

CAMPUS® Datasheet

Makrolon® 2858 - PC
Covestro Deutschland AG



Product Texts

- MVR (300 °C/1.2 kg) 9.0 cm³/10 min
- medical devices
- suitable for ETO and steam sterilization at 121 °C
- biocompatible according to many ISO 10993-1 test requirements
- medium viscosity
- easy release
- available in transparent and opaque colors

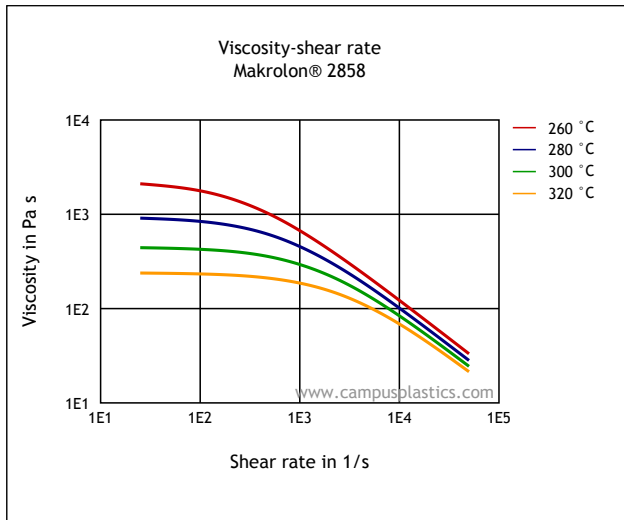
Rheological properties	Value	Unit	Test Standard
Melt volume-flow rate, MVR	9	cm ³ /10min	ISO 1133
Temperature	300	°C	ISO 1133
Load	1.2	kg	ISO 1133
Molding shrinkage, parallel	0.7	%	ISO 294-4, 2577
Molding shrinkage, normal	0.8	%	ISO 294-4, 2577
Mechanical properties	Value	Unit	Test Standard
Tensile Modulus	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	145	°C	ISO 11357-1/-2
Temp. of deflection under load, 1.80 MPa	125	°C	ISO 75-1/-2
Temp. of deflection under load, 0.45 MPa	137	°C	ISO 75-1/-2
Vicat softening temperature, 50 °C/h 50N	145	°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

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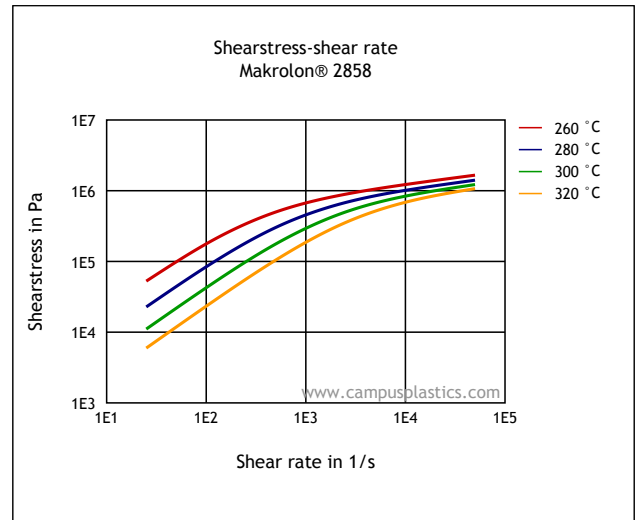
Electric strength	34	kV/mm	IEC 60243-1
Comparative tracking index	250	-	IEC 60112
Other properties	Value	Unit	Test Standard
Water absorption	0.3	%	Sim. to ISO 62
Humidity absorption	0.12	%	Sim. to ISO 62
Density	1200	kg/m ³	ISO 1183
Material specific properties	Value	Unit	Test Standard
Luminous transmittance	89	%	ISO 13468-1, -2
Rheological calculation properties	Value	Unit	Test Standard
Density of melt	1020	kg/m ³	-
Thermal conductivity of melt	0.214	W/(m K)	-
Spec. heat capacity melt	2100	J/(kg K)	-
Eff. thermal diffusivity	1E-7	m ² /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

