

COOLPOLY® E3609

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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	PA6	ISO 1043
Part Marking Code	>PA6<	ISO 11469

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
Tensile stress at break, 5mm/min	36 / -	MPa	ISO 527-1/-2
Tensile 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

	dry/cond.		
Melting temperature, 10°C/min	220 / *	°C	ISO 11357-1/-3
Temperature of deflection under load, 1.8 MPa	175 / *	°C	ISO 75-1/-2
Coefficient of linear thermal expansion (CLTE), parallel	21 ^[1] / *	E-6/K	ISO 11359-1/-2
Coefficient of linear thermal expansion (CLTE), normal	52 ^[1] / *	E-6/K	ISO 11359-1/-2
Thermal conductivity, flow	24	W/(m K)	ISO 22007-2
Thermal conductivity, crossflow	18	W/(m K)	ISO 22007-2
Thermal conductivity, through plane	4	W/(m K)	ISO 22007-2

[1]: Temp range -30C to 160C

Flammability

	dry/cond.		
Burning Behav. at 1.5mm nom. thickn.	HB / *	class	IEC 60695-11-10
Thickness tested	1.5 / *	mm	IEC 60695-11-10
UL recognition	yes / *		UL 94
FMVSS Class	DNI		ISO 3795 (FMVSS 302)

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Electrical properties

	dry/cond.		
Volume resistivity	0.02 / -	Ohm.m	IEC 62631-3-1
Surface resistivity	*/600 ^[PV]	Ohm	IEC 62631-3-2
[PV]: Preliminary Value			

Physical/Other properties

	dry/cond.		
Humidity absorption, 2mm	0.1 / *	%	Sim. to ISO 62
Density	1550 / -	kg/m ³	ISO 1183

Injection

Back pressure	0.35 MPa
Ejection temperature	181 °C

Characteristics

Processing	Injection Moulding
Special characteristics	Increased electrical conductivity, Static dissipative, Light weight

