

Elix ABS P2MC

Electroplating grade

Molding shrinkage, normal 60x60x2 % ISO 294-4 0.4 - 0.7 Melt volume-flow rate 220 °C; 10 kg cm²/(10 min) ISO 1133 25 Molding shrinkage, parallel 60x60x2 % ISO 294-4 0.4 - 0.7 Mechanical properties (23 °C/50 % r. h.) Vield stress 50 mm/min MPa ISO 527-1,-2 40 Tensile Strain at break 50 mm/min MPa acc. ISO 527-1,-2 40 Tensile modulus 1 mm/min MPa ISO 178 62 Flexural modulus 2 mm/min MPa ISO 178 2100 Izod notched impact strength 23 °C kJ/m² ISO 180-1A 12 Vicial strain 50 mm/min % ISO 527-1,-2 2.4 Charpy impact strength 23 °C kJ/m² ISO 180-1A 12	Property	Test Condition	Unit	Standard	Value
Melt volume-flow rate 220 °C: 10 kg cm³/(10 min) ISO 1133 25 Molding shrinkage, parallel 60x60x2 % ISO 294-4 0.4 - 0.7 Mechanical properties (23 °C/50 % r. h.) Vield stress 50 mm/min MPa ISO 527-1,-2 40 Tensile Strain at break 50 mm/min MPa ISO 527-1,-2 > 15 Tensile modulus 1 mm/min MPa ISO 527-1,-2 2200 Flexural strength 2 mm/min MPa ISO 178 62 Flexural modulus 2 mm/min MPa ISO 178 2100 Izod notched impact strength 23 °C KJ/m² ISO 180-1A 23 Izod notched impact strength -30 °C KJ/m² ISO 180-1A 12 Yield strain 50 mm/min % ISO 527-1,-2 2.4 Charpy impact strength -30 °C KJ/m² ISO 179-1eU N Charpy impact strength -30 °C KJ/m² ISO 179-1eU N Charpy notched impact strength -30 °C KJ/m² ISO 179-1eU	Rheological properties				
Molding shrinkage, parallel 60x60x2	Molding shrinkage, normal	60x60x2	%	ISO 294-4	0.4 - 0.7
Mechanical properties (23 °C/50 % r. h.) Yield stress 50 mm/min MPa ISO 527-1,-2 40 Tensile Strain at break 50 mm/min % acc. ISO 527-1,-2 > 15 Tensile modulus 1 mm/min MPa ISO 527-1,-2 > 200 Flexural strength 2 mm/min MPa ISO 178 62 Flexural modulus 2 mm/min MPa ISO 178 2100 Izod notched impact strength 23 °C k.J/m² ISO 180-1A 23 Izod notched impact strength -30 °C k.J/m² ISO 180-1A 12 Yield strain 50 mm/min % ISO 527-1,-2 2.4 Charpy impact strength -30 °C k.J/m² ISO 179-1eU N Charpy impact strength -30 °C k.J/m² ISO 179-1eU N Charpy incheded impact strength -30 °C k.J/m² ISO 179-1eA 24 Charpy notched impact strength -30 °C k.J/m² ISO 179-1eA 14 Ball indentation hardness N/mm² ISO 179-1eA 14 Ball	Melt volume-flow rate	220 °C; 10 kg	cm ³ /(10 min)	ISO 1133	25
Yield stress 50 mm/min MPa ISO 527-1,-2 40 Tensile Strain at break 50 mm/min % acc. ISO 527-1,-2 > 15 Tensile modulus 1 mm/min MPa ISO 527-1,-2 2200 Flexural strength 2 mm/min MPa ISO 178 62 Flexural modulus 2 mm/min MPa ISO 178 2100 Izod notched impact strength 23 °C kJ/m² ISO 180-1A 23 Izod notched impact strength -30 °C kJ/m² ISO 180-1A 12 Yield strain 50 mm/min % ISO 527-1,-2 2.4 Charpy impact strength -30 °C kJ/m² ISO 179-1eU N Charpy impact strength -30 °C kJ/m² ISO 179-1eU 15 Charpy notched impact strength -30 °C kJ/m² ISO 179-1eA 24 Charpy incheed impact strength -30 °C kJ/m² ISO 179-1eA 14 Ball indentation hardness N/mm² ISO 179-1eA 14 Ball indentation hardness	Molding shrinkage, parallel	60x60x2	%	ISO 294-4	0.4 - 0.7
Tensile Strain at break	Mechanical properties (23 °C/50 % r. h.)				
Tensile modulus	Yield stress	50 mm/min	MPa	ISO 527-1,-2	40
