

COOLPOLY® E3609

CoolPoly E3609 is a thermally and electrically conductive PA6 based grade specified for auto applications. 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.

Rheological properties

Moulding shrinkage range, parallel	0.2 - 0.5 %	ISO 294-4, 2577
Moulding shrinkage range, normal	0.2 - 0.6 %	ISO 294-4, 2577

Typical mechanical properties

	dry/cond.		
Tensile Modulus	7000 / -	MPa	ISO 527-1/-2
Stress at break, 5mm/min	36 / -	MPa	ISO 527-1/-2
Strain at break, 5mm/min	0.7 / -	%	ISO 527-1/-2
Flexural Modulus	8300 / -	MPa	ISO 178
Flexural Strength	64 / -	MPa	ISO 178
Charpy impact strength, 23°C	5 / -	kJ/m ²	ISO 179/1eU
Charpy notched impact strength, 23°C	2.2 / -	kJ/m ²	ISO 179/1eA
Charpy notched impact strength, -30°C	1.9 / -	kJ/m ²	ISO 179/1eA
Hardness, Rockwell, R-scale	95		ISO 2039-2
Poisson's ratio	0.33		

Thermal properties

Melting temperature, 10°C/min	220 °C	ISO 11357-1/-3
Temp. of deflection under load, 1.8 MPa	175 °C	ISO 75-1/-2
Coeff. of linear therm. expansion, parallel	21 E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion, normal	52 E-6/K	ISO 11359-1/-2
Thermal conductivity in plane, in flow	24 W/(m K)	ASTM E 1461
Thermal conductivity in plane, cross flow	18 W/(m K)	ASTM E 1461
Thermal conductivity through plane	4 W/(m K)	ASTM E 1461

Flammability

Burning Behav. at thickness h	HB class	UL 94
Thickness tested	1.50 mm	UL 94

Electrical properties

	dry/cond.		
Volume resistivity	0.02 / -	Ohm.m	IEC 62631-3-1

Other properties

Humidity absorption, 2mm	<0.1 %	Sim. to ISO 62
Density	1550 kg/m ³	ISO 1183



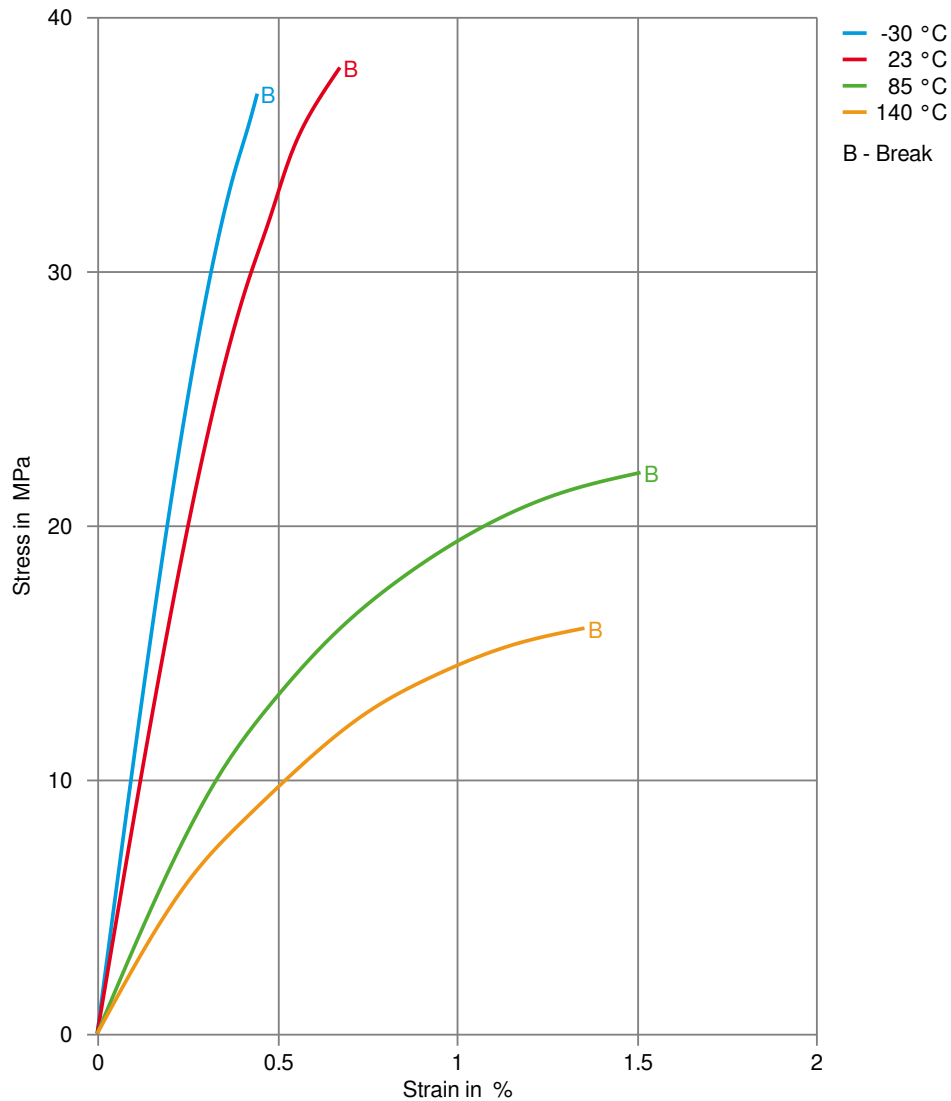
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Injection

