CAMPUS® Datasheet

Makrolon® 2807 - PC
Covestro Deutschland AG

Product Texts
• MVR (300 °C/1.2 kg) 9.0 cm^3/10 min
• general purpose
• medium viscosity
• UV stabilized
• easy release
• available in transparent, translucent and opaque colors

Rheological properties	Value	Unit	Test Standard
Melt volume-flow rate, MVR	**9**	cm^3/10min	ISO 1133
Temperature	**300**	°C	ISO 1133
Load	**1.2**	kg	ISO 1133
Molding shrinkage, parallel	**0.7**	%	ISO 294-4, 2577
Molding shrinkage, normal	**0.7**	%	ISO 294-4, 2577

Mechanical properties	Value	Unit	Test Standard
Tensile Modulus	**2400**	MPa	ISO 527-1/-2
Yield stress	**66**	MPa	ISO 527-1/-2
Yield strain	**6.1**	%	ISO 527-1/-2
Nominal strain at break	**>50**	%	ISO 527-1/-2
Tensile creep modulus, 1h	**2200**	MPa	ISO 899-1
Tensile creep modulus, 1000h	**1900**	MPa	ISO 899-1
Charpy impact strength, +23°C	**N**	kJ/m^2	ISO 179/1eU
Charpy impact strength, -30°C	**N**	kJ/m^2	ISO 179/1eU
Puncture - maximum force, +23°C	**5400**	N	ISO 6603-2
Puncture - maximum force, -30°C	**6300**	N	ISO 6603-2
Puncture energy, +23°C	**60**	J	ISO 6603-2
Puncture energy, -30°C	**65**	J	ISO 6603-2

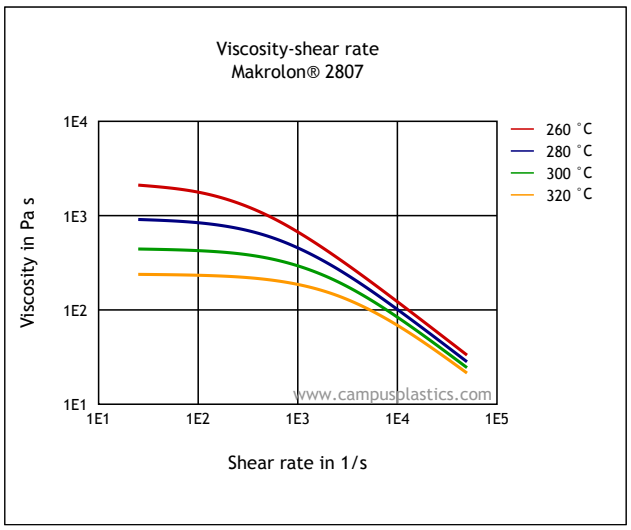
Thermal properties	Value	Unit	Test Standard
Glass transition temperature, 10°C/min	**144**	°C	ISO 11357-1/-2
Temp. of deflection under load, 1.80 MPa	**124**	°C	ISO 75-1/-2
Temp. of deflection under load, 0.45 MPa	**136**	°C	ISO 75-1/-2
Vicat softening temperature, 50°C/h 50N	**143**	°C	ISO 306
Coeff. of linear therm. expansion, parallel	**65**	E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion, normal	**65**	E-6/K	ISO 11359-1/-2
Yellow Card available	**Yes**	-	-
Burning Behav. at thickness h	**V-2**	class	IEC 60695-11-10
Thickness tested (h)	**0.8**	mm	IEC 60695-11-10
Oxygen index	**28**	%	ISO 4589-1/-2

Electrical properties	Value	Unit	Test Standard
Relative permittivity, 100Hz	**3.1**	-	IEC 60250
Relative permittivity, 1MHz	**3**	-	IEC 60250
Dissipation factor, 100Hz	**5**	E-4	IEC 60250
Dissipation factor, 1MHz	**90**	E-4	IEC 60250
Volume resistivity	**>1E13**	Ohm*m	IEC 60093
Surface resistivity	**>1E15**	Ohm	IEC 60093
Electric strength	**34**	kV/mm	IEC 60243-1

