



Thursday, July 18, 2013

LEXAN™ 164R resin

Units

SABIC Innovative Plastics Europe - Polycarbonate

Action

Legend ([Open](#))

General Information

Product Description

Medium viscosity, multi purpose polycarbonate resin with added release agent. FDA food contact compliant in limited colors. Effective January 15th, 2007 this grade will no longer be supported with biocompatibility information and should not be used for medical applications which require biocompatibility. Alternative grade HP4REU.

General

Material Status	● Commercial: Active
Availability	● Europe
Additive	● Mold Release
Features	● Food Contact Acceptable ● Medium Viscosity
Agency Ratings	● FDA Food Contact, Unspecified Rating
RoHS Compliance	● RoHS Compliant
Appearance	● Colors Available
Processing Method	● Injection Molding

ASTM & ISO Properties ¹

Physical	Nominal Value	Unit	Test Method
Density	1.20	g/cm ³	ISO 1183
Melt Volume-Flow Rate (MVR) (300°C/1.2 kg)	9.50	cm ³ /10min	ISO 1133
Molding Shrinkage - Flow ²	0.50 to 0.70	%	Internal Method
Water Absorption (Saturation, 23°C)	0.35	%	ISO 62
Water Absorption (Equilibrium, 23°C, 50% RH)	0.15	%	ISO 62
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	2350	MPa	ISO 527-2/1
Tensile Stress (Yield)	63.0	MPa	ISO 527-2/50
Tensile Stress (Break)	70.0	MPa	ISO 527-2/50
Tensile Strain (Yield)	6.0	%	ISO 527-2/50
Tensile Strain (Break)	120	%	ISO 527-2/50
Flexural Modulus ³	2300	MPa	ISO 178
Flexural Strength ^{3, 4}	90.0	MPa	ISO 178
Taber Abrasion Resistance (1000 Cycles, 1000 g, CS-17 Wheel)	10.0	mg	Internal Method
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength			
-30°C ⁵	14	kJ/m ²	ISO 179/1eA
23°C ⁵	73	kJ/m ²	ISO 179/1eA
23°C	35	kJ/m ²	ISO 179/2C
Charpy Unnotched Impact Strength ⁵			ISO 179/1eU
-30°C	No Break		
23°C	No Break		
Notched Izod Impact Strength ⁶			ISO 180/1A
-30°C	12	kJ/m ²	
23°C	70	kJ/m ²	
Unnotched Izod Impact Strength ⁶			ISO 180/1U
-30°C	No Break		
23°C	No Break		

Hardness	Nominal Value	Unit	Test Method
Ball Indentation Hardness (H 358/30)	95.0	MPa	ISO 2039-1
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature ⁷ (0.45 MPa, Unannealed, 100 mm Span)	138	°C	ISO 75-2/Be
Heat Deflection Temperature ⁷ (1.8 MPa, Unannealed, 100 mm Span)	127	°C	ISO 75-2/Ae
Vicat Softening Temperature			
--	143	°C	ISO 306/B50
--	145	°C	ISO 306/B120
Ball Pressure Test			IEC 60695-10-2
125°C	Pass		
140°C ⁸	Pass		
CLTE - Flow (23 to 80°C)	0.000070	cm/cm/°C	ISO 11359-2
Thermal Conductivity	0.20	W/m/K	ISO 8302
RTI Eec	130	°C	UL 746
RTI Imp	125	°C	UL 746
RTI Str	125	°C	UL 746
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	> 1.0E+15	ohm	IEC 60093
Volume Resistivity	> 1.0E+15	ohm·cm	IEC 60093
Electric Strength (3.20 mm, in Oil)	17	kV/mm	IEC 60243-1
Relative Permittivity			IEC 60250
50 Hz	2.70		
60 Hz	2.70		
1 MHz	2.70		
Dissipation Factor			IEC 60250
50 Hz	0.0010		
60 Hz	0.0010		
1 MHz	0.010		
Flammability	Nominal Value	Unit	Test Method
Flame Rating			UL 94
1.50 mm	HB		
3.00 mm	HB		
Glow Wire Flammability Index (1.00 mm)	850	°C	IEC 60695-2-12
Oxygen Index	25	%	ISO 4589-2
Optical	Nominal Value	Unit	Test Method
Refractive Index	1.586		ISO 489
Transmittance (2540 µm)	88.0 to 90.0	%	ASTM D1003
Haze (2540 µm)	< 0.80	%	ASTM D1003

Processing Information

Injection	Nominal Value	Unit
Drying Temperature	120	°C
Drying Time	2.0 to 4.0	hr
Suggested Max Moisture	0.020	%
Hopper Temperature	60.0 to 80.0	°C
Rear Temperature	260 to 280	°C
Middle Temperature	270 to 290	°C
Front Temperature	280 to 310	°C
Nozzle Temperature	270 to 290	°C
Processing (Melt) Temp	280 to 310	°C
Mold Temperature	80.0 to 110	°C

Notes

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

² Tensile Bar

³ 2.0 mm/min

⁴ Yield

⁵ 80*10*3 sp=62mm

⁶ 80*10*3

⁷ 120*10*4 mm

⁸ Approximate maximum

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