

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

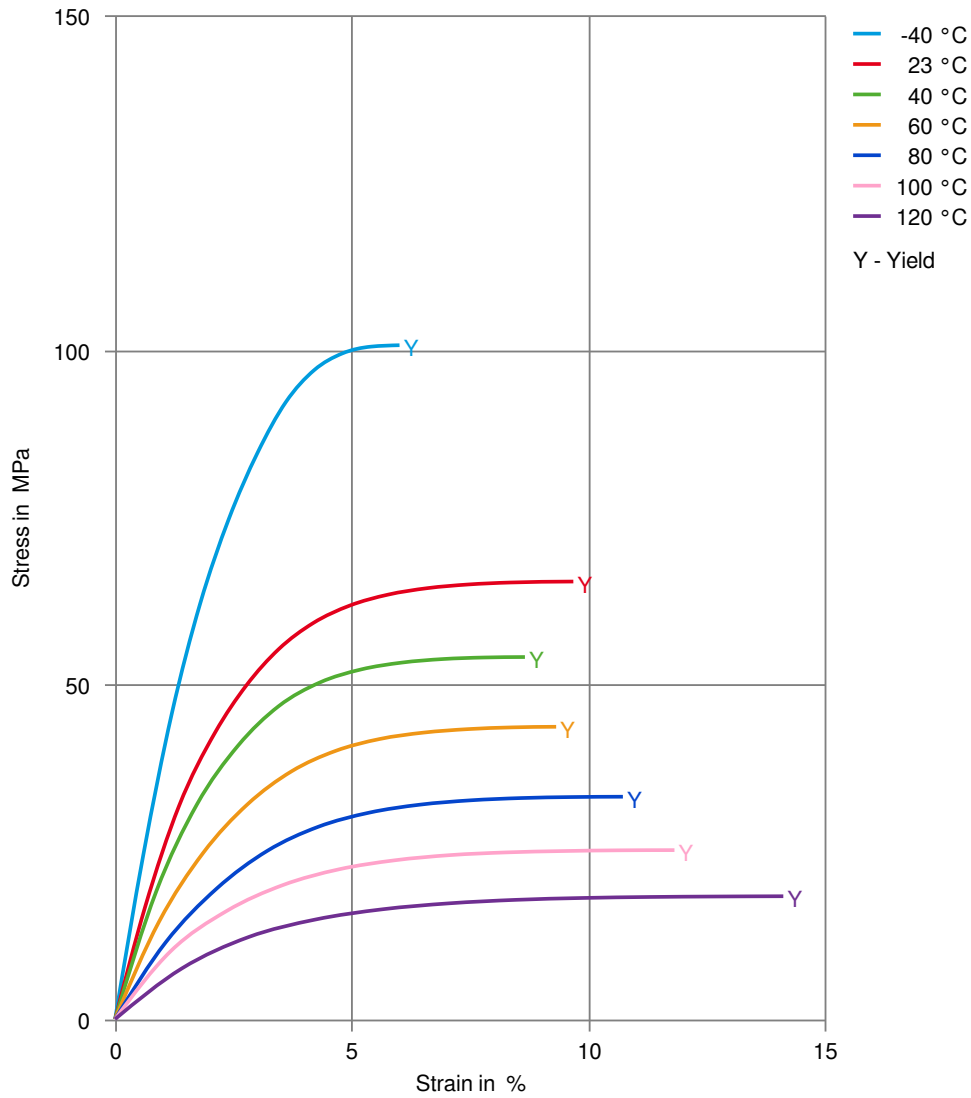
Pre-Drying

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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