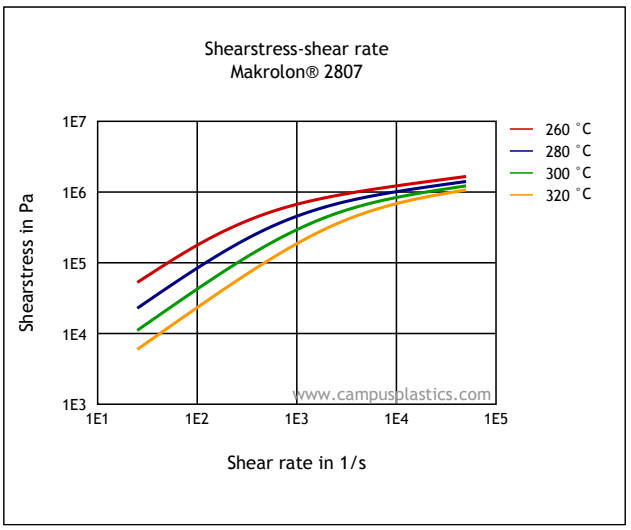
Comparative tracking index	**250**	-	IEC 60112
Other properties	**Value**	**Unit**	**Test Standard**
Water absorption	**0.3**	%	Sim. to ISO 62
Humidity absorption	**0.12**	%	Sim. to ISO 62
Density	**1200**	kg/m³	ISO 1183
Material specific properties	**Value**	**Unit**	**Test Standard**
Luminous transmittance	**89**	%	ISO 13468-1, -2
Rheological calculation properties	**Value**	**Unit**	**Test Standard**
Density of melt	**1020**	kg/m³	-
Thermal conductivity of melt	**0.214**	W/(m K)	-
Spec. heat capacity melt	**2100**	J/(kg K)	-
Eff. thermal diffusivity	**1E-7**	m²/s	-
Ejection temperature	**130**	°C	-
Test specimen production	**Value**	**Unit**	**Test Standard**
Injection Molding, melt temperature	**300**	°C	ISO 294
Injection Molding, mold temperature	**80**	°C	ISO 10724
Injection Molding, injection velocity	**200**	mm/s	ISO 294

