

Injection molding grades / General purpose grades

super high impact strength especially at low temperature

Property	Test Condition	Unit	Standard	Value
Rheological properties				
C Melt volume-flow rate	220 °C; 10 kg	cm ³ /(10 min)	ISO 1133	4
C Molding shrinkage, parallel	60x60x2	%	ISO 294-4	0.6 - 0.9
C Molding shrinkage, normal	60x60x2	%	ISO 294-4	0.6 - 0.9
Mechanical properties (23 °C/50 % r.h.)				
C Tensile modulus	1 mm/min	MPa	ISO 527-1,-2	1700
C Yield stress	50 mm/min	MPa	ISO 527-1,-2	34
C Yield strain	50 mm/min	%	ISO 527-1,-2	2.4
Strain at break	50 mm/min	%	based on ISO 527-1,-2	> 10
C Tensile creep modulus	1 h	MPa	ISO 899-1	1600
C Tensile creep modulus	1000 h	MPa	ISO 899-1	1100
C Charpy impact strength	23 °C	kJ/m ²	ISO 179-1eU	N
C Charpy impact strength	-30 °C	kJ/m ²	ISO 179-1eU	170
C Charpy notched impact strength	23 °C	kJ/m ²	ISO 179-1eA	36
C Charpy notched impact strength	-30 °C	kJ/m ²	ISO 179-1eA	26
Izod notched impact strength	23 °C	kJ/m ²	ISO 180-1A	36
Izod notched impact strength	-30 °C	kJ/m ²	ISO 180-1A	24
Flexural modulus	2 mm/min	MPa	ISO 178	1700
Flexural strength	2 mm/min	MPa	ISO 178	52
Ball indentation hardness		N/mm ²	ISO 2039-1	70
Thermal properties				
C Temperature of deflection under load	1.80 MPa	°C	ISO 75-1,-2	93
C Temperature of deflection under load	0.45 MPa	°C	ISO 75-1,-2	98
C Vicat softening temperature	50 N; 50 °C/h	°C	ISO 306	94
C Coefficient of linear thermal expansion, parallel	23 to 55 °C	10 ⁻⁴ /K	ISO 11359-1,-2	1.2
C Burning behavior UL 94 (1.6 mm)	1.6 mm	Class	UL 94	HB
Burning rate (US-FMVSS)	2.0 mm	mm/min	ISO 3795	50
Glow wire test (GWFI)	2.0 mm	°C	IEC 60695-2-12	700
Electrical properties (23 °C/50 % r.h.)				
C Relative permittivity	100 Hz	-	IEC 60250	3.0
C Relative permittivity	1 MHz	-	IEC 60250	2.9
C Dissipation factor	100 Hz	10 ⁻⁴	IEC 60250	50
C Dissipation factor	1 MHz	10 ⁻⁴	IEC 60250	80
C Volume resistivity		Ohm·m	IEC 60093	1E13
C Surface resistivity		Ohm	IEC 60093	1E15
C Electric strength	1 mm	kV/mm	IEC 60243-1	36
C Comparative tracking index CTI	Solution A	Rating	IEC 60112	600
Other properties (23 °C)				
C Density		kg/m ³	ISO 1183	1030
Processing conditions for test specimens				
C Injection molding-Melt temperature		°C	ISO 294	240
C Injection molding-Mold temperature		°C	ISO 294	70
C Injection molding-Injection velocity		mm/s	ISO 294	240

Disclaimer

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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.