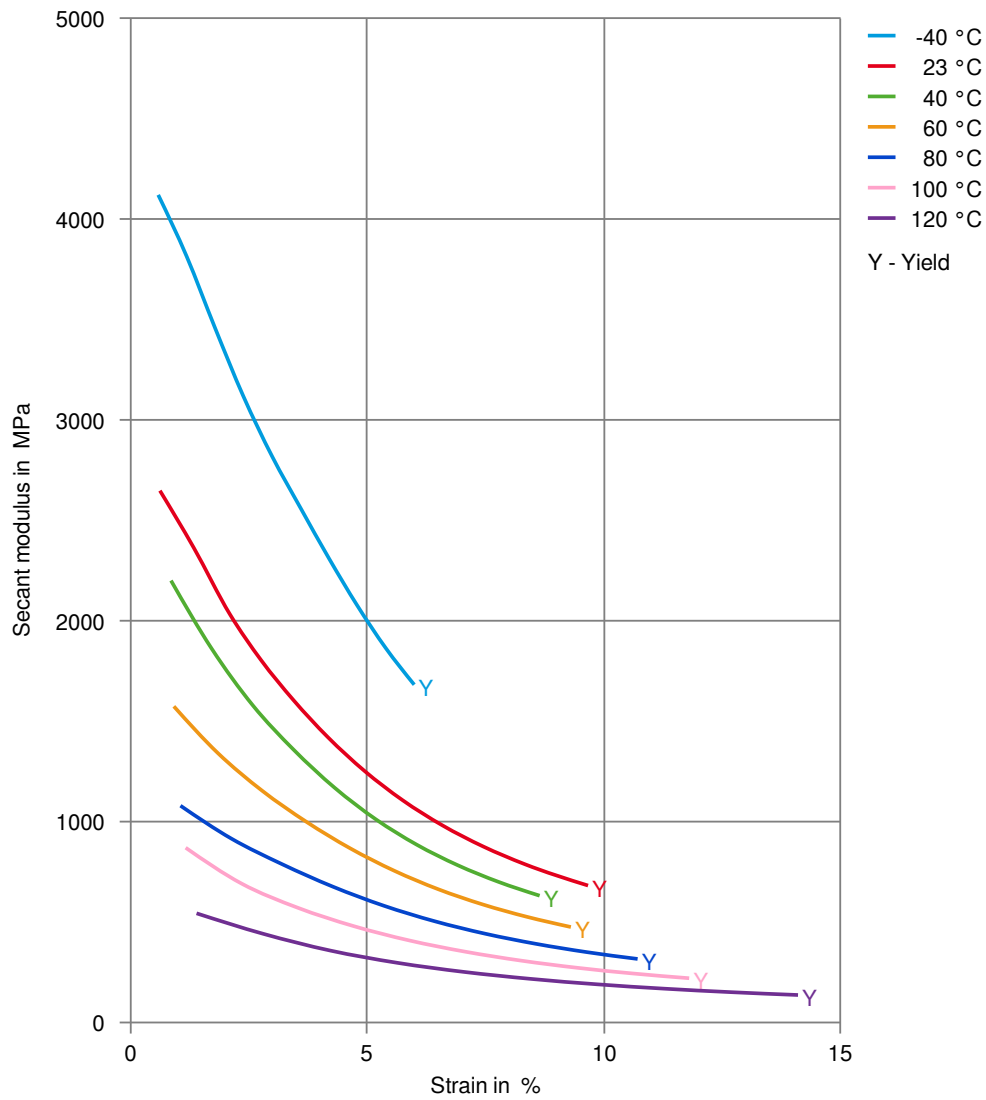
Stress-strain



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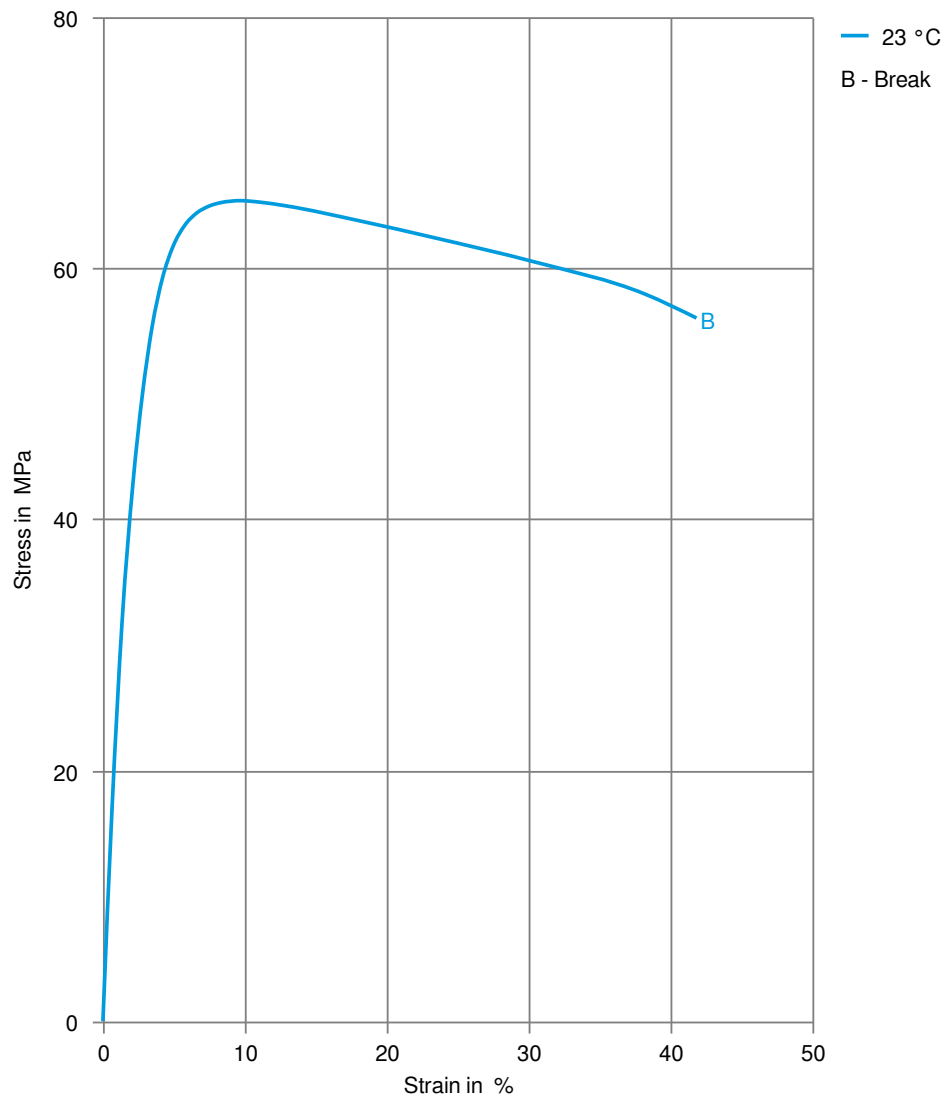
Secant modulus-strain