Drying Temperature	80 °C
Drying Time, Dehumidified Dryer	2 - 4 h
Melt Temperature Optimum	265 °C
Max. mould temperature	100 - 140 °C
Back pressure	MPa
Injection speed	medium-fast

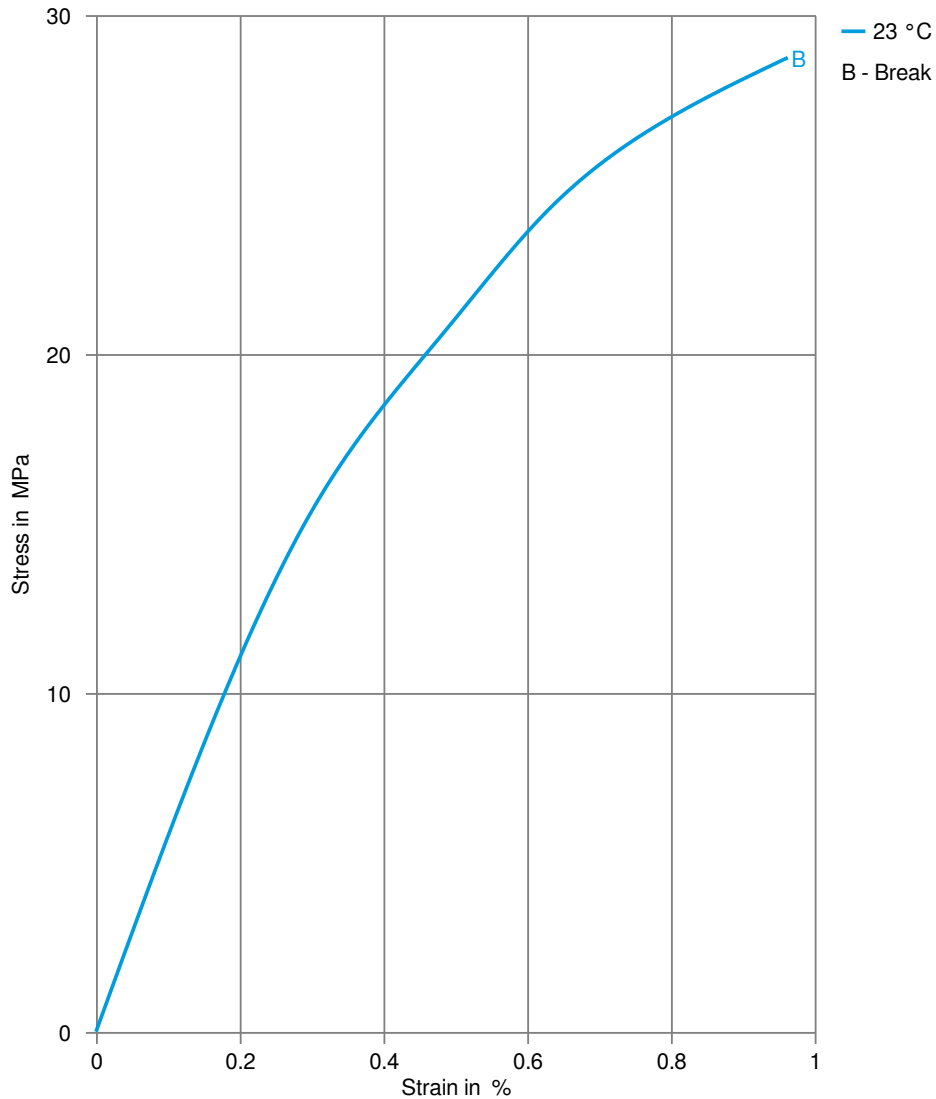
Internal

Stress-strain (dry)