Flexural strength	Tensile Strain at break	50 mm/min	%	acc. ISO 527-1,-2	> 15
Flexural modulus	Tensile modulus	1 mm/min	MPa	ISO 527-1,-2	2200
Izod notched impact strength	Flexural strength	2 mm/min	MPa	ISO 178	62
Izod notched impact strength	Flexural modulus	2 mm/min	MPa	ISO 178	2100
Yield strain 50 mm/min % ISO 527-1,-2 2.4 Charpy impact strength 23 °C kJ/m² ISO 179-1eU N Charpy impact strength -30 °C kJ/m² ISO 179-1eU 150 Charpy notched impact strength 23 °C kJ/m² ISO 179-1eA 24 Charpy notched impact strength -30 °C kJ/m² ISO 179-1eA 14 Ball indentation hardness N/mm² ISO 2039-1 90 Thermal properties Temperature of deflection under load 1.80 MPa °C ISO 75-1,-2 94 Temperature of deflection under load 0.45 MPa °C ISO 306 95 Vicat softening temperature 50 N; 50 °C/h °C ISO 306 95 Burning behavior UL 94 (1.6 mm) 1.6 mm Class UL 94 HB Coefficient of linear thermal expansion, parallel 23 to 55 °C 10 °/K ISO 31359-1,-2 1.0 Burning rate (US-FMVSS) 2.0 mm mm/min ISO 3795 55 Glow wire test (GWFI)	Izod notched impact strength	23 °C	kJ/m²	ISO 180-1A	23
Charpy impact strength 23 °C kJ/m² ISO 179-1eU N Charpy impact strength -30 °C kJ/m² ISO 179-1eU 150 Charpy notched impact strength 23 °C kJ/m² ISO 179-1eA 24 Charpy notched impact strength -30 °C kJ/m² ISO 179-1eA 14 Ball indentation hardness N/mm² ISO 2039-1 90 Thermal properties Temperature of deflection under load 1.80 MPa °C ISO 75-1,-2 94 Temperature of deflection under load 0.45 MPa °C ISO 306 95 Vicat softening temperature 50 N; 50 °C/h °C ISO 306 95 Burning behavior UL 94 (1.6 mm) 1.6 mm Class UL 94 HB Coefficient of linear thermal expansion, parallel 23 to 55 °C 10 °/K ISO 11359-1,-2 1.0 Burning rate (US-FMVSS) 2.0 mm mm/min ISO 3795 55 Glow wire test (GWFI) 2.0 mm °C IEC 60695-2-12 700 Electrical pr	Izod notched impact strength	-30 °C	kJ/m²	ISO 180-1A	12
Charpy impact strength -30 °C kJ/m² ISO 179-1eU 150 Charpy notched impact strength 23 °C kJ/m² ISO 179-1eA 24 Charpy notched impact strength -30 °C kJ/m² ISO 179-1eA 14 Ball indentation hardness N/mm² ISO 2039-1 90 Thermal properties Temperature of deflection under load 1.80 MPa °C ISO 75-1,-2 94 Temperature of deflection under load 0.45 MPa °C ISO 306 95 Vicat softening temperature 50 N; 50 °C/h °C ISO 306 95 Burning behavior UL 94 (1.6 mm) 1.6 mm Class UL 94 HB Coefficient of linear thermal expansion, parallel 23 to 55 °C 10 °/K ISO 11359-1,-2 1.0 Burning rate (US-FMVSS) 2.0 mm mm/min ISO 3795 55 Glow wire test (GWFI) 2.0 mm °C IEC 60695-2-12 700 Electrical properties (23 °C/50 % r. h.) Relative permittivity 1 MHz - IEC 60250	Yield strain	50 mm/min	%	ISO 527-1,-2	2.4
Charpy notched impact strength 23 °C kJ/m² ISO 179-1eA 24 Charpy notched impact strength -30 °C kJ/m² ISO 179-1eA 14 Ball indentation hardness N/mm² ISO 2039-1 90 Thermal properties Temperature of deflection under load 1.80 MPa °C ISO 75-1,-2 94 Temperature of deflection under load 0.45 MPa °C ISO 306 95 Vicat softening temperature 50 N; 50 °C/h °C ISO 306 95 Burning behavior UL 94 (1.6 mm) 1.6 mm Class UL 94 HB Coefficient of linear thermal expansion, parallel 23 to 55 °C 10 °/K ISO 11359-1,-2 1.0 Burning rate (US-FMVSS) 2.0 mm mm/min ISO 3795 55 Glow wire test (GWFI) 2.0 mm °C IEC 6085-2-12 700 Electrical properties (23 °C/50 % r. h.) 100 Hz - IEC 60250 3.0 Relative permittivity 1 MHz - IEC 60250 50 Dissipation factor <	Charpy impact strength	23 °C	kJ/m²	ISO 179-1eU	N
