ELIX ABS HH P2MC

High heat resistance ABS plating grade

Major Benefits

Enhanced heat resistance Better dimensional under heat Excellent balance of heat resistance, impact strength and flowability

Chemical composition

Acrylonitrile-butadiene-styrene (ABS) copolymer modified with poly(styrene-co-maleimide) (SMI).

Physical Form

White to slightly yellowish pellets.

*Typical properties**

Property	Test Condition	Standard	Unit	Value
			US Conventional	
Rheological properties				
Melt volume-flow rate	220 °C; 10 kg	ISO 1133	cm³/(10 min)	25
Melt flow rate	230 °C; 3,8 kg	ASTM D1238	g/10min	9
Molding shrinkage, normal	60x60x2 mm	ISO 294-4	%	0,6-0,7
Molding shrinkage, parallel	60x60x2 mm	ISO 294-4	%	0,6-0,7
Mechanical properties (23 °C/50 % r. h.)				
Yield stress	50 mm/min	ISO 527-1,-2	MPa	39
	5 mm/min	ASTM D 638	MPa	36
Tensile modulus	1 mm/min	ISO 527-1,-2	MPa	2300
	5 mm/min	ASTM D 638	psi	333500
Flexural strength	2 mm/min	ISO 178	MPa	70
Flexural modulus	2 mm/min	ISO 178	MPa	2270
	1,3 mm/min	ASTM D 790	psi	329000
Izod notched impact strength	23 °C (73 °F)	ISO 180-1A	kJ/m²	19
	-30 °C (-22 °F)	ISO 180-1A	kJ/m²	12
	73 °F (23 °C)	ASTM D 256 (6.4mm) 1/4”	J/m	180
	73 °F (23 °C)	ASTM D 256 (3.2mm) 1/8”	J/m	250
	-22 °F (-30 °C)	ASTM D 256 (3.2mm) 1/8”	J/m	115
Charpy unnotched impact strength	23 °C (73 °F)	ISO 179-1eU	kJ/m²	72
	-30 °C (-22 °F)	ISO 179-1eU	ft-lb/in2	72

Property	Test Condition	Standard	Unit	Value
Charpy notched impact strength	23 °C (73 °F)	ISO 179-1eA	kJ/m²	18
	-30 °C (-22 °F)	ISO 179-1eA	kJ/m²	12
Ball indentation hardness		ISO 2039-1	N/mm²	95
Thermal properties				
Temperature of deflection under load (annealed 4h/80ºC; 4h/176ºF)	1.80 MPa	ISO 75-1,-2	°C	100
	0.45 MPa	ISO 75-1,-2	°C	104
Vicat softening temperature	50 N; 50 °C/h	ISO 306	°C	101
	50 N; 50 °C/h	ASTM D 1525	°F	214
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	0,9
Coefficient of linear thermal expansion, transverse	23 to 55 °C	ISO 11359-1,-2	10-4/K	0,9
Burning rate (US-FMVSS)	200x105x2 mm	ISO 3795	mm/min	<80
Other properties (23 °C)				
Density		ISO 1183	g/cm³	1,04
Processing conditions for test specimens				
Injection molding-Melt temperature		ISO 294	°C	240
Injection molding-Mold temperature		ISO 294	°C	70
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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