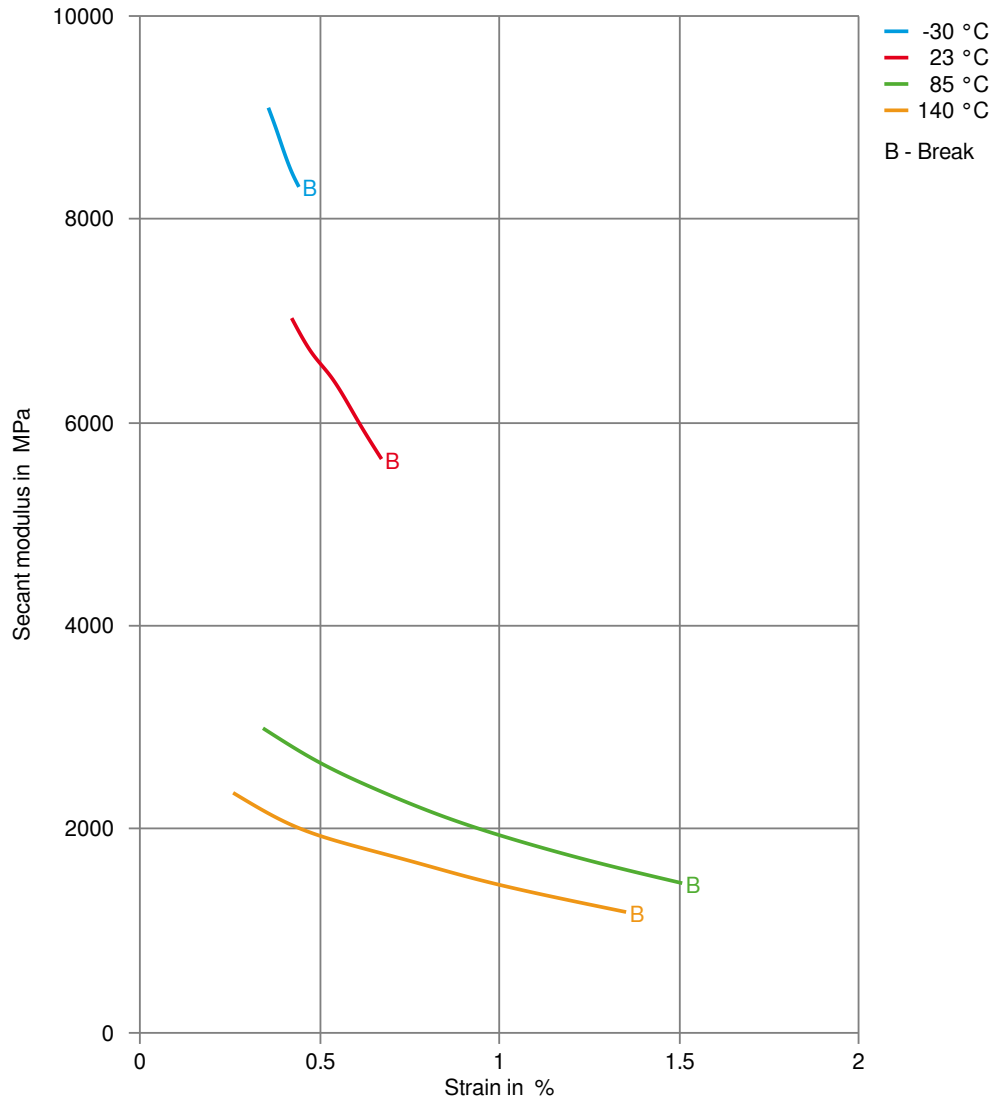
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Stress-strain (cond.)



