

ELIX ABS P2MC

Electroplating grade

Typical properties

Property	Test Condition	Standard	Unit Value		Unit Value	
			SI Metrics		US Conventional	
Rheological properties						
Melt volume-flow rate	220 °C, 10kg	ISO 1133	cm ³ /10min	25		
Melt flow rate	230 °C, 3.8kg	ASTM D1238			g/10min	6
Molding shrinkage, parallel	60x60x2 mm	ISO 294-4	%	0.4-0.7		
Molding shrinkage, normal	60x60x2 mm	ISO 294-4	%	0.4-0.7		
Mechanical properties (23°C /50% H.R.)						
Yield stress	50 mm/min	ISO 527-1,2	MPa	40		
	5 mm/min	ASTM D 638	MPa	37	psi	5400
Yield strain	50 mm/min	ISO 527-1, -2	%	2.4		
Tensile strain at break	50 mm/min	acc. ISO 527-1,2	%	>15		
	5 mm/min	ASTM D 638			%	>15
Tensile modulus	1 mm/min	ISO 527-1,2	MPa	2200		
	5 mm/min	ASTM D 638			psi	319000
Flexural modulus	2 mm/min	ISO 178	MPa	2100		
	1.3 mm/min	ASTM D 790			psi	305000
Flexural strength	2 mm/min	ISO 178	MPa	62	psi	9000
Izod notched impact strength	23 °C (73°F)	ISO 180-1A	kJ/m ²	23	ft-lb/in ²	11.0
	-30 °C (-22°F)	ISO 180-1A	kJ/m ²	12	ft-lb/in ²	5.7
	73°F (23°C)	ASTM D 256 (3.2mm) 1/8"	J/m	290	ft-lb/in	5.4
	73°F (23°C)	ASTM D 256 (6.4mm) 1/4"	J/m	215	ft-lb/in	4.0
	-22°F (-30°C)	ASTM D 256 (3.2mm) 1/8"	J/m	145	ft-lb/in	2.7
Charpy impact strength	23 °C (73°F)	ISO 179-1eU	kJ/m ²	N		
Charpy impact strength	-30 °C (-22°F)	ISO 179-1eU	kJ/m ²	150	ft-lb/in ²	71.7
Charpy notched impact strength	23 °C (73°F)	ISO 179-1eA	kJ/m ²	24	ft-lb/in ²	11.5
Charpy notched impact strength	-30 °C (-22°F)	ISO 179-1eA	kJ/m ²	14	ft-lb/in ²	6.7
Ball indentation hardness		ISO 2039-1	N/mm ²	90		
Thermal properties						
Vicat softening temperature	B50; 50°C/h	ISO 306	°C	95		
	50N; 50°C/h	ASTM D 1525			°F	203
Deflection temperature under load*	1.80 MPa	ISO 75-1,2	°C	94	°F	201
Deflection temperature under load*	0.45 MPa	ISO 75-1,2	°C	96	°F	205
CLTE, parallel	23 to 55°C	ISO 11359 -1,2	10 ⁻⁴ /K	1		
Burning behavior UL 94	1.6 mm	UL 94	Class	HB		
Burning rate (US-FMVSS)	200x105x2mm	ISO 3795	mm/min	55	in/min	2.1
Glow wire test (GWFI)	2.0 mm	IEC 60695-2-12	°C	700		
Electrical properties (23 °C/50 % r.h.)						
Relative permittivity	100 Hz	IEC 60250		3.0		
Relative permittivity	1 MHz	IEC 60250		2.9		
Dissipation factor	100 Hz	IEC 60250	10 ⁻⁴	50		
Dissipation factor	1 MHz	IEC 60250	10 ⁻⁴	80		

Volume resistivity		IEC 60093	Ohm·m	1E13	
Surface resistivity		IEC 60093	Ohm	1E15	
Electric strength	1 mm	IEC 60243-1	kV/mm	37	
Comparative tracking index CTI	Solution A	IEC 60112	Rating	600	
Other properties (23°C)					
Density	25°C	ISO 1183-1	g/cm ³	1.03	lb/in ³ 0.0372
Processing conditions for test specimens					
Injection molding-melt temperature		ISO 294	°C	240	°F 464
Injection molding-mold temperature		ISO 294	°C	70	°F 158
Injection molding-injection velocity		ISO 294	mm/s	240	in/s 9.5

*(annealed 4h/80°C; 4h/176°F)

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

Disclaimer for sales products

Disclaimer for sales products

This information and our technical advice - whether verbal, in writing or by way of trials - are given in good faith but without warranty, and this also applies where proprietary rights of third parties are involved. Our advice does not release you from the obligation to verify the information currently provided –especially that contained in our safety data and technical information sheets– and to test our products as to their suitability for the intended processes and uses. The application, use and processing of our products and the products manufactured by you on the basis of our technical advice are beyond our control and, therefore, entirely your own responsibility. Our products are sold and our advisory service is given in accordance with the current version of our General Conditions of Sale and Delivery.

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.

ELIX Polymers, S.L. - E-43006 Tarragona

Edition 31.05.2017

info@elix-polymers.com