.7	-	IEC 60250
Relative Permittivity, 1 MHz	2.7	-	IEC 60250
Dissipation Factor, 50/60 Hz	0.001	-	IEC 60250
Dissipation Factor, 1 MHz	0.01	-	IEC 60250
<b>FLAME CHARACTERISTICS</b>			
UL Recognized, 94HB Flame Class Rating (3)	0.75	mm	UL 94
UL Recognized, 94HB Flame Class Rating 2nd value (3)	3	mm	UL 94
Glow Wire Flammability Index 850°C, passes at	1	mm	IEC 60695-2-12
Oxygen Index (LOI)	25	%	ISO 4589

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All properties, except the melt volume rate are measured on injection moulded samples.  
All samples are prepared according to ISO 294.

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3) This rating is not intended to reflect hazards presented by this or any other material under actual fire conditions.  
4) Own measurement according to UL.

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PROCESSING PARAMETERS	TYPICAL VALUE	UNIT
<b>Injection Molding</b>		
Drying Temperature	120	°C
Drying Time	2 - 4	hrs
Maximum Moisture Content	0.02	%
Melt Temperature	290 - 320	°C
Nozzle Temperature	280 - 310	°C
Front - Zone 3 Temperature	290 - 320	°C
Middle - Zone 2 Temperature	280 - 310	°C
Rear - Zone 1 Temperature	270 - 300	°C
Hopper Temperature	60 - 80	°C
Mold Temperature	80 - 120	°C

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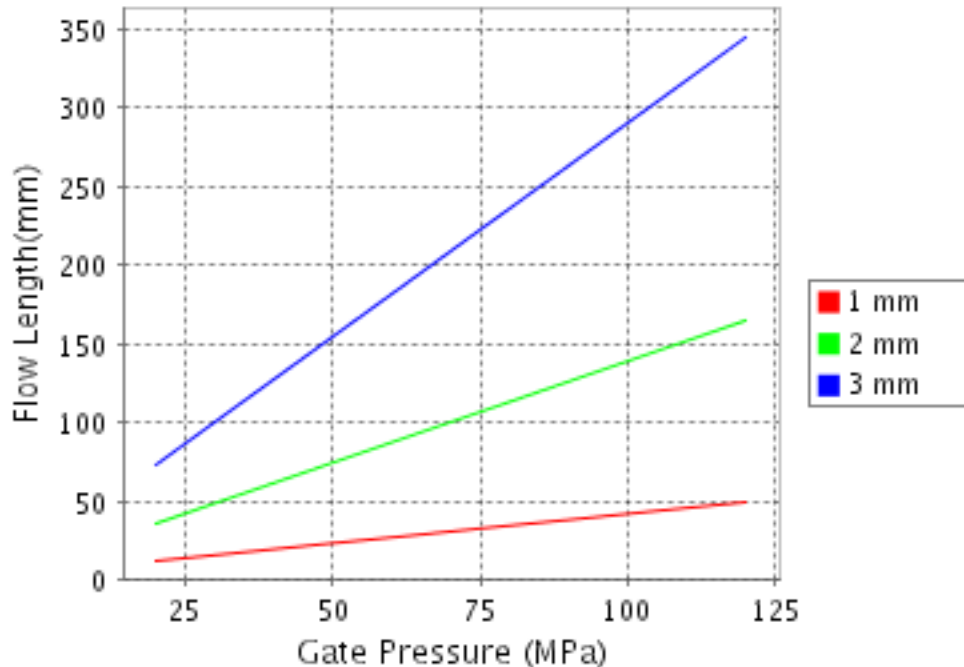
**CALCULATED FLOW LENGTH INDICATION**

**Moldflow® Radial Flow Analysis**

**Lexan\* 103R**

**Melt Temperature : 300°C**

**Mold Temperature : 100°C**



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

**® Moldflow is a registered trademark of the Moldflow Corporation.**

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