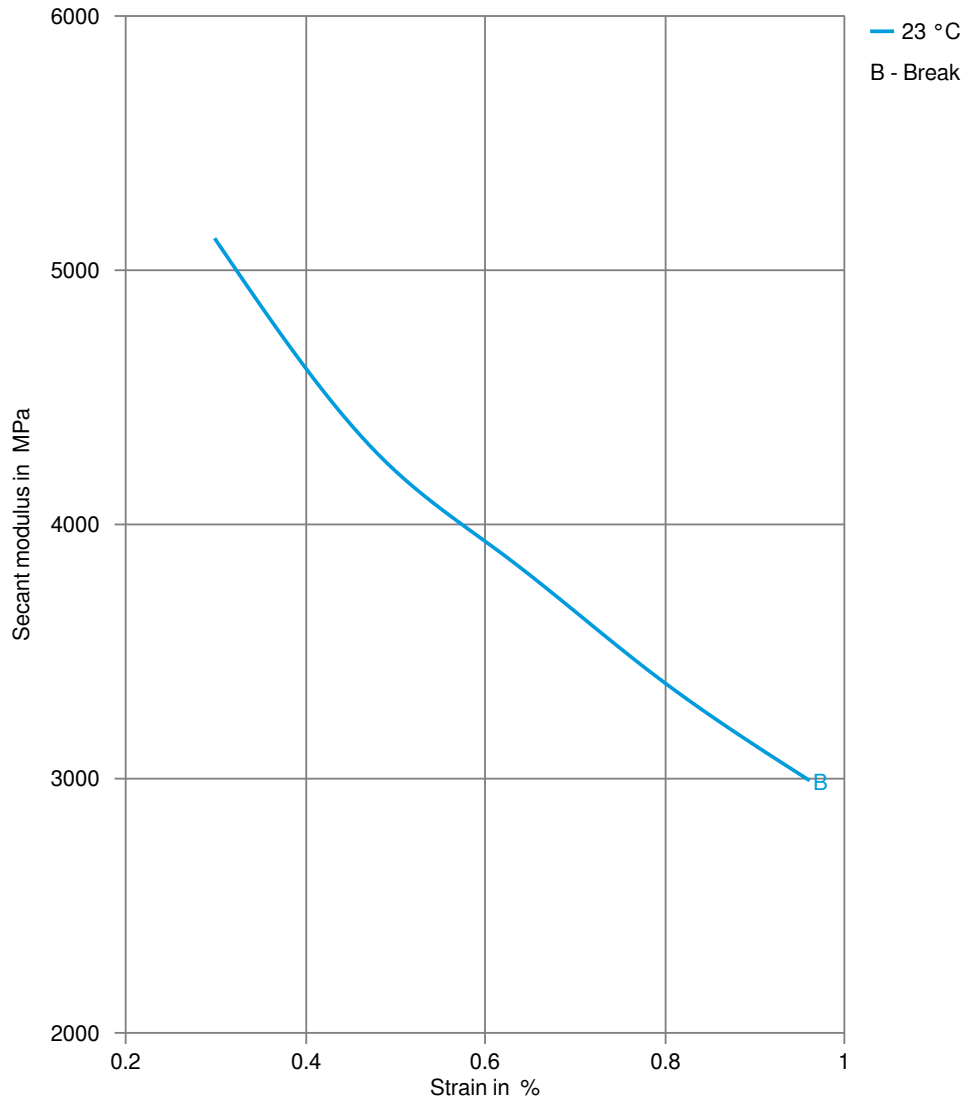
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Secant modulus-strain (dry)



