

Material datasheet Material: Vespel® SP1

mechanical characteristics

Characteristic	Standard	Unit	Value
Tensile strength (+23°C, dry)	ISO 527-1/-2 DIN 53455 ASTM D 638	MPa (N/mm ²)	86.2
Elongation at break (+23°C, dry)	ISO 527-1/-2 DIN 53455 ASTM D 638	%	7.5
Tensile E-modulus (+23°C, dry)	ISO 527-1/-2 DIN 53455 ASTM D 638	MPa (N/mm ²)	2413
Max. permissible pressure load (continuous)	Faigle	MPa (N/mm ²)	21
Coefficient of sliding friction (p = 0.3N/mm ² / 0.6N/mm ² , v = 0.27m/s, against steel hardened and ground, dry)			0.29

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	54

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		3.55
Dielectric loss factor (1 MHz, dry)	DIN IEC 60250 (DIN VDE 0303-4) ASTM D 150		0.0034
Surface resistivity (dry)	DIN IEC 60093 (DIN VDE 0303-30) ASTM D 257	Ω	10 ¹⁵

physical characteristics

Characteristic	Standard	Unit	Value
Density, Gross density	ISO 1183 DIN 53479 ASTM D 792	g/cm ³	1.43