

Material datasheet

Material: Vespel® SP21

mechanical characteristics

Characteristic	Standard	Unit	Value
Tensile strength (+23°C, dry)	ISO 527-1/-2 DIN 53455 ASTM D 638	MPa (N/mm²)	65.5
Elongation at break (+23°C, dry)	ISO 527-1/-2 DIN 53455 ASTM D 638	%	4.5
Tensile E-modulus (+23°C, dry)	ISO 527-1/-2 DIN 53455 ASTM D 638	MPa (N/mm²)	2895
Max. permissible pressure load (continuous)	Faigle	MPa (N/mm²)	16
Coefficient of sliding friction (p = 0.3N/mm² / 0.6N/mm², v = 0.27m/s, against steel hardened and ground, dry)			0.18

thermal characteristics

Characteristic	Standard	Unit	Value
min. Operating temperature (continuous)		°C	-200
max. service temperature (continuous)		°C	300
max. service temperature (short-term)		°C	500
Coefficient of linear thermal expansion (23 - 60°C)	ISO 11359	10 ⁻⁶ /K	49

combustibility characteristics

Characteristic	Standard	Unit	Value
UL94 flammability	IEC 60695-11-10	class	V0

electrical characteristics

Characteristic	Standard	Unit	Value
Dielectric constant, relative permittivity (1 MHz, dry)	DIN IEC 60250 (DIN VDE 0303-4) ASTM D 150		13.41
Dielectric loss factor (1 MHz, dry)	DIN IEC 60250 (DIN VDE 0303-4) ASTM D 150		0.0106

physical characteristics

Characteristic	Standard	Unit	Value
Density, Gross density	ISO 1183 DIN 53479 ASTM D 792	g/cm ³	1.51
Moisture absorption at saturation - standard climate (23°C, 50% RF)	ISO 62 ISO 1110	%	1.1