LEXAN™ COPOLYMER 4251R

REGION AMERICAS

DESCRIPTION

High heat polycarbonate copolymer blend with an excellent balance of heat resistance, processability, and impact strength. Available in a range of opaque colors.

TYPICAL PROPERTY VALUES

Revision 20170913

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL			
Tensile Stress, yld, Type I, 50 mm/min	64	MPa	ASTM D 638
Tensile Stress, brk, Type I, 50 mm/min	63	MPa	ASTM D 638
Tensile Strain, yld, Type I, 50 mm/min	6.7	%	ASTM D 638
Tensile Strain, brk, Type I, 50 mm/min	102	%	ASTM D 638
Tensile Modulus, 50 mm/min	2180	MPa	ASTM D 638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	101	MPa	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	2230	MPa	ASTM D 790
Tensile Stress, yield, 50 mm/min	62	MPa	ISO 527
Tensile Stress, break, 50 mm/min	59	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	6.6	%	ISO 527
Tensile Strain, break, 50 mm/min	96.1	%	ISO 527
Tensile Modulus, 1 mm/min	2160	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	7	MPa	ISO 178
Flexural Modulus, 2 mm/min	2040	MPa	ISO 178
IMPACT			
Izod Impact, notched, 23°C	639	J/m	ASTM D 256
Izod Impact, notched, -30°C	331	J/m	ASTM D 256
Instrumented Impact Total Energy, 23°C	75	J	ASTM D 3763
Instrumented Impact Total Energy, -30°C	78	J	ASTM D 3763
Izod Impact, notched 80*10*4 +23°C	43	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	20	kJ/m²	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	48	kJ/m²	ISO 179/1eA
THERMAL			
Vicat Softening Temp, Rate B/50	156	°C	ASTM D 1525
HDT, 1.82 MPa, 3.2mm, unannealed	136	°C	ASTM D 648
CTE, -40°C to 40°C, flow	6.16E-05	1/°C	ASTM E 831
CTE, -40°C to 40°C, xflow	6.73E-05	1/°C	ASTM E 831

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
CTE, -40°C to 40°C, flow	6.16E-05	1/°C	ISO 11359-2
CTE, -40°C to 40°C, xflow	6.73E-05	1/°C	ISO 11359-2
Vicat Softening Temp, Rate B/50	155	°C	ISO 306
Vicat Softening Temp, Rate B/120	157	°C	ISO 306
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	134	°C	ISO 75/Af
PHYSICAL			
Specific Gravity	1.2	-	ASTM D 792
Mold Shrinkage, flow, 3.2 mm (5)	0.6 – 0.8	%	SABIC method
Melt Flow Rate, 300°C/1.2 kgf	5.6	g/10 min	ASTM D 1238
Density	1.1	g/cm³	ISO 1183
Water Absorption, (23°C/sat)	0.24	%	ISO 62
Moisture Absorption (23°C / 50% RH)	0.09	%	ISO 62
Melt Volume Rate, MVR at 330°C/2.16kg	31	cm³/10 min	ISO 1133
INJECTION MOLDING			
Drying Temperature	120	°C	
Drying Time	3 – 4	hrs	
Drying Time (Cumulative)	48	hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	310 – 330	°C	
Nozzle Temperature	305 – 325	°C	
Front - Zone 3 Temperature	310 – 330	°C	
Middle - Zone 2 Temperature	300 – 320	°C	
Rear - Zone 1 Temperature	290 – 310	°C	
Mold Temperature	80 – 115	°C	
Back Pressure	0.3 – 0.7	MPa	
Screw Speed	40 – 70	rpm	
Shot to Cylinder Size	40 – 60	%	
Vent Depth	0.025 – 0.076	mm	

DISCLAIMER