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CELCON® M90-45XAP®

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Celcon® acetal copolymer grade M90-45XAP® is a UV resistant, low emission, medium viscosity polymer providing optimum performance in injection molding, and primarily for the interior automotive market. This grade provides overall excellent performance in many applications. Celcon® M90-45XAP® is formulated in custom colors for Toyota interior UV stabilized applications

Product information

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

Rheological properties

Melt volume-flow rate	8	cm^3/10min	ISO 1133
Temperature	190	°C	
Load	2.16	kg	
Moulding shrinkage, parallel	2.5	%	ISO 294-4, 2577
Moulding shrinkage, normal	2.4	%	ISO 294-4, 2577

Typical mechanical properties

Tensile modulus	2650	MPa	ISO 527-1/-2
Tensile stress at yield, 50mm/min	64	MPa	ISO 527-1/-2
Tensile strain at yield, 50mm/min	9	%	ISO 527-1/-2
Flexural modulus	2450	MPa	ISO 178
Flexural strength	77	MPa	ISO 178
Charpy notched impact strength, 23°C	6	kJ/m^2	ISO 179/1eA
Charpy notched impact strength, -30°C	4	kJ/m^2	ISO 179/1eA
Izod notched impact strength, 23°C	6	kJ/m^2	ISO 180/1A
Poisson's ratio	0.38[C]		

[C]: Calculated

Thermal properties

Melting temperature, 10°C/min	167	°C	ISO 11357-1/-3
Temperature of deflection under load, 1.8 MPa	91	°C	ISO 75-1/-2
Temperature of deflection under load, 0.45 MPa	151	°C	ISO 75-1/-2
Coefficient of linear thermal expansion (CLTE), parallel	110	E-6/K	ISO 11359-1/-2
Coefficient of linear thermal expansion (CLTE), normal	120	E-6/K	ISO 11359-1/-2

Flammability

FMVSS Class	B		ISO 3795 (FMVSS 302)
Burning rate, Thickness 1 mm	79.4	mm/min	ISO 3795 (FMVSS 302)

Physical/Other properties

Density	1410	kg/m^3	ISO 1183

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Injection

Drying Recommended	no	
Drying Temperature	100	°C
Drying Time, Dehumidified Dryer	3 - 4	h
Processing Moisture Content	≤0.2	%
Melt Temperature Optimum	200	°C
Min. melt temperature	190	°C
Max. melt temperature	210	°C
Screw tangential speed	≤0.3	m/s
Mold Temperature Optimum	100	°C
Min. mould temperature	80	°C
Max. mould temperature	120	°C
Hold pressure range	60 - 120	MPa
Back pressure	4	MPa

Characteristics

Processing	Injection Moulding, Extrusion
Delivery form	Pellets
Special characteristics	U.V. stabilised or stable to weather, Low emissions

Additional information

Processing Notes

Pre-Drying

Drying is recommended to achieve lowest emission performance. If material contacts moisture through improper storage or handling, drying may be necessary to prevent splay and odor issues.