Diagrams

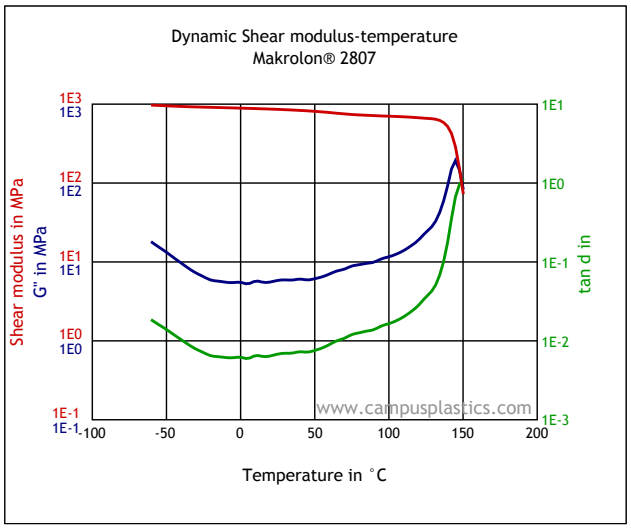
Viscosity-shear rate



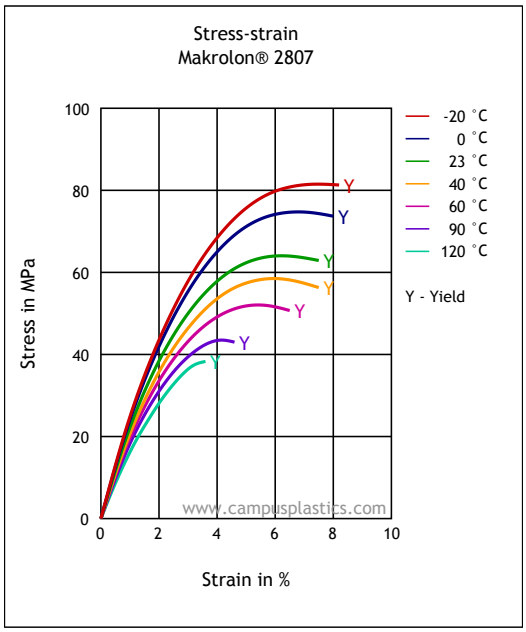
Shearstress-shear rate



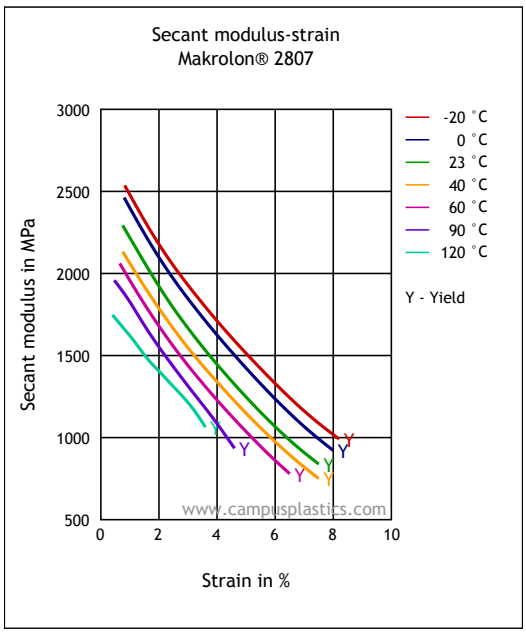
Dynamic Shear modulus-temperature



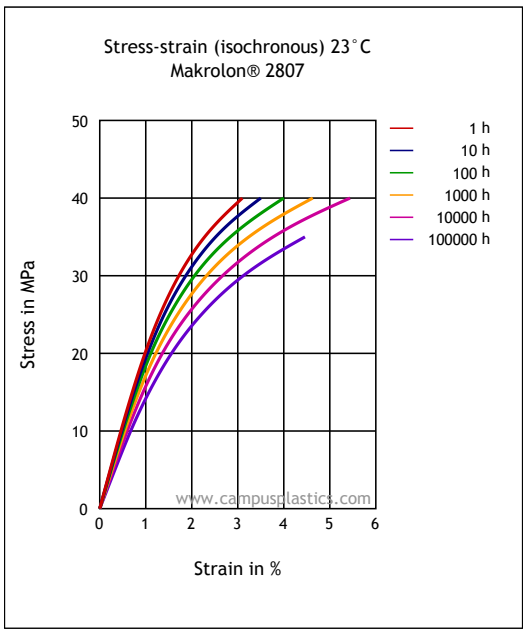
Stress-strain



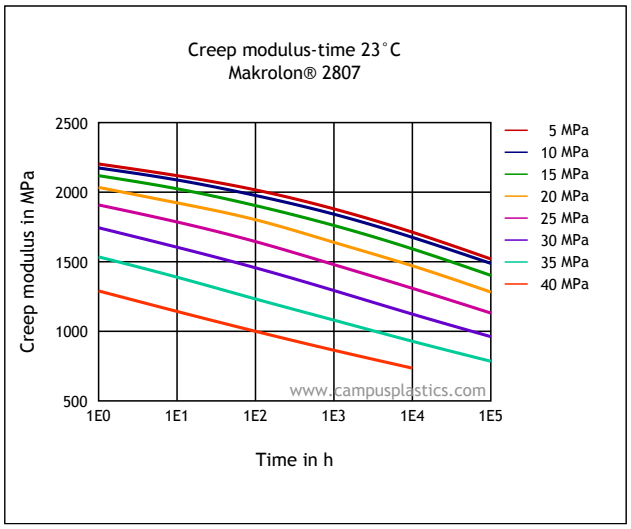
Secant modulus-strain



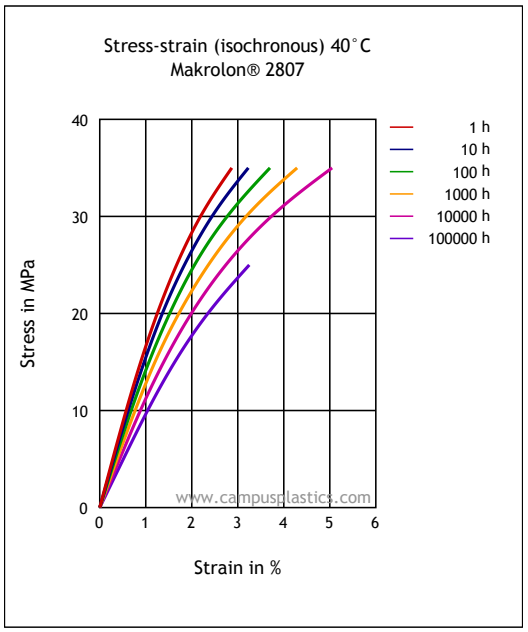
Stress-strain (isochronous) 23 °C



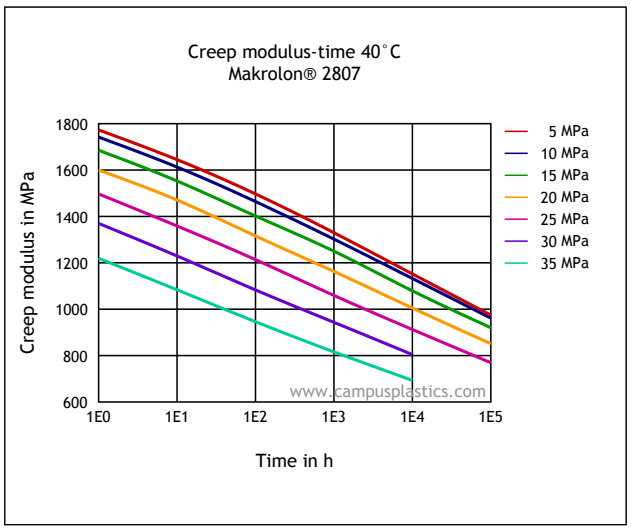
Creep modulus-time 23 °C



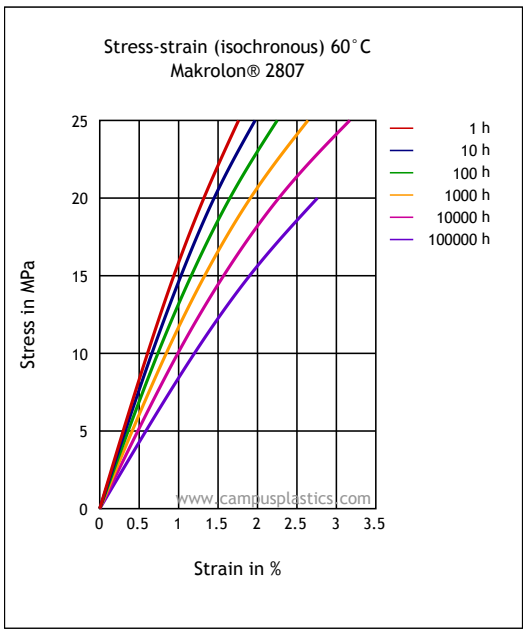
