ELIX PC/ABS 5120

PC/ABS blend, injection molding grade with excellent mechanical properties balance up to -40ºC. Vicat B120 = 120ºC

Major Benefits

- High flow
- Very high impact up to -40ºC
- Low emission grade
- UV stabilized grade
- Good stability even with high humidity conditions
- Low shrinkage
- Good paintability
- Thin-walled parts

Chemical composition

Thermoplastic polymer blend based on polycarbonate (PC) and acrylonitrile-butadiene-styrene (ABS).

Physical Form

White to slightly yellowish pellets.

*Typical properties**

Property	Test Condition	Standard	Unit	Value
			US Conventional	
Rheological properties				
Melt volume-flow rate	260 °C; 5 kg	ISO 1133	cm³/(10 min)	21
Melt flow rate	230 °C; 3,8 kg	ASTM D1238	g/10min	5
Molding shrinkage, normal	60x60x2 mm	ISO 294-4	%	0.65-0.75
Molding shrinkage, parallel	60x60x2 mm	ISO 294-4	%	0.65-0.75
Mechanical properties (23 °C/50 % r. h.)				
Yield stress	50 mm/min	ISO 527-1,-2	MPa	55
	5 mm/min	ASTM D 638	MPa	52
Tensile modulus	1 mm/min	ISO 527-1,-2	MPa	2300
	5 mm/min	ASTM D 638	psi	333500
Yield strain	50 mm/min	ISO 527-1,-2	%	4,3
Flexural strength	2 mm/min	ISO 178	MPa	79
Flexural modulus	2 mm/min	ISO 178	MPa	2240
	1,3 mm/min	ASTM D 790	psi	336500

Property	Test Condition	Standard	Unit	Value
Izod notched impact strength	23 °C	ISO 180-1A	kJ/m²	46
	23 °C (73 °F)	ISO 180-1A	ft-lb/in2	24,5
	-30 °C (-22 °F)	ISO 180-1A	ft-lb/in2	18,7
	-40 ºC (-40ºF)	ISO 180-1A	ft-lb/in2	14,5
	73 °F (23 °C)	ASTM D 256 (6.4mm) 1/4”	J/m	425
	73 °F (23 °C)	ASTM D 256 (3.2mm) 1/8”	J/m	520
	-22 °F (-30 °C)	ASTM D 256 (3.2mm) 1/8”	J/m	450
Thermal properties				
Temperature of deflection under load (annealed 4h/80ºC; 4h/176ºF)	1.80 MPa	ISO 75-1,-2	°C	109
	0.45 MPa	ISO 75-1,-2	°C	120
Vicat softening temperature	50 N; 50 °C/h	ISO 306	°C	118
	50 N; 50 °C/h	ASTM D 1525	°F	245
	50 N; 120 °C/h	ISO 306	°C	120
Burning behavior UL 94 (1.6 mm)	1.6 mm	UL 94	Class	HB
Coefficient of linear thermal expansion, parallel	23 to 55 °C	ISO 11359-1,-2	10-4/K	0,8
Coefficient of linear thermal expansion, transverse	23 to 55 °C	ISO 11359-1,-2	10-4/K	0,82
Burning rate (US-FMVSS)	200x105x2 mm	ISO 3795	mm/min	< 80
Other properties (23 °C)				
Density		ISO 1183	g/cm³	1,11
Processing conditions for test specimens				
Injection molding-Melt temperature		ISO 294	°C	260
Injection molding-Mold temperature		ISO 294	°C	80
Injection molding-Injection velocity		ISO 294	mm/s	240

*****Control measurements in other places may issue different results due to influences of machinery, equipment, test method or storage conditions.

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Test values
Unless specified to the contrary, the values given have been established on standardised test specimens at room temperature. The figures should be regarded as guide values only and not as binding minimum values. Kindly note that, under certain conditions, the properties can be affected to a considerable extent by the design of the mould/die, the processing conditions and the colouring.

Processing note
Under the recommended processing conditions small quantities of decomposition product may be given off during processing. To preclude any risk to the health and well-being of the machine operatives, tolerance limits for the work environment must be ensured by the provision of efficient exhaust ventilation and fresh air at the workplace in accordance with the Safety Data Sheet. In order to prevent the partial decomposition of the polymer and the generation of volatile decomposition products, the prescribed processing temperatures should not be substantially exceeded. Since excessively high temperatures are generally the result of operator error or defects in the heating system, special care and controls are essential in these areas.

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