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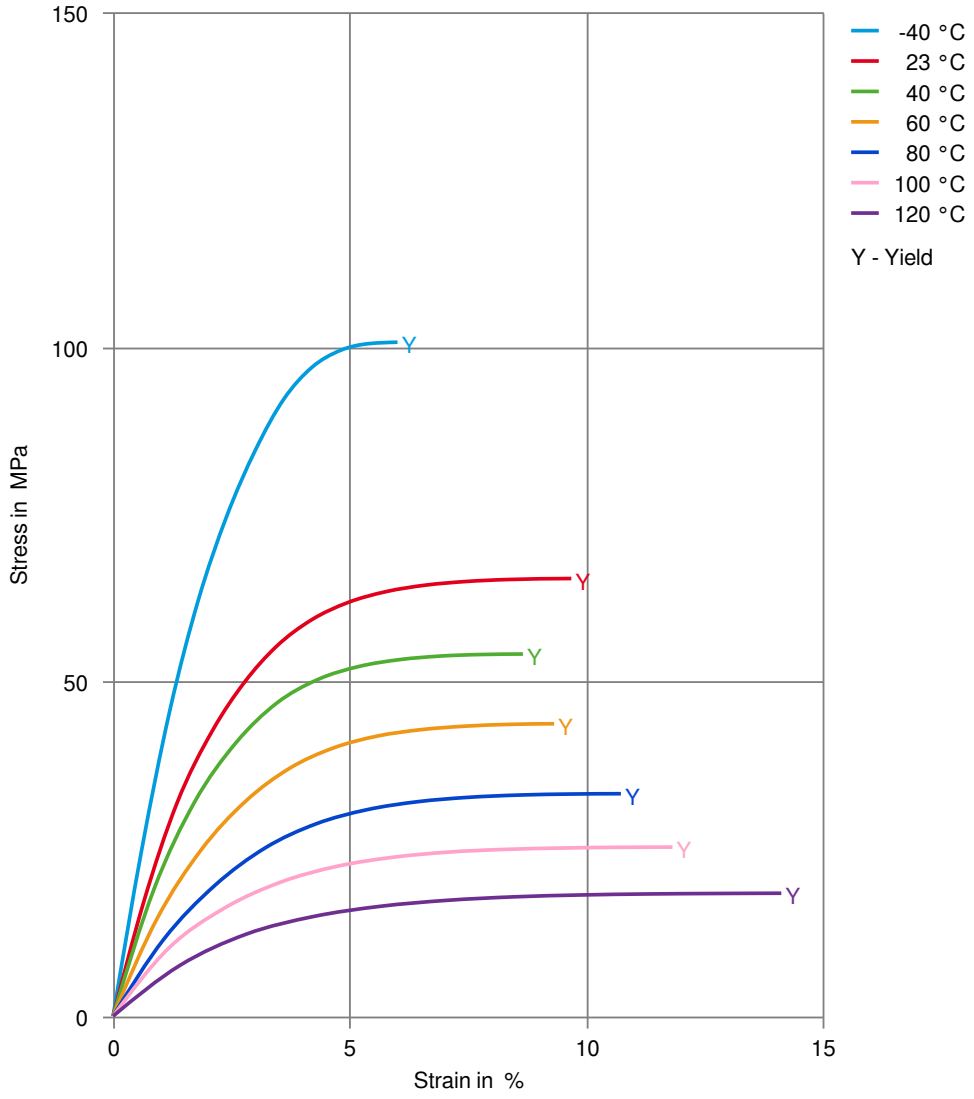
Stress-strain



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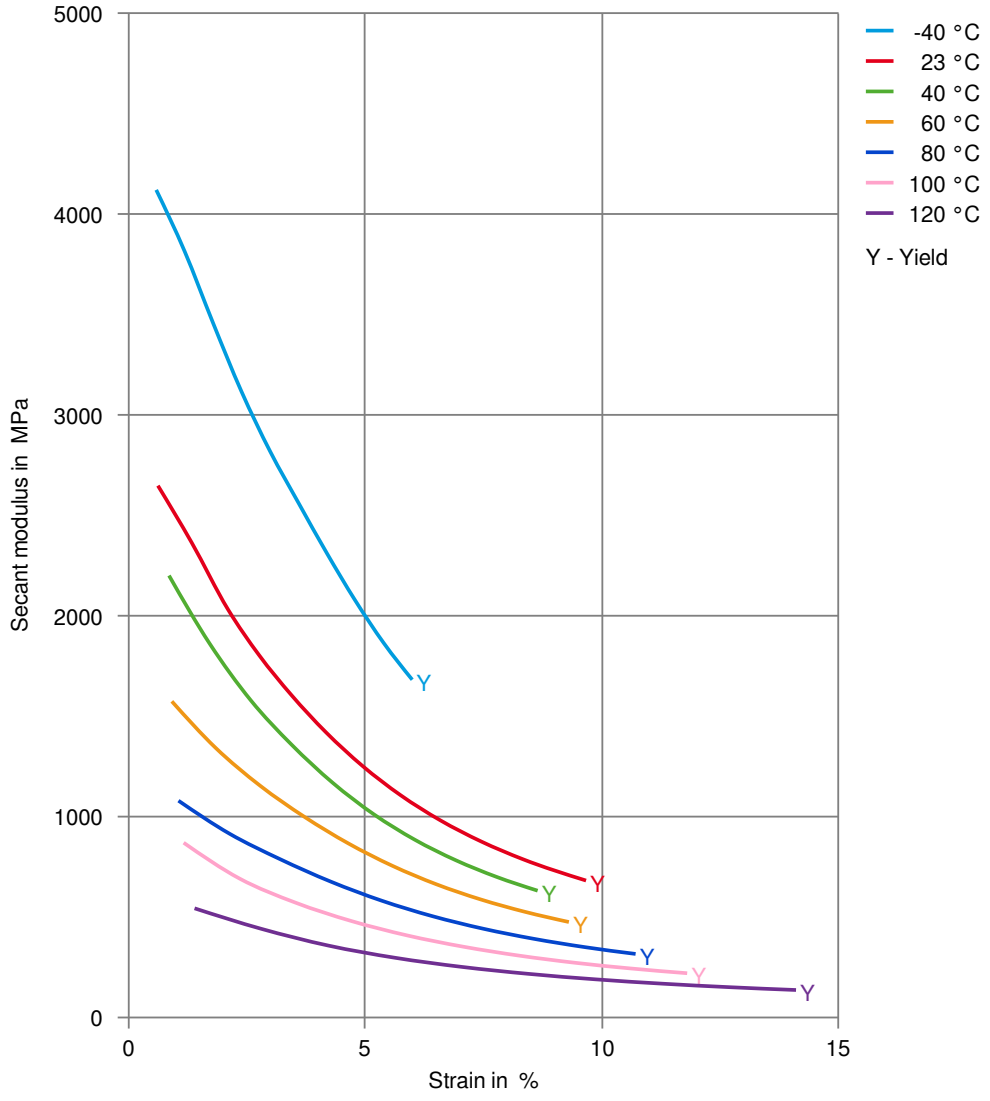
Secant modulus-strain