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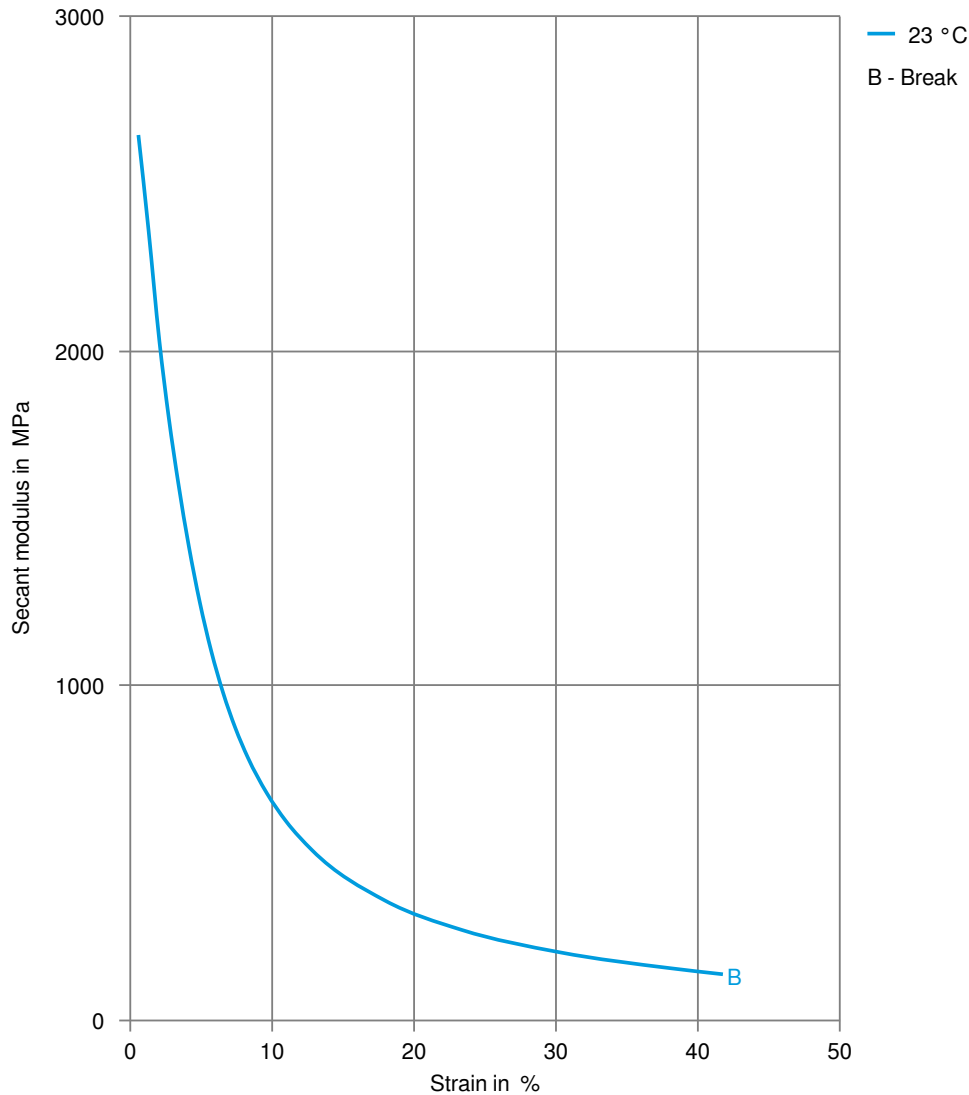
Stress-strain, 50mm/min



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Secant modulus-strain, 50mm/min



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