LNP™ ELCRES™ HR156R

DESCRIPTION

LNP ELCRES HR156R is a compound based on Copolymer Polycarbonate resin. This resin has higher RTI, better scratch resistance and higher modulus than standard PC. It offers excellent heat resistance performance, good processability and available for opaque or limited transparent colors

GENERAL INFORMATION	
Features	High Flow, Enhanced mold release, High stiffness/Strength, High temperature resistance
Fillers	Unreinforced
Polymer Types	Polycarbonate (PC)
Processing Techniques	Injection Molding

INDUSTRY	SUB INDUSTRY
Consumer	Home Appliances
Electrical and Electronics	Lighting
Industrial	Material Handling

TYPICAL PROPERTY VALUES

Revision 20250606

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL [1]			
Tensile Stress, yld, Type I, 50 mm/min	72	MPa	ASTM D638
Tensile Stress, brk, Type I, 50 mm/min	62	MPa	ASTM D638
Tensile Strain, yld, Type I, 50 mm/min	6.5	%	ASTM D638
Tensile Strain, brk, Type I, 50 mm/min	90	%	ASTM D638
Tensile Modulus, 5 mm/min	2620	MPa	ASTM D638
Flexural Strength, 1.3 mm/min, 50 mm span	111	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	2600	MPa	ASTM D790
Tensile Stress, yield, 50 mm/min	72	MPa	ISO 527
Tensile Stress, break, 50 mm/min	62	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	6.5	%	ISO 527
Tensile Strain, break, 50 mm/min	90	%	ISO 527
Tensile Modulus, 1 mm/min	2650	MPa	ISO 527
Flexural Strength, 2 mm/min	102	MPa	ISO 178
Flexural Modulus, 2 mm/min	2500	MPa	ISO 178
IMPACT [1]			
Izod Impact, notched, 23°C	113	J/m	ASTM D256
Izod Impact, notched, -30°C	73	J/m	ASTM D256
Izod Impact, notched 80*10*3 +23°C	11	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*3 -30°C	10	kJ/m²	ISO 180/1A
Izod Impact, unnotched 80*10*3 +23°C	NB	kJ/m²	ISO 180/1U
Izod Impact, unnotched 80*10*3 -30°C	NB	kJ/m²	ISO 180/1U
Izod Impact, notched 80*10*4 +23°C	12	kJ/m²	ISO 180/1A

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Izod Impact, notched 80*10*4 -30°C	11	kJ/m²	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*3 sp=62mm	12	kJ/m²	ISO 179/1eA
Charpy -30°C, V-notch Edgew 80*10*3 sp=62mm	10	kJ/m²	ISO 179/1eA
Charpy 23°C, Unnotch Edgew 80*10*3 sp=62mm	NB	kJ/m²	ISO 179/1eU
Charpy -30°C, Unnotch Edgew 80*10*3 sp=62mm	NB	kJ/m²	ISO 179/1eU
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	20	kJ/m²	ISO 179/1eA
Instrumented Dart Impact Total Energy, 23°C	68	J	ASTM D3763
THERMAL [1]			
HDT, 0.45 MPa, 3.2 mm, unannealed	155	°C	ASTM D648
HDT, 1.82 MPa, 3.2mm, unannealed	145	°C	ASTM D648
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	155	°C	ISO 75/Bf
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	142	°C	ISO 75/Af
CTE, -40°C to 40°C, flow	6.E-05	1/°C	ASTM E831
CTE, -40°C to 40°C, xflow	6.E-05	1/°C	ASTM E831
CTE, -40°C to 40°C, flow	6.E-05	1/°C	ISO 11359-2
CTE, -40°C to 40°C, xflow	6.E-05	1/°C	ISO 11359-2
Vicat Softening Temp, Rate B/50	160	°C	ASTM D1525
Vicat Softening Temp, Rate B/50	160	°C	ISO 306
Vicat Softening Temp, Rate B/120	162	°C	ISO 306
PHYSICAL [1]			
Specific Gravity	1.2	-	ASTM D792
Density	1.2	g/cm³	ISO 1183
Moisture Absorption (23°C / 50% RH)	0.23	%	ISO 62
Water Absorption, (23°C/saturated)	0.3	%	ISO 62-1
Melt Flow Rate, 330°C/2.16 kgf	45	g/10 min	ASTM D1238
Melt Volume Rate, MVR at 330°C/2.16kg	42	cm³/10 min	ISO 1133
Mold Shrinkage, flow, 3.2 mm [2]	0.6 – 0.9	%	SABIC method
INJECTION MOLDING [3]			
Drying Temperature	125	°C	
Drying Time	4 – 6	Hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	290 – 350	°C	
Nozzle Temperature	285 – 345	°C	
Front - Zone 3 Temperature	290 – 350	°C	
Middle - Zone 2 Temperature	280 – 340	°C	
Rear - Zone 1 Temperature	270 – 330	°C	
Mold Temperature	85 – 130	°C	
Back Pressure	0.3 – 0.7	MPa	
Screw Speed	40 – 90	rpm	
Shot to Cylinder Size	40 – 60	%	
Vent Depth	0.025 – 0.08	mm	

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(1) The information stated on Technical Datasheets should be used as indicative only for material selection purposes and not be utilized as specification or used for part or tool design.

(2) Measurements made from laboratory test coupon. Actual shrinkage may vary outside of range due to differences in processing conditions, equipment, part geometry and tool design. It is recommended that mold shrinkage studies be performed with surrogate or legacy tooling prior to cutting tools for new molded article.

(3) Injection Molding parameters are only mentioned as general guidelines. These may not apply or may need adjustment in specific situations such as low shot sizes, large part molding, thin wall molding and gas-assist molding.

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