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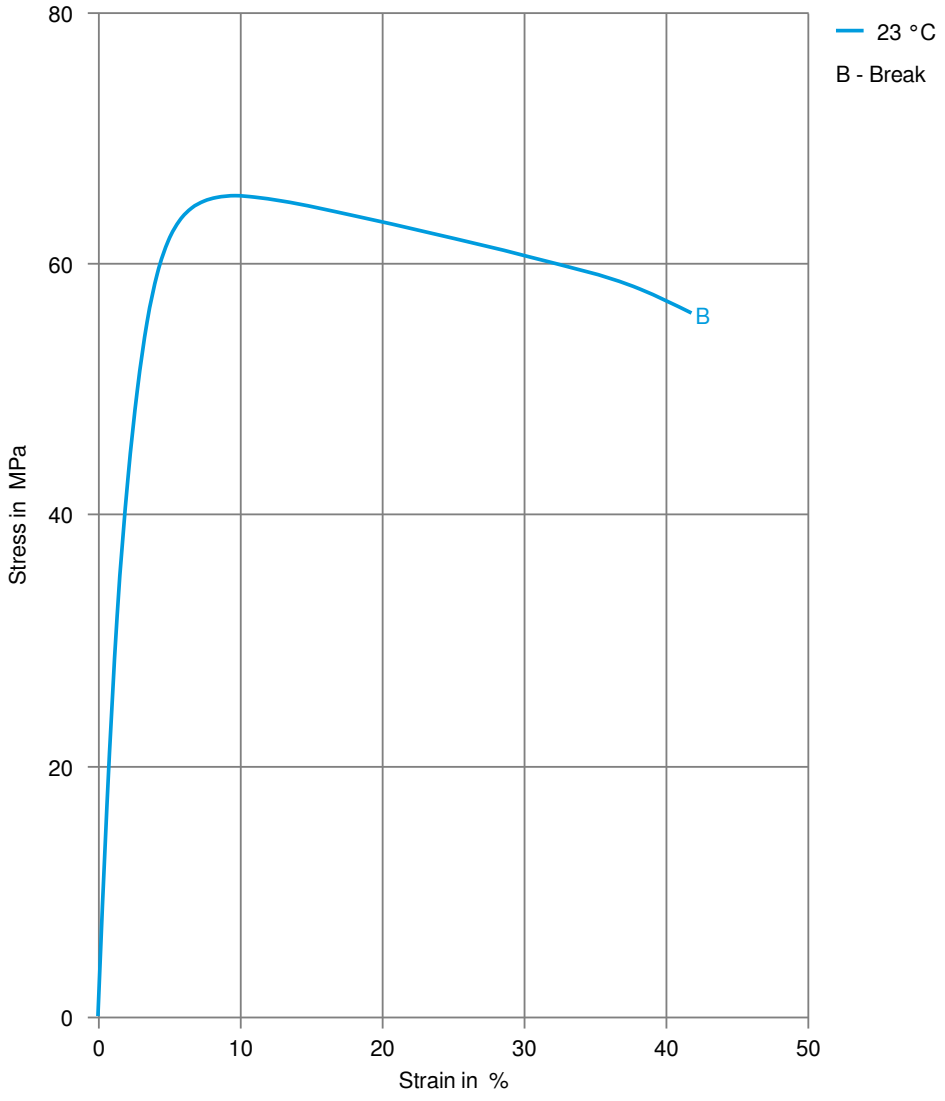
Stress-strain, 50mm/min



