

CELCON® M90-45XAP®

Low emission UV resistant grade based on Celcon M90™ for interior automotive

Celcon® acetal copolymer grade M90-45XAP® is a UV resistant, low emission version, medium viscosity polymer providing optimum performance in general purpose injection molding 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

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 |
| Yield stress, 50mm/min | 64 MPa | ISO 527-1/-2 |
| Yield strain, 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 |

Thermal properties

| | | |
|---|-----------|----------------|
| Melting temperature, 10°C/min | 167 °C | ISO 11357-1/-3 |
| Temp. of deflection under load, 1.8 MPa | 91 °C | ISO 75-1/-2 |
| Temp. of deflection under load, 0.45 MPa | 151 °C | ISO 75-1/-2 |
| Coeff. of linear therm. expansion, parallel | 110 E-6/K | ISO 11359-1/-2 |
| Coeff. of linear therm. expansion, normal | 120 E-6/K | ISO 11359-1/-2 |

Other properties

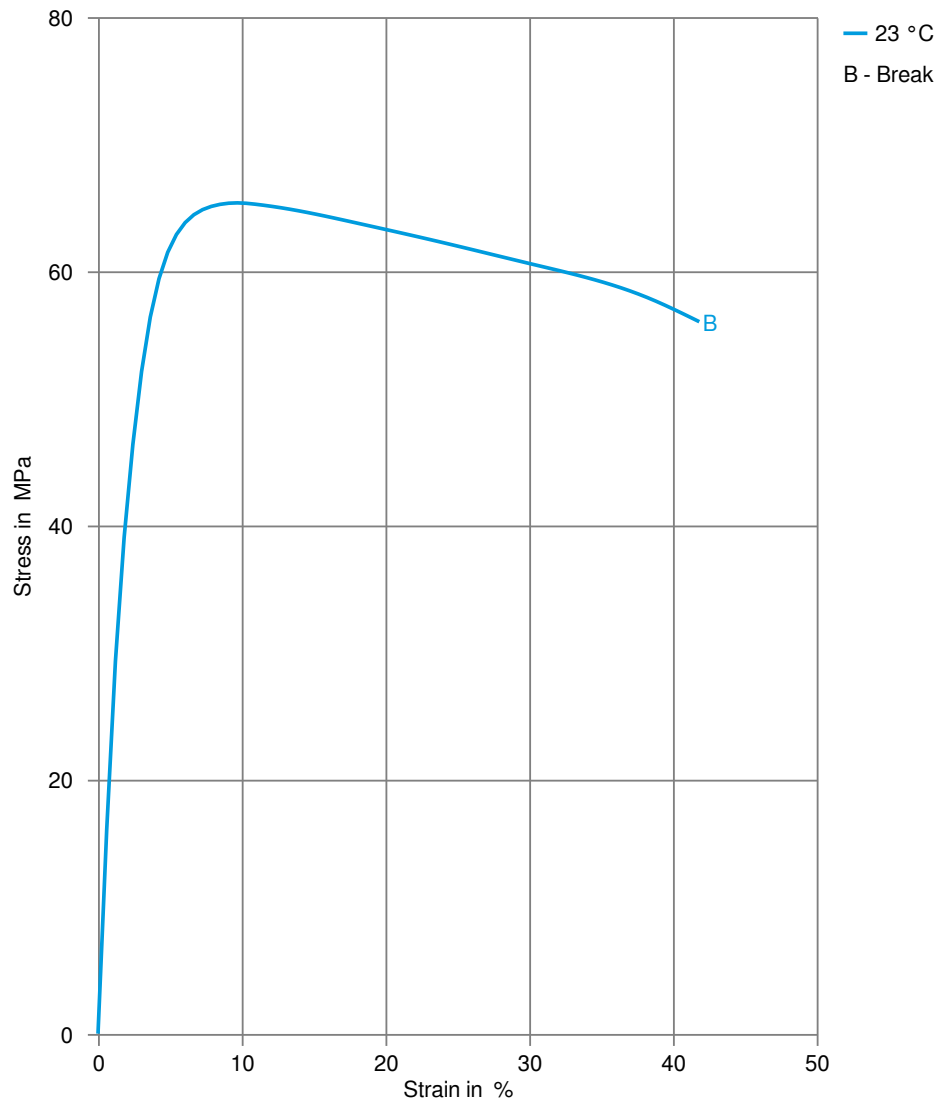
| | | |
|---------|------------------------|----------|
| Density | 1410 kg/m ³ | ISO 1183 |
|---------|------------------------|----------|

Injection

| | | |
|---------------------------------|--------------|----------|
| Drying Temperature | 100 - 120 °C | |
| Drying Time, Dehumidified Dryer | 3 - 4 h | |
| Melt Temperature Optimum | 174 °C | Internal |
| Max. mould temperature | 80 - 120 °C | |
| Back pressure | 4 MPa | |
| Injection speed | slow-medium | |

