

COOLPOLY® E5101

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CoolPoly E series of thermally conductive plastics transfers heat, a characteristic previously unavailable in injection molding grade polymers. CoolPoly is lightweight, netshape moldable and allows design freedom in applications previously restricted to metals. The E series is electrically conductive and provides inherent EMI/RFI shielding characteristics.

Product information

Resin Identification	PPS	ISO 1043
Part Marking Code	>PPS<	ISO 11469

Typical mechanical properties

Tensile modulus	11600 MPa	ISO 527-1/-2
Tensile stress at break, 5mm/min	44 MPa	ISO 527-1/-2
Tensile strain at break, 5mm/min	0.43 %	ISO 527-1/-2
Flexural modulus	13000 MPa	ISO 178
Flexural strength	76 MPa	ISO 178
Charpy impact strength, 23°C	3.5 kJ/m ²	ISO 179/1eU
Poisson's ratio	0.33 ^[C]	

[C]: Calculated

Thermal properties

Melting temperature, 10°C/min	280 °C	ISO 11357-1/-3
Temperature of deflection under load, 1.8 MPa	248 ^[1] °C	ISO 75-1/-2
Temperature of deflection under load, 0.45 MPa	279 ^[1] °C	ISO 75-1/-2
Thermal conductivity, flow	20 W/(m K)	ISO 22007-2
Thermal conductivity, crossflow	15 W/(m K)	ISO 22007-2
Thermal conductivity, through plane	3.5 W/(m K)	ISO 22007-2

[1]: RI data

Flammability

Burning Behav. at thickness h	V-0 ^[2] class	IEC 60695-11-10
Thickness tested	1 mm	IEC 60695-11-10
UL recognition	yes	UL 94

[2]: UL Yellow card.

Electrical properties

Volume resistivity	0.0017 ^[3] Ohm.m	IEC 62631-3-1
Surface resistivity	74 ^[PV] Ohm	IEC 62631-3-2

[PV]: Preliminary Value

[3]: Method: ISO 3915

Physical/Other properties

Water absorption, 2mm	0.05 %	Sim. to ISO 62
Density	1710 kg/m ³	ISO 1183

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Injection

Ejection temperature

225 °C

Characteristics

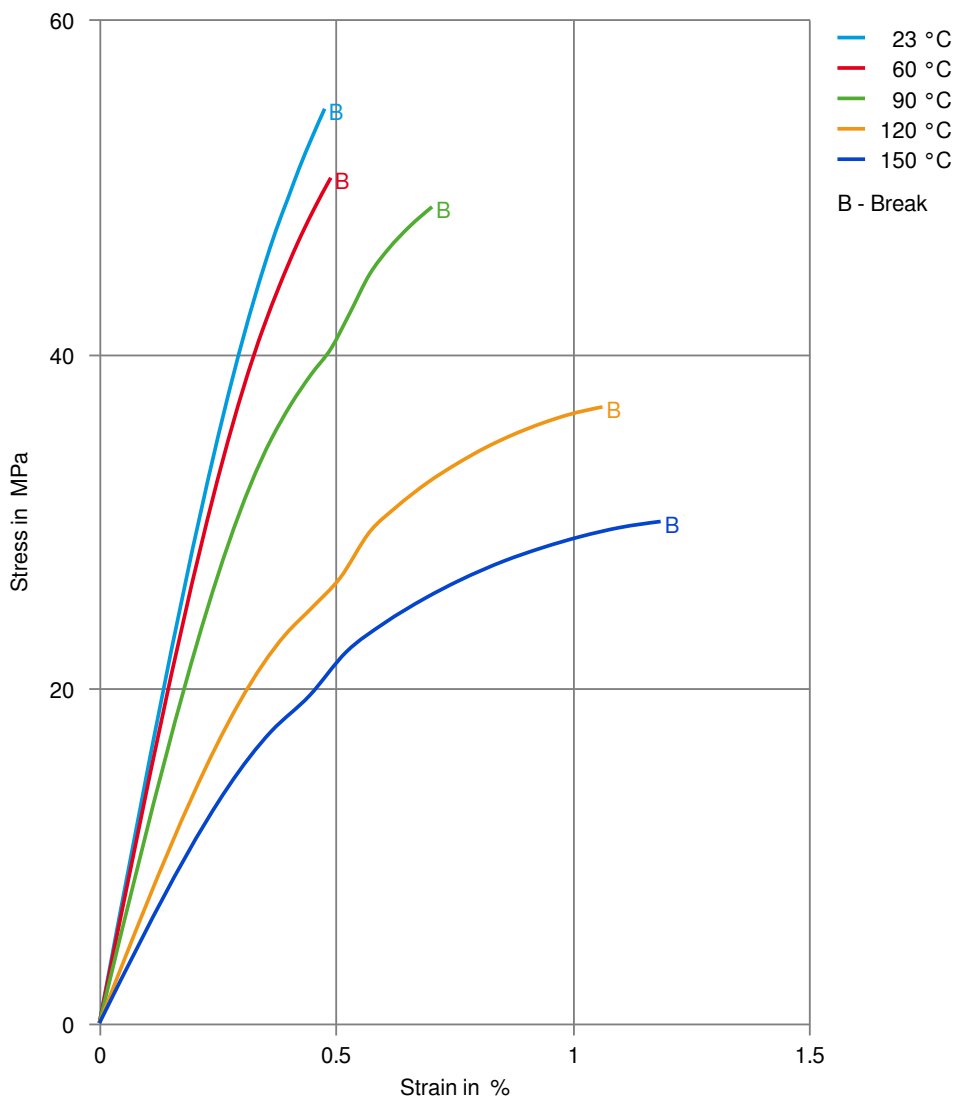
Processing

Injection Moulding

Special characteristics

Increased electrical conductivity, Static dissipative, Flame retardant, Light weight

Stress-strain



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Secant modulus-strain

