

APSOplast® PMMA-GS
**Engineering Plastic Technology
Technical Data Sheet**
Product description

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| Material name, long description | Polymethyl methacrylate cast |
| Material name, short description | PMMA-GS |
| Material Code | PMMA-GS 00.006-00 |
| Density | 1.19 g/cm ³ |

Mechanical characteristics

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| Bending strength | Test value: 115 MPa Test norm: ISO 178 Test parameter: Norm rod 80 x 10 x 4 mm ³ |
| Elongation at break | Test value: 5.5 % Test norm: ISO 527-2;1B,5 |
| Coefficient of sliding friction | Test value: 0.8; 0.5; 0.45 Test parameter: Plastics on plastics; plastics on steel; steel on plastics |
| Notch impact strength | Test value: 1.6 kJ/m ² Test norm: ISO 180-1A Test parameter: Izod |
| Ball indentation hardness | Test value: 175 MPa Test norm: ISO 2039-1 |
| Impact strength | Test value: 15 kJ/m ² Test norm: ISO 179/1fU Test parameter: Charpy |
| Modulus of elasticity and tension | Test value: 3300 MPa Test norm: ISO 527-2;1B,1 |
| Tensile strength | Test value: 110; 80; 40 MPa Test norm: ISO 527-2;1B,5 Test parameter: at -40; 23; 70 °C |

Thermal characteristics

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| Max. operating temperature long term | Test value: 80 °C |
| Coefficient of linear thermal expansion | Test value: 7 10 ⁻⁵ K ⁻¹ Test norm: DIN 53752-A Test parameter: 0 - 50 °C |
| Specific heat capacity | Test value: 1.47 J/g·K |
| Heat transition coefficient (k-value) | Test value: 5.8 W/m ² ·K Test parameter: Thickness 1 mm |
| | Test value: 5.6 W/m ² ·K Test parameter: Thickness 3 mm |
| | Test value: 5.3 W/m ² ·K Test parameter: Thickness 5 mm |
| | Test value: 4.4 W/m ² ·K Test parameter: Thickness 10 mm |
| Heat deflection temperature | Test value: 115 °C Test norm: DIN EN ISO 306 Vicat B |
| Thermal conductivity | Test value: 0.19 W/m·K Test norm: DIN 52612 |

Electrical characteristics

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| Dielectric constant | Test value: 3.6; 2.7 Test norm: DIN VDE 0303-3 Test parameter: 50 Hz; 0.1 MHz |
| Dielectric loss factor | Test value: 0.06; 0.02 Test norm: DIN VDE 0303-4 Test parameter: 50 Hz; 0.1 MHz |
| Dielectric strength | Test value: -30 kV/mm Test norm: DIN VDE 0303-2 Test parameter: 1 mm thickness of testmaterial |
| Volume resistivity | Test value: > 10 ¹⁵ Ohm·cm Test norm: DIN VDE 0303-3 |
| Surface resistivity | Test value: 5 x 10 ¹³ Ohm Test norm: DIN VDE 0303-3 |
| Comparative tracking index | Test value: 600 Test norm: DIN VDE 0303-1 Test parameter: CTI |

Other characteristics

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| Moisture absorption | Test value: 2.1 % Test norm: ISO 62-1 Test parameter: in water |
| Refractive index | Test value: 1.491 Test norm: ISO 489 |
| Water absorption at saturation | Test value: 41 mg Test norm: ISO 62-1 Test parameter: Against dry conditions, test material 60 x 60 x 2 mm ² |
| Light reflection grade | Test value: 4 % |
| Translucence | Test value: 92 % Test norm: DIN 5036-3 |