Charpy notched impact strength -30 °C kJ/m² ISO 179-1eA 14 Ball indentation hardness N/mm² ISO 2039-1 90 Thermal properties Temperature of deflection under load 1.80 MPa °C ISO 75-1,-2 94 Temperature of deflection under load 0.45 MPa °C ISO 75-1,-2 96 Vicat softening temperature 50 N; 50 °C/h °C ISO 306 95 Burning behavior UL 94 (1.6 mm) 1.6 mm Class UL 94 HB Coefficient of linear thermal expansion, parallel 23 to 55 °C 10 4/K ISO 11359-1,-2 1.0 Burning rate (US-FMVSS) 2.0 mm mm/min ISO 3795 55 Glow wire test (GWFI) 2.0 mm °C IEC 60695-2-12 700 Electrical properties (23 °C/50 % r. h.) Relative permittivity 100 Hz - IEC 60250 3.0 Relative permittivity 1 MHz - IEC 60250 50 Dissipation factor 100 Hz 10 4 IEC 60250 80 Volume resistivity Ohm IEC 60093 1E13 Surface resistivity 1 mm kV/mm IEC 60093 1E15 Electric strength 1 mm kV/mm IEC 60112 600 Other properties (23 °C) Other properties (23 °C) Other properties (23 °C) Other properties (23 °C)	Charpy impact strength	-30 °C	kJ/m²	ISO 179-1eU	150
Ball indentation hardness	Charpy notched impact strength	23 °C	kJ/m²	ISO 179-1eA	24
Thermal properties Temperature of deflection under load 1.80 MPa °C ISO 75-1,-2 94 Temperature of deflection under load 0.45 MPa °C ISO 75-1,-2 96 Vicat softening temperature 50 N; 50 °C/h °C ISO 306 95 Burning behavior UL 94 (1.6 mm) 1.6 mm Class UL 94 HB Coefficient of linear thermal expansion, parallel 23 to 55 °C 10 °/K ISO 11359-1,-2 1.0 Burning rate (US-FMVSS) 2.0 mm mm/min ISO 3795 55 Glow wire test (GWFI) 2.0 mm °C IEC 60695-2-12 700 Electrical properties (23 °C/50 % r. h.) Th.) IEC 60250 3.0 Relative permittivity 1 MHz - IEC 60250 2.9 Dissipation factor 100 Hz 10° IEC 60250 50 Dissipation factor 1 MHz 10° IEC 600250 80 Volume resistivity Ohm-m IEC 60093 1E13 Surface resistivity Ohm IEC 60243-1 37	Charpy notched impact strength	-30 °C	kJ/m²	ISO 179-1eA	14
Temperature of deflection under load 1.80 MPa °C ISO 75-1,-2 94 Temperature of deflection under load 0.45 MPa °C ISO 75-1,-2 96 Vicat softening temperature 50 N; 50 °C/h °C ISO 306 95 Burning behavior UL 94 (1.6 mm) 1.6 mm Class UL 94 HB Coefficient of linear thermal expansion, parallel 23 to 55 °C 10 °/K ISO 11359-1,-2 1.0 Burning rate (US-FMVSS) 2.0 mm mm/min ISO 3795 55 Glow wire test (GWFI) 2.0 mm °C IEC 60695-2-12 700 Electrical properties (23 °C/50 % r. h.) Nelative permittivity 1 MHz - IEC 60250 3.0 Relative permittivity 1 MHz - IEC 60250 2.9 Dissipation factor 100 Hz 10° IEC 60250 50 Dissipation factor 1 MHz 10° IEC 60250 80 Volume resistivity Ohm IEC 60093 1E13 Surface resistivity 0hm IEC 60043-1 37 Comp	Ball indentation hardness		N/mm²	ISO 2039-1	90