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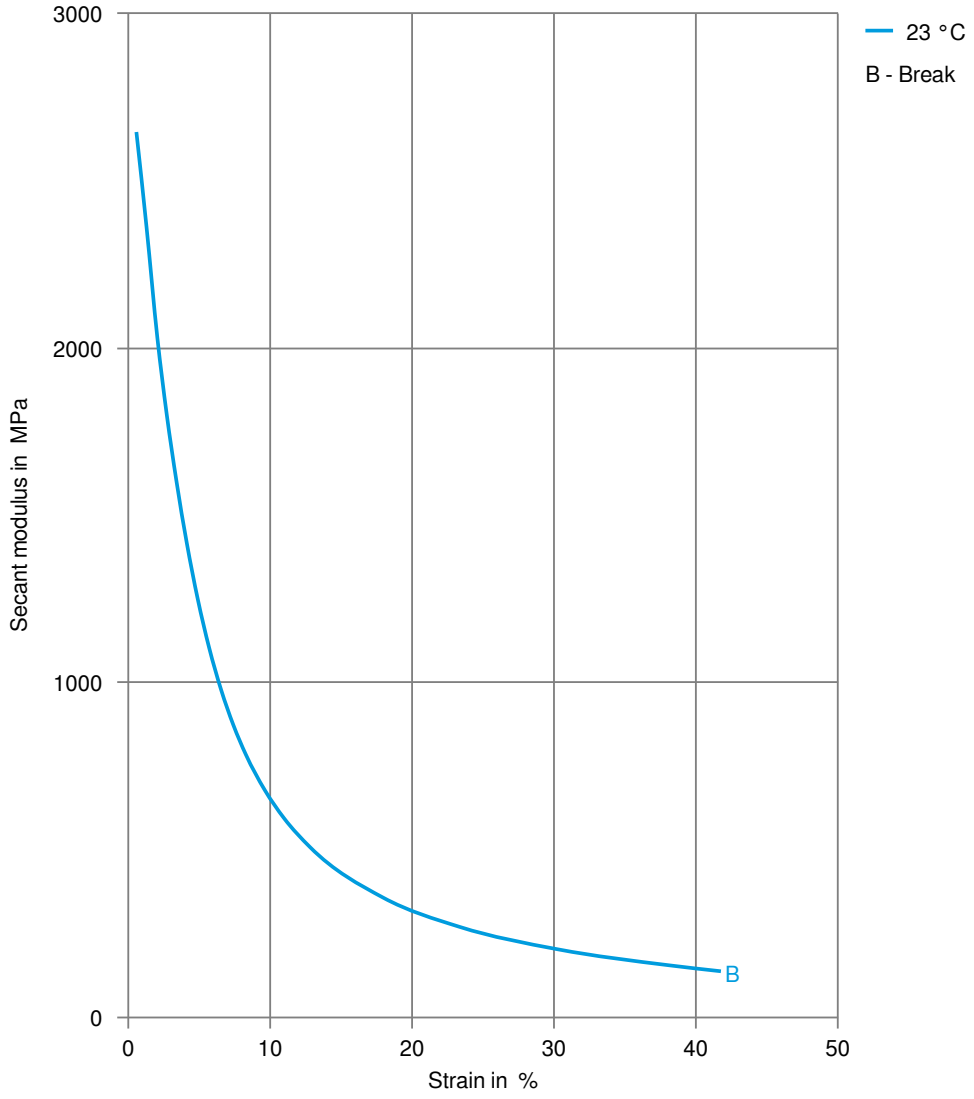
Secant modulus-strain, 50mm/min



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