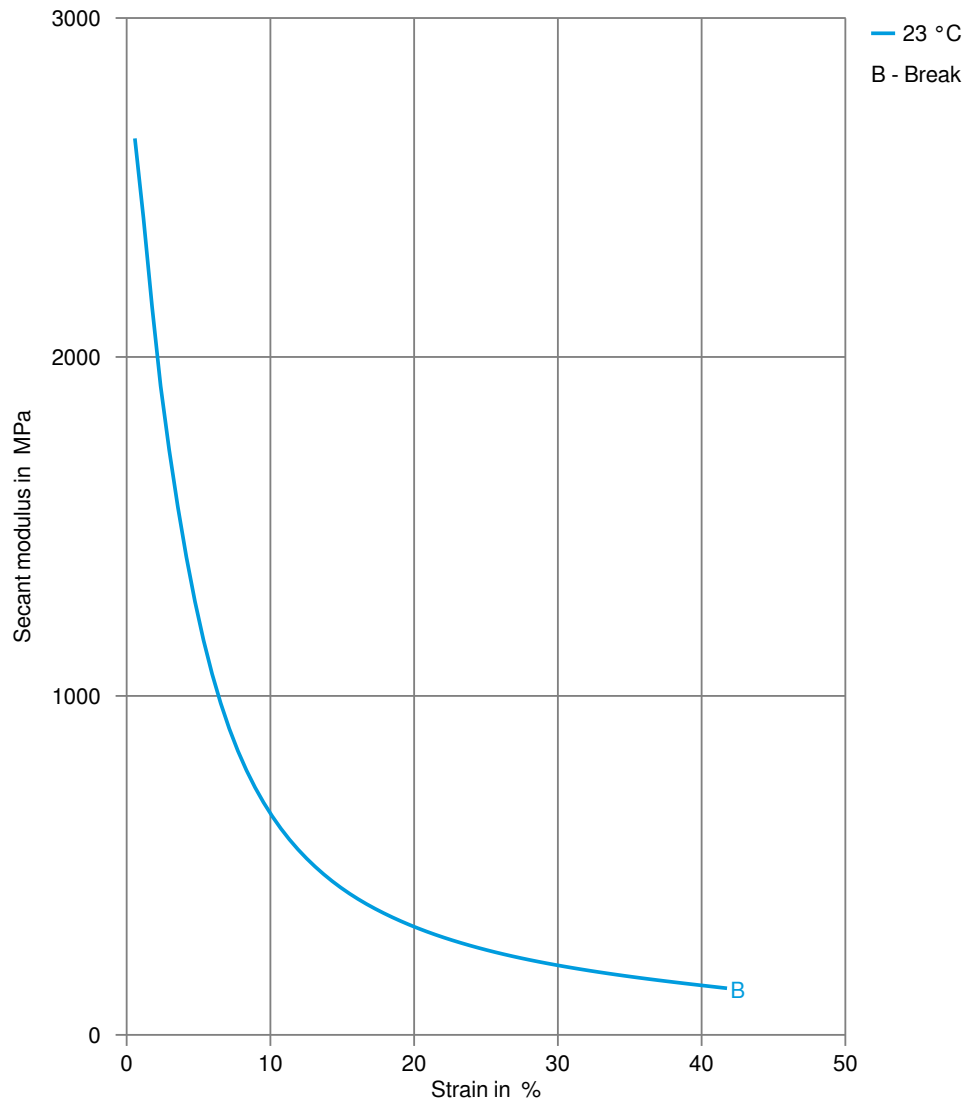
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Stress-strain



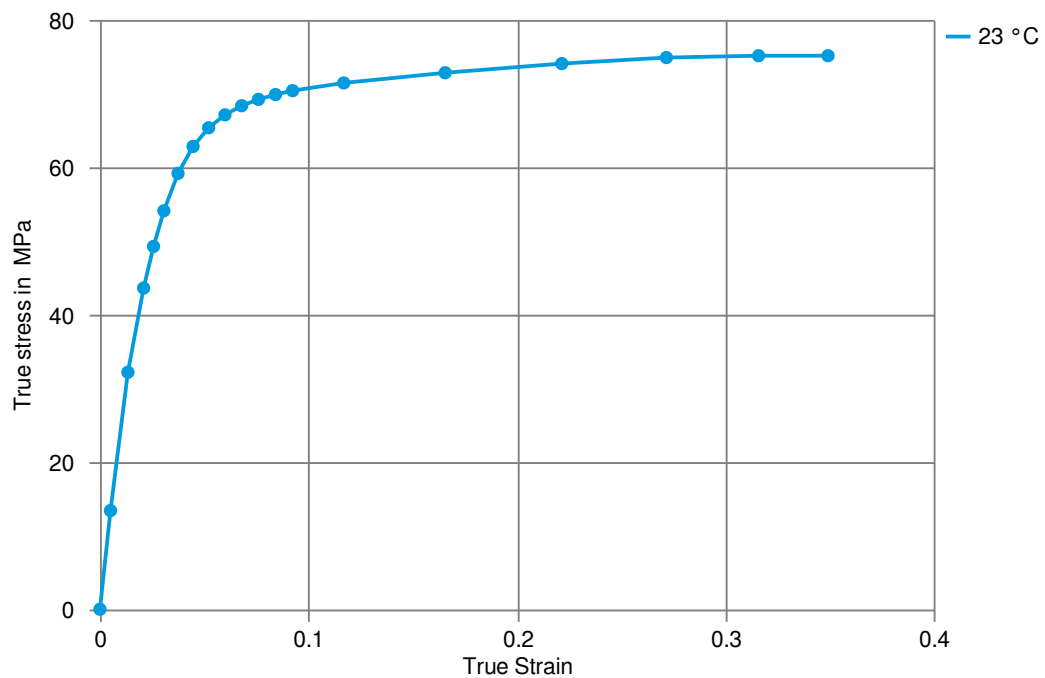
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Secant modulus-strain



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True stress-strain



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Processing Texts

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.

Other Approvals

Other Approvals

| OEM | Specification |
|--------|---------------|
| Toyota | TSM5515G-1BVL |