Temperature of deflection under load 0.45 MPa °C ISO 75-1,-2 96 Vicat softening temperature 50 N; 50 °C/h °C ISO 306 95 Burning behavior UL 94 (1.6 mm) 1.6 mm Class UL 94 HB Coefficient of linear thermal expansion, parallel 23 to 55 °C 10 ⁴/K ISO 11359-1,-2 1.0 Burning rate (US-FMVSS) 2.0 mm mm/min ISO 3795 55 Glow wire test (GWFI) 2.0 mm °C IEC 60695-2-12 700 Electrical properties (23 °C/50 % r. h.) Relative permittivity 1 00 Hz - IEC 60250 3.0 Relative permittivity 1 MHz - IEC 60250 2.9 Dissipation factor 100 Hz 10⁴ IEC 60250 50 Dissipation factor 1 MHz 10⁴ IEC 60250 80 Volume resistivity Ohm·m IEC 60093 1E13 Surface resistivity Ohm IEC 60243-1 37 Comparative tracking index CTI Solution A Rating IEC 60112 600 <td>Thermal properties</td> <td></td> <td></td> <td></td> <td></td>	Thermal properties				
Vicat softening temperature 50 N; 50 °C/h °C ISO 306 95 Burning behavior UL 94 (1.6 mm) 1.6 mm Class UL 94 HB Coefficient of linear thermal expansion, parallel 23 to 55 °C 10 °/K ISO 11359-1,-2 1.0 Burning rate (US-FMVSS) 2.0 mm mm/min ISO 3795 55 Glow wire test (GWFI) 2.0 mm °C IEC 60695-2-12 700 Electrical properties (23 °C/50 % r. h.) Nelative permittivity 100 Hz - IEC 60250 3.0 Relative permittivity 1 MHz - IEC 60250 2.9 Dissipation factor 100 Hz 10 ° IEC 60250 50 Dissipation factor 1 MHz 10 ° IEC 60250 80 Volume resistivity Ohm-m IEC 60093 1E13 Surface resistivity Ohm IEC 60243-1 37 Comparative tracking index CTI Solution A Rating IEC 60112 600 Other properties (23 °C)	Temperature of deflection under load	1.80 MPa	°C	ISO 75-1,-2	94
Burning behavior UL 94 (1.6 mm) 1.6 mm Class UL 94 HB	Temperature of deflection under load	0.45 MPa	°C	ISO 75-1,-2	96
Coefficient of linear thermal expansion, parallel 23 to 55 °C 10 ⁴/K ISO 11359-1,-2 1.0 Burning rate (US-FMVSS) 2.0 mm mm/min ISO 3795 55 Glow wire test (GWFI) 2.0 mm °C IEC 60695-2-12 700 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 10⁴ IEC 60250 50 Dissipation factor 1 MHz 10⁴ IEC 60250 80 Volume resistivity Ohm-m IEC 60093 1E13 Surface resistivity Ohm IEC 60093 1E15 Electric strength 1 mm kV/mm IEC 60243-1 37 Comparative tracking index CTI Solution A Rating IEC 60112 600 Other properties (23 °C)	Vicat softening temperature	50 N; 50 °C/h	°C	ISO 306	95
Burning rate (US-FMVSS) 2.0 mm mm/min ISO 3795 55 Glow wire test (GWFI) 2.0 mm °C IEC 60695-2-12 700 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 10° IEC 60250 50 Dissipation factor 1 MHz 10° IEC 60250 80 Volume resistivity Ohm·m IEC 60093 1E13 Surface resistivity Ohm IEC 60093 1E15 Electric strength 1 mm kV/mm IEC 60243-1 37 Comparative tracking index CTI Solution A Rating IEC 60112 600 Other properties (23 °C)	Burning behavior UL 94 (1.6 mm)	1.6 mm	Class	UL 94	НВ
Solution Solution	Coefficient of linear thermal expansion, parallel	23 to 55 °C	10 ⁻⁴ /K	ISO 11359-1,-2	1.0
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 10 ⁴ IEC 60250 50 Dissipation factor 1 MHz 10 ⁴ IEC 60250 80 Volume resistivity Ohm·m IEC 60093 1E13 Surface resistivity Ohm IEC 60093 1E15 Electric strength 1 mm kV/mm IEC 60243-1 37 Comparative tracking index CTI Solution A Rating IEC 60112 600 Other properties (23 °C)	Burning rate (US-FMVSS)	2.0 mm	mm/min	ISO 3795	55