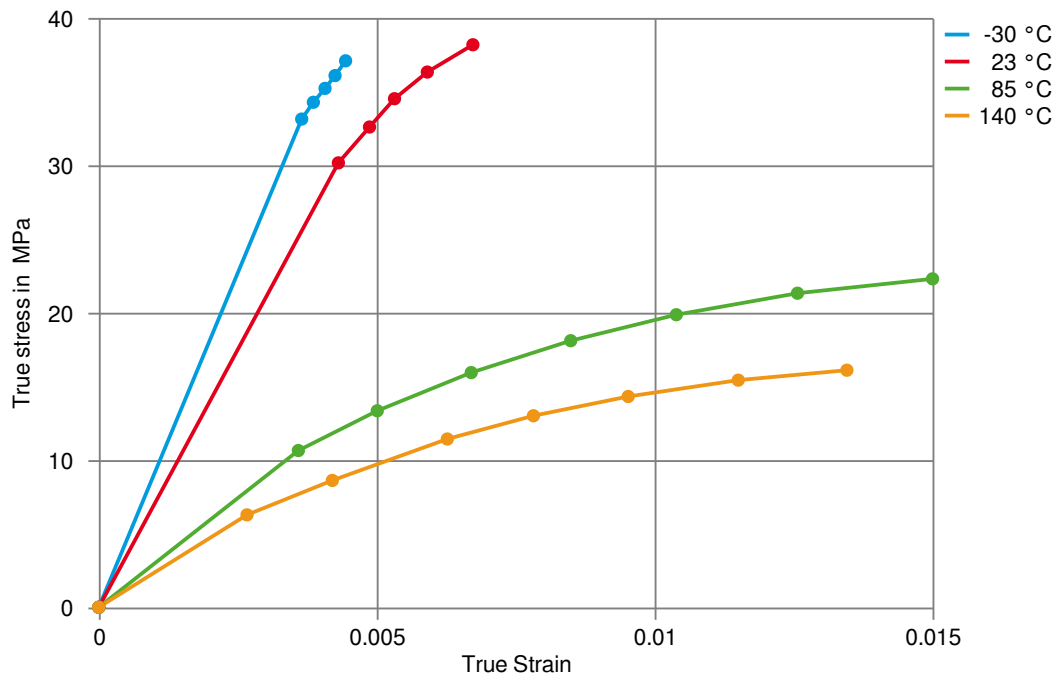
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Secant modulus-strain (cond.)



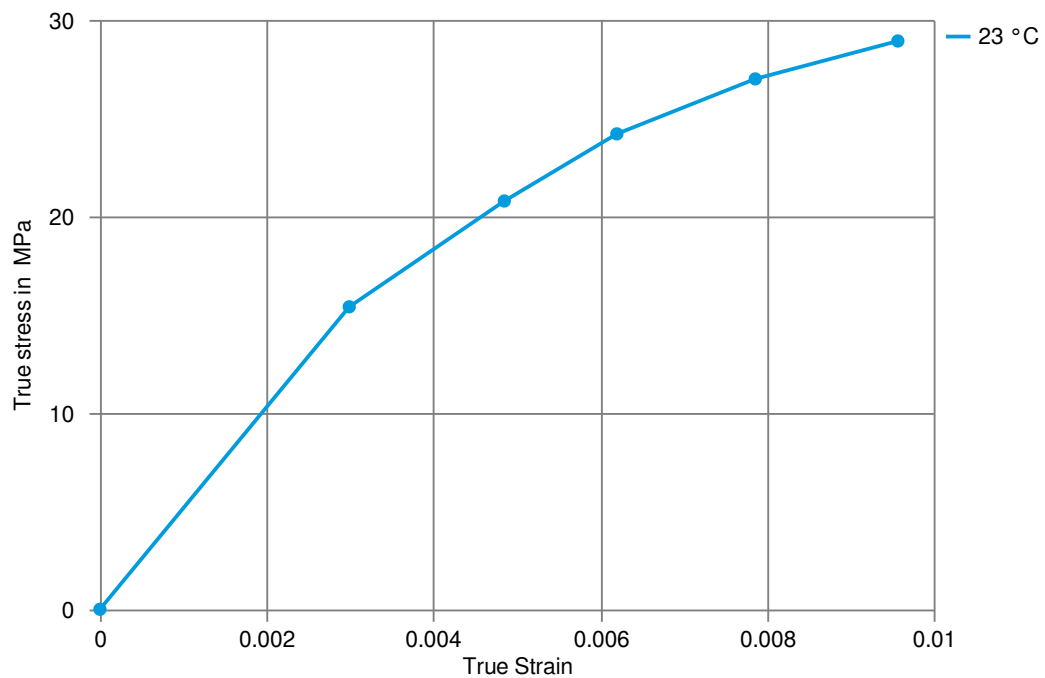
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True stress-strain (dry)



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True stress-strain (cond.)



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Other Approvals

Other Approvals

OEM	Specification	Additional Information
GM	GMW17802P-PA6-T1	
Stellantis - PSA Group	B62 0300	61/221E/210M+/C2B KD3003 Black

