



Manufacturer's Confirmation

Supplier: ETI Elektroelement, d.o.o.
Address: Obrezija 5, SI-1411 Izlake, Slovenia

Product: Meter boards type MP, VP, MPO, VPO

We herewith confirm that above mentioned products are made from material type Novodur P2H-AT which has technical characteristics as per below table.

Property	Test Condition	Unit	Standard	Value
Rheological properties				
C Melt volume-flow rate	220 °C; 10 kg	cm ³ /(10 min)	ISO 1133	37
C Molding shrinkage, parallel	60x60x2	%	ISO 294.4	0.4 - 0.6
C Molding shrinkage, normal	60x60x2	%	ISO 294.4	0.4 - 0.6
Mechanical properties (23 °C/50 % r.h.)				
C Tensile modulus	1 mm/min	MPa	ISO 527-1,-2	2500
C Yield stress	50 mm/min	MPa	ISO 527-1,-2	44
C Yield strain	50 mm/min	%	ISO 527-1,-2	2.1
C Strain at break	50 mm/min	%	acc. ISO 527-1,-2	>15
C Tensile creep modulus	1 h	MPa	ISO 899-1	2200
C Tensile creep modulus	1000 h	MPa	ISO 899-1	1500
C Charpy impact strength	23 °C	kJ/m ²	ISO 179-1eU	100
C Charpy impact strength	-30 °C	kJ/m ²	ISO 179-1eU	80
C Charpy notched impact strength	23 °C	kJ/m ²	ISO 179-1eA	16
C Charpy notched impact strength	-30 °C	kJ/m ²	ISO 179-1eA	7
C Izod notched impact strength	23 °C	kJ/m ²	ISO 180-1A	16
C Izod notched impact strength	-30 °C	kJ/m ²	ISO 180-1A	7
C Flexural modulus	2 mm/min	MPa	ISO 178	2400
C Flexural strength	2 mm/min	MPa	ISO 178	70
C Ball indentation hardness		N/mm ²	ISO 2039-1	110
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	97
C Vicat softening temperature	50 N; 50 °C/h	°C	ISO 306	98
C Coefficient of linear thermal expansion, parallel	23 to 55 °C	10 ⁻⁴ /K	ISO 11359-1,-2	0.9
C Burning behavior UL 94 (1.6 mm)	1.6 mm	Class	UL 94	HB
C Burning rate (US-FMVSS)	2.0 mm	mm/min	ISO 3795	60
C 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	55
C Dissipation factor	1 MHz	10 ⁻⁴	IEC 60250	90
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	34
C Comparative tracking index CTI	Solution A	Rating	IEC 60112	600
Other properties (23 °C)				
C Density		kg/m ³	ISO 1183	1050
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

ISO name: ISO 2580-ABS 1, MGZ,095-25-16-25

Place and date of issue: Izlake, 6.08.2024

Manufacturer representative signature and stamp: M. Sc. Franc Jenko

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