Stress-strain (isochronous) 40 °C



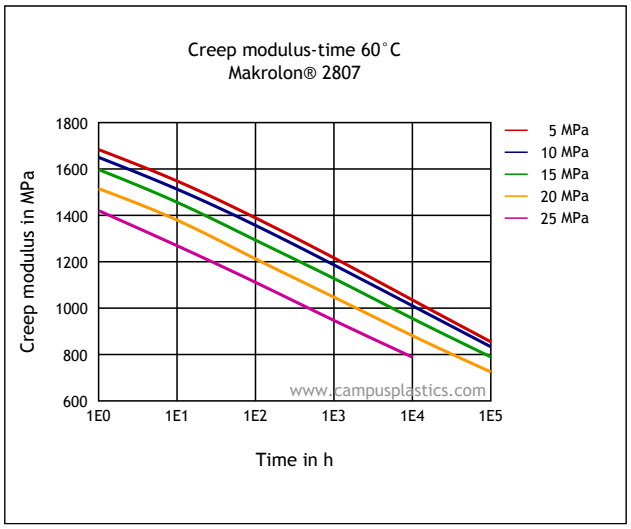
Creep modulus-time 40 °C



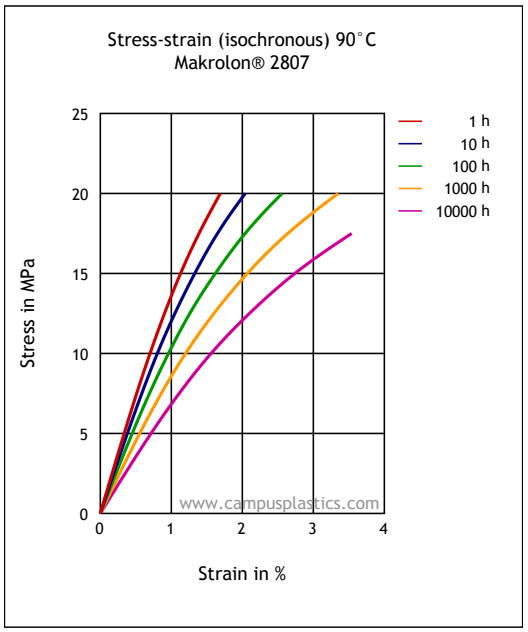
Stress-strain (isochronous) 60 °C



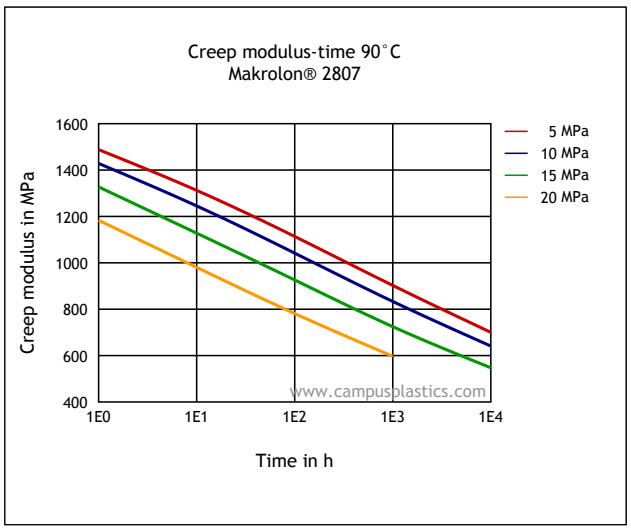
Creep modulus-time 60 °C



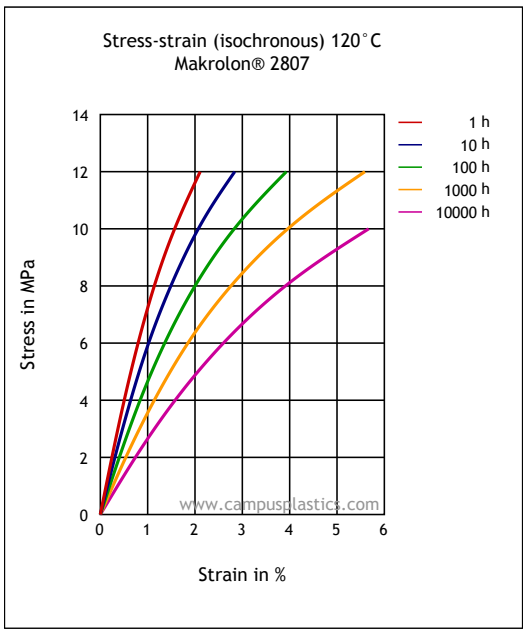
Stress-strain (isochronous) 90 °C



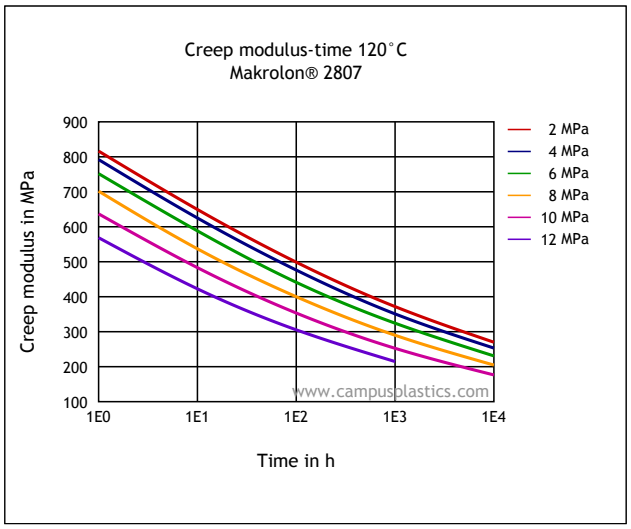
Creep modulus-time 90 °C



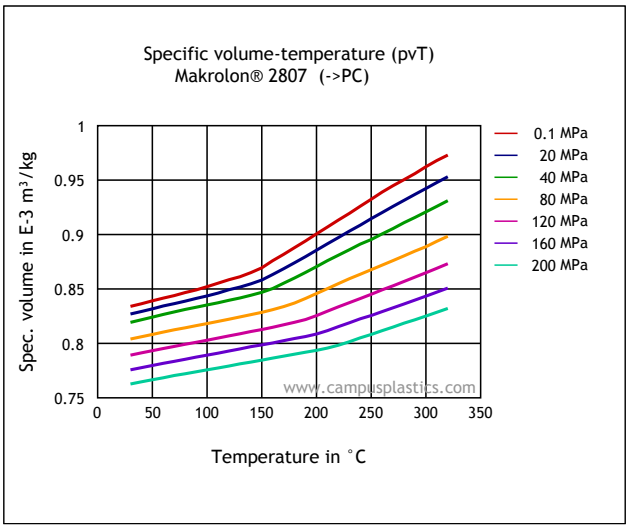
Stress-strain (isochronous) 120 °C



Creep modulus-time 120 °C



Specific volume-temperature (pvT)



Characteristics

Processing
Injection Molding

Delivery form
Pellets

Additives
Release agent

Special Characteristics
Light stabilized or stable to light, U.V. stabilized or stable to weather, Transparent

Regional Availability
North America, Europe, Asia Pacific, South and Central America, Near East/Africa

Other text information

Injection molding
PREPROCESSING
Max. Water content: 0.01 - 0.02 %
Drying temperature: 120 °C
Drying time:
Circulating air drying oven (50 % fresh air) 4-8 h
Fresh air dryer (high speed dryer) 2-4 h
Dry air dryer 2-3 h

PROCESSING
Melt temperature: 280-320 °C
Mold temperature: 80-100 °C

Use open nozzle.

Typical value

These values are typical values only. Unless explicitly agreed in written form, the do not constitute a binding material specification or warranted values. Values may be affected by the design of the mold/die, the processing conditions and coloring/pigmentation of the product. Unless specified to the contrary, the property values given have been established on standardized test specimens at room temperature.

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