









Physical properties Cevodur EP FR4

comparable standards: ISO-description (ISO) EP GC 204

Self-extinguishing material with extremely high mechanical strength at moderate temperatures. Very good stability of electrical properties under high humidity. Mechanical, electrical and electronic applications. UL-94 V-0 approved – File No. E222199.

Property		Method	Thickness	unit	value	
Mechanical properties						
Flexural strengt at RT		ISO 178	≥ 1.6 mm	MPa	450	*1
Flexural strengt at elevated temp. 150°C		ISO 178	≥ 1.6 mm	MPa	200	
Modulus of elasticity		ISO 178	≥ 1.6 mm	MPa	22000	*1
Compressive strength		ISO 604	≥ 5.0 mm	MPa	550	*1
Izod impact strength, parallel		ISO 180/2A	≥ 5.0 mm	kJ/m ²	65.0	*1
Shearing strength, parallel		IEC 60893-2	≥ 5.0 mm	MPa	55.0	*1
Tensile strength		ISO 527	≥ 1.6 mm	MPa	320	*1
Electrical properties						
Electric strength in oil at 90°C		IEC 60243-1	3.0 mm	kV/mm	15.0	*2
Electric strength in oil at 90°C		IEC 60243-1	≥ 3.0 mm	kV/25mm	70	*2
Permittivity 50 Hz		IEC 60250	≥ 1.6 mm		4.5	*3
Permittivity 1 MHz		IEC 60250	≥ 1.6 mm		4.5	*3
Dissipation factor 50 Hz		IEC 60250	≥ 1.6 mm		0.005	*3
Dissipation factor 1 MHz		IEC 60250	≥ 1.6 mm		0.008	*3
Insulation resistance after immersion in water 1 MHz		IEC 60167	Alle	MΩ	500000	*4
Comparative tracking index		IEC 60112	≥ 3.0 mm	CTI	200	*1
Physical and thermal properties						
Thermal endurance index 20 000 h (T.I.)		IEC 60216	≥ 3.0 mm	°C	145.0	
Flammability		IEC 60695	3.0 mm		V-0	*1
Density		ISO 1183-A	Alle	g/cm ³	1.90	*1
Water absorption		ISO 62-1	50x50x3mm	mg	10	*4

Base material: Glass fabric
Matrix resin: Epoxy

* Conditioning

- 1: 24h/23°C/50%RH
- 2: 24h/23°C/50%RH + 1h/Öl 90°C
- 3: 96h/105°C + 1h/23°C/20%RH
- 4: 24h/50°C + 24h/Wasser 23°C
- 5: 96h/105°C + 1h/Öl 90°C

This table is a valuable help in the choice of a material. The data listed here fall within the normal range of products properties, but they should not be used to establish material specification limits nor used alone as the basis of design.