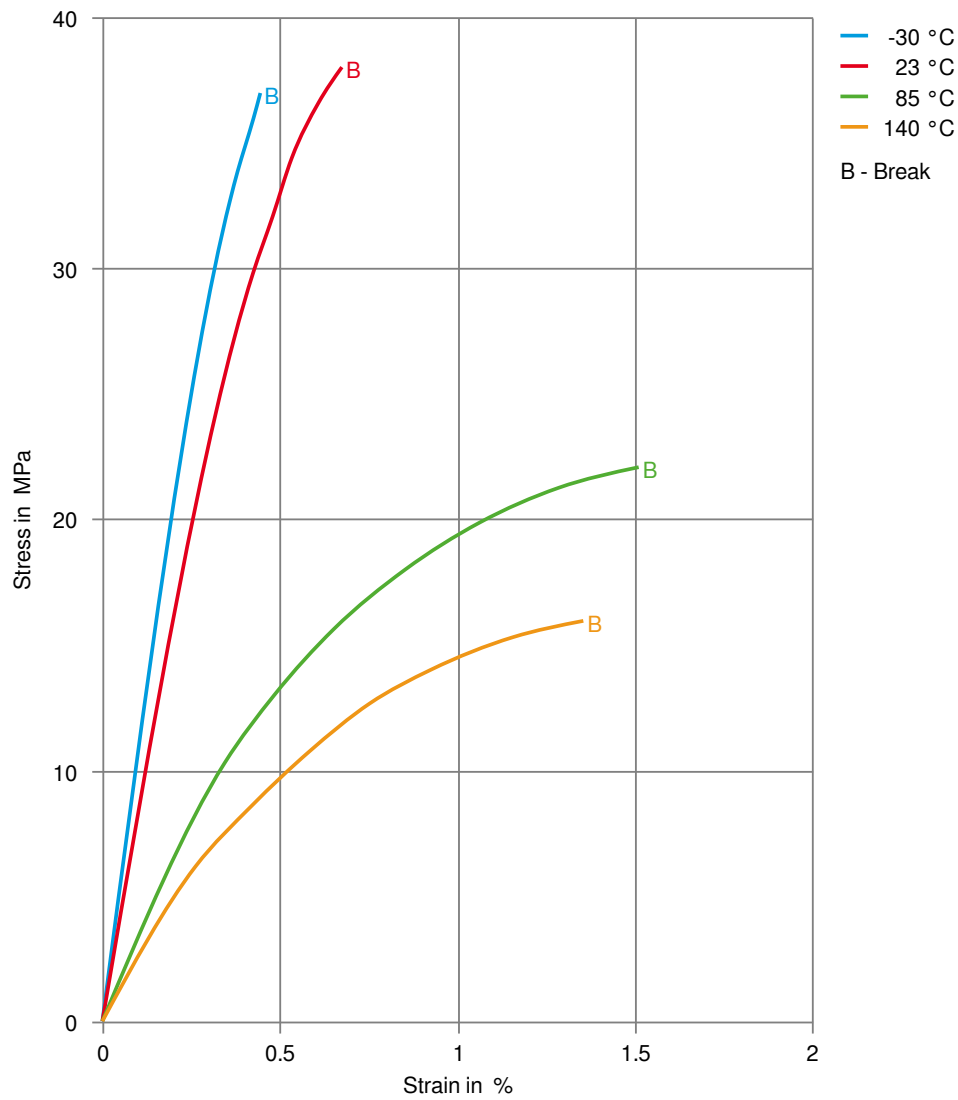
Automotive

OEM	STANDARD	ADDITIONAL INFORMATION
General Motors	GMW17802P-PA6-T1	Black
Stellantis	B62 0300 / 61/221E/210M+/C2B	01378_21_00757

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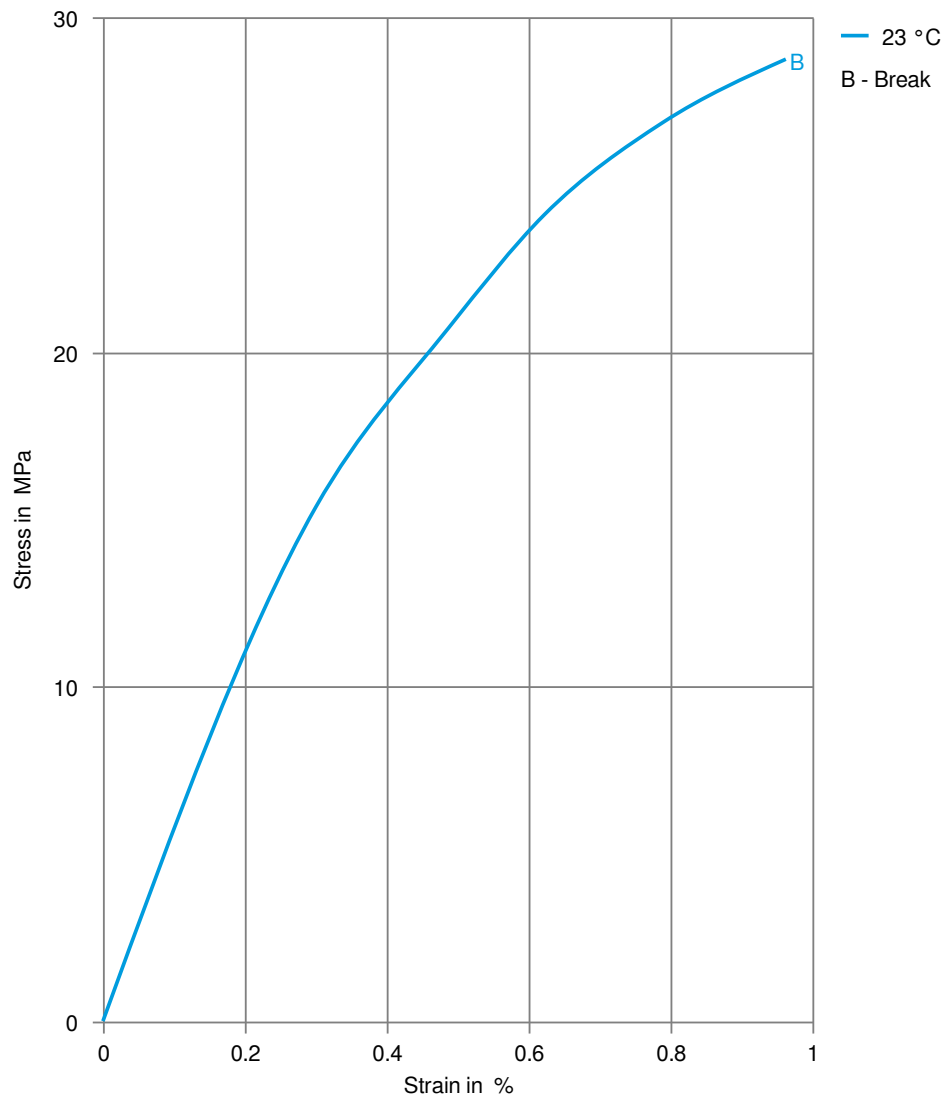
Stress-strain (dry)



