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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 |

These data are guideline values which are subject to change depending on the type of manufacture of the test specimens and stress. These data are based on our own experience and on manufacturer's data. However, they are provided without guarantee, since each application is different and must be considered with reference to its specific influence parameters.

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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/cm³ | 1.51 |
| Moisture absorption at saturation - standard climate (23°C, 50% RF) | ISO 62 ISO 1110 | % | 1.1 |

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