Relative permittivity 100 Hz - IEC 60250 3.0 Relative permittivity 1 MHz - IEC 60250 2.9 Dissipation factor 100 Hz 10 ⁴ IEC 60250 50 Dissipation factor 1 MHz 10 ⁴ IEC 60250 80 Volume resistivity Ohm·m IEC 60093 1E13 Surface resistivity Ohm IEC 60093 1E15 Electric strength 1 mm kV/mm IEC 60243-1 37 Comparative tracking index CTI Solution A Rating IEC 60112 600 Other properties (23 °C)	Glow wire test (GWFI)	2.0 mm	°C	IEC 60695-2-12	700
Relative permittivity 1 MHz - IEC 60250 2.9 Dissipation factor 100 Hz 10 ⁻⁴ IEC 60250 50 Dissipation factor 1 MHz 10 ⁻⁴ IEC 60250 80 Volume resistivity Ohm·m IEC 60093 1E13 Surface resistivity Ohm IEC 60093 1E15 Electric strength 1 mm kV/mm IEC 60243-1 37 Comparative tracking index CTI Solution A Rating IEC 60112 600 Other properties (23 °C)	Electrical properties (23 °C/50 % r. h.)				
Dissipation factor 100 Hz 10⁴ IEC 60250 50 Dissipation factor 1 MHz 10⁴ IEC 60250 80 Volume resistivity Ohm·m IEC 60093 1E13 Surface resistivity Ohm IEC 60093 1E15 Electric strength 1 mm kV/mm IEC 60243-1 37 Comparative tracking index CTI Solution A Rating IEC 60112 600 Other properties (23 °C)	Relative permittivity	100 Hz	-	IEC 60250	3.0
Dissipation factor 1 MHz 10 ⁴ IEC 60250 80 Volume resistivity Ohm·m IEC 60093 1E13 Surface resistivity Ohm IEC 60093 1E15 Electric strength 1 mm kV/mm IEC 60243-1 37 Comparative tracking index CTI Solution A Rating IEC 60112 600 Other properties (23 °C)	Relative permittivity	1 MHz	-	IEC 60250	2.9
Volume resistivity Ohm·m IEC 60093 1E13 Surface resistivity Ohm IEC 60093 1E15 Electric strength 1 mm kV/mm IEC 60243-1 37 Comparative tracking index CTI Solution A Rating IEC 60112 600 Other properties (23 °C)	Dissipation factor	100 Hz	10 ⁻⁴	IEC 60250	50
Surface resistivity Ohm IEC 60093 1E15 Electric strength 1 mm kV/mm IEC 60243-1 37 Comparative tracking index CTI Solution A Rating IEC 60112 600 Other properties (23 °C)	Dissipation factor	1 MHz	10 ⁻⁴	IEC 60250	80
Electric strength 1 mm kV/mm IEC 60243-1 37 Comparative tracking index CTI Solution A Rating IEC 60112 600 Other properties (23 °C)	Volume resistivity		Ohm-m	IEC 60093	1E13
Comparative tracking index CTI Solution A Rating IEC 60112 600 Other properties (23 °C)	Surface resistivity		Ohm	IEC 60093	1E15
Other properties (23 °C)	Electric strength	1 mm	kV/mm	IEC 60243-1	37
	Comparative tracking index CTI	Solution A	Rating	IEC 60112	600
	Other properties (23 °C)				
	Density		g/cm³	ISO 1183	1.030



Elix ABS P2MC

Property	Test Condition	Unit	Standard	Value
Processing conditions for test specimens				
Injection molding-Melt temperature		°C	ISO 294	240
Injection molding-Mold temperature		°C	ISO 294	70
Injection molding-Injection velocity		mm/s	ISO 294	240

Disclaimer

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 styrenics

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. This is valid especially for CTI.

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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