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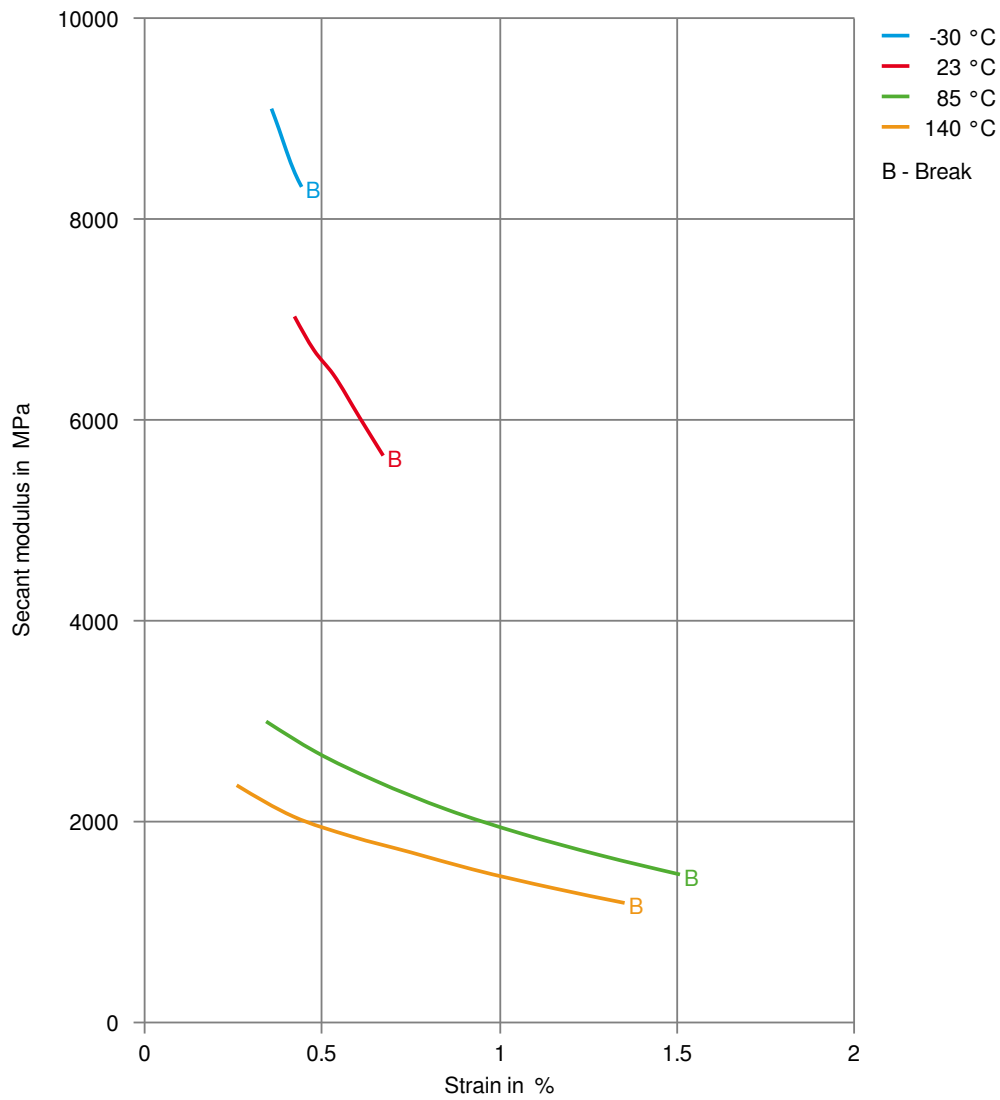
Stress-strain (cond.)



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Secant modulus-strain (dry)



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Secant modulus-strain (cond.)

