

# COOLPOLY® E5101

## COOLPOLY®

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 <sup>2</sup>	ISO 179/1eU
Poisson's ratio	0.33 <sup>[C]</sup>	

[C]: Calculated

### Thermal properties

Melting temperature, 10°C/min	280 °C	ISO 11357-1/-3
Temperature of deflection under load, 1.8 MPa	248 <sup>[1]</sup> °C	ISO 75-1/-2
Temperature of deflection under load, 0.45 MPa	279 <sup>[1]</sup> °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 <sup>[2]</sup> 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 <sup>[3]</sup> Ohm.m	IEC 62631-3-1
Surface resistivity	74 <sup>[PV]</sup> 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 <sup>3</sup>	ISO 1183

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## Injection

Ejection temperature

225 °C

## Characteristics

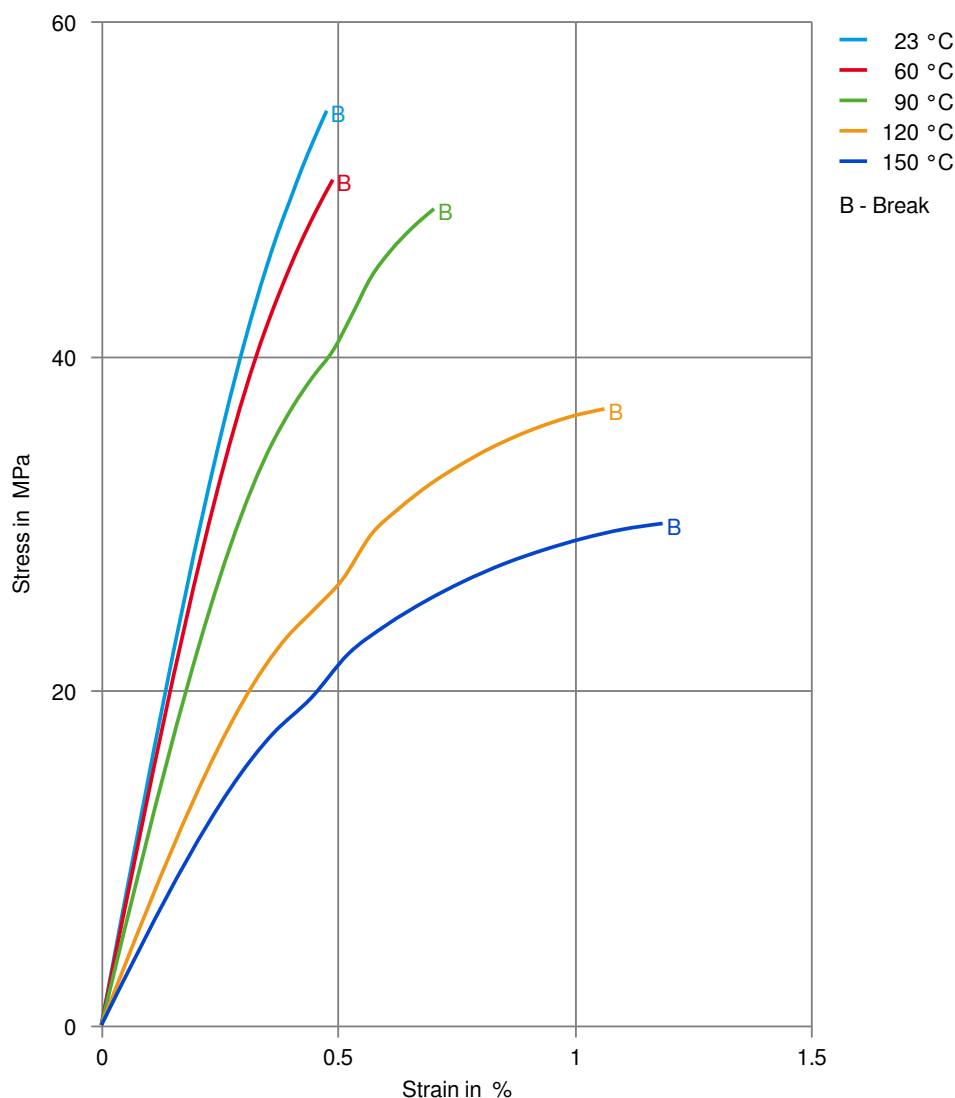
Processing

Injection Moulding

Special characteristics

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

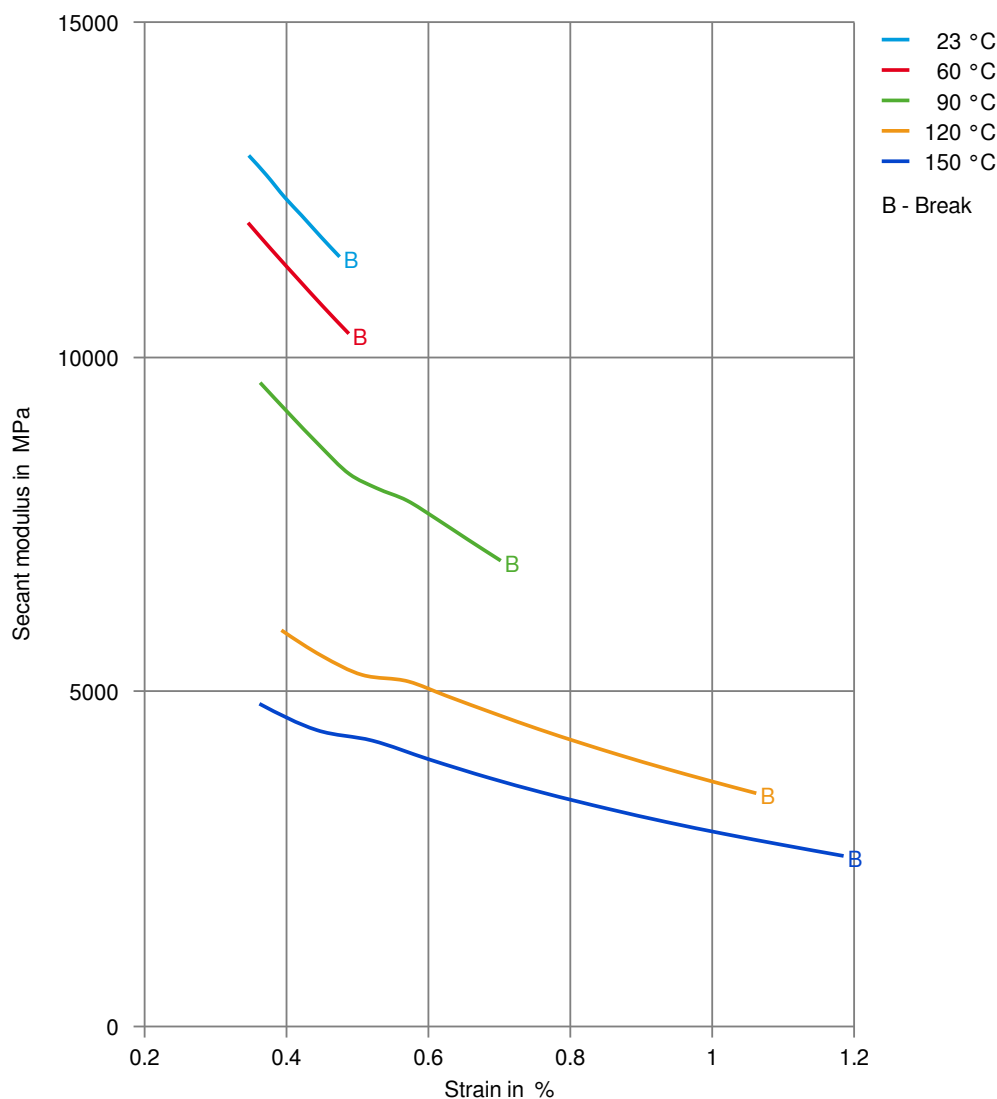
## Stress-strain



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Secant modulus-strain



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