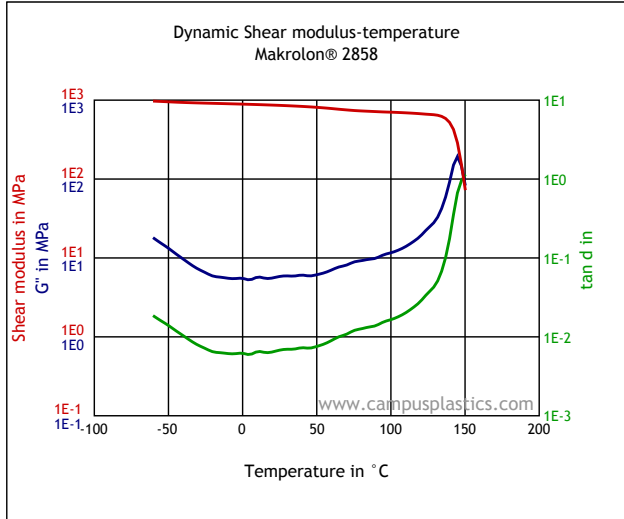
Viscosity-shear rate



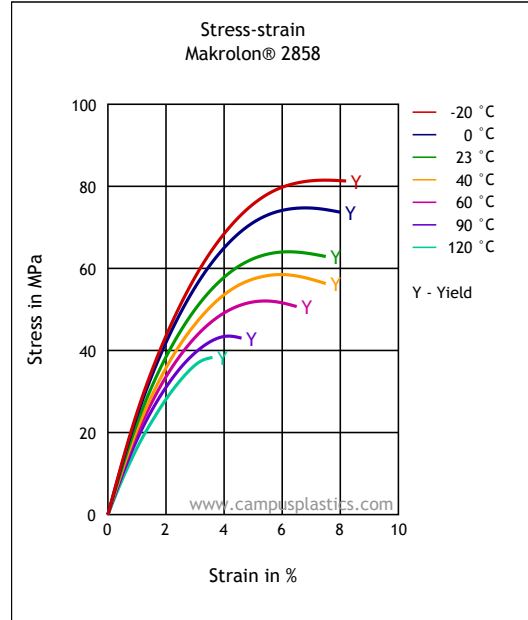
Shearstress-shear rate



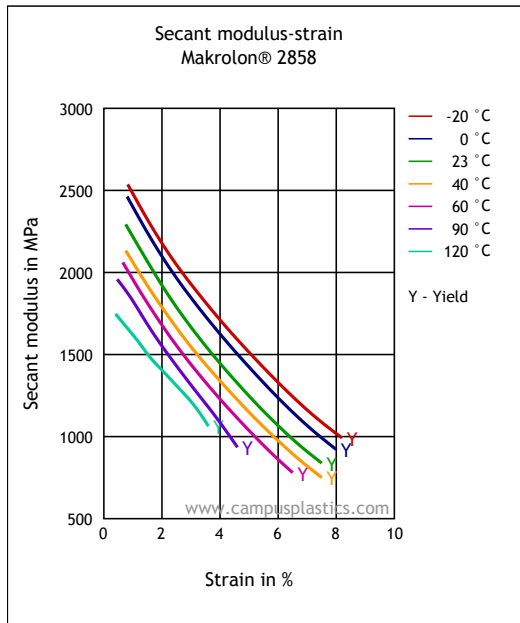
Dynamic Shear modulus-temperature



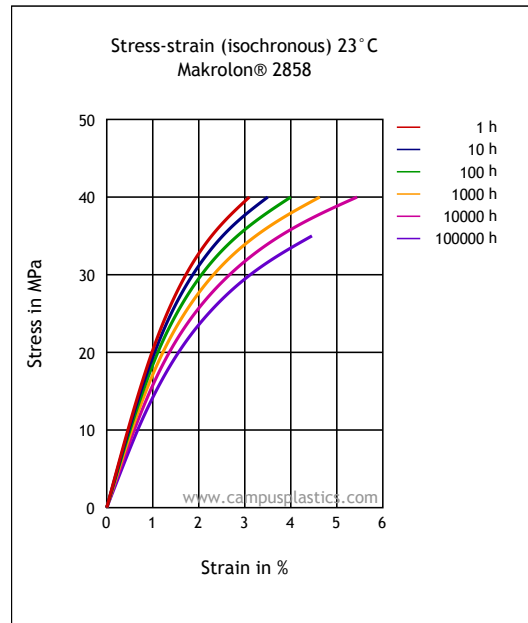
Stress-strain



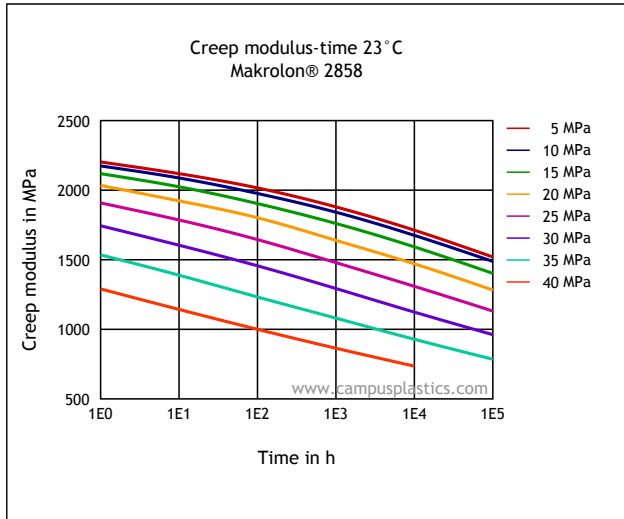
Secant modulus-strain



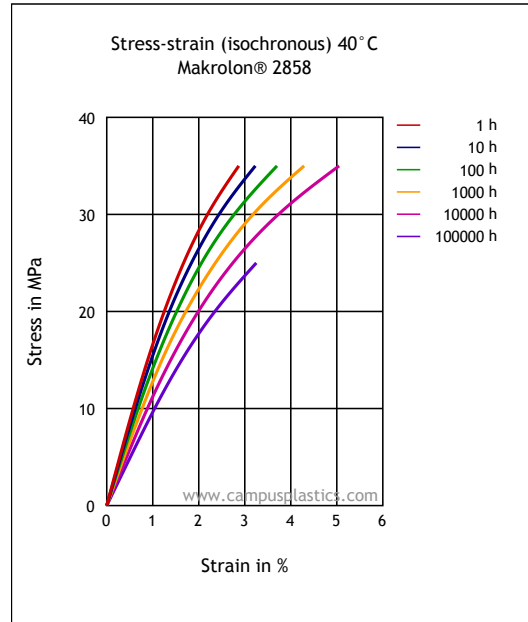
Stress-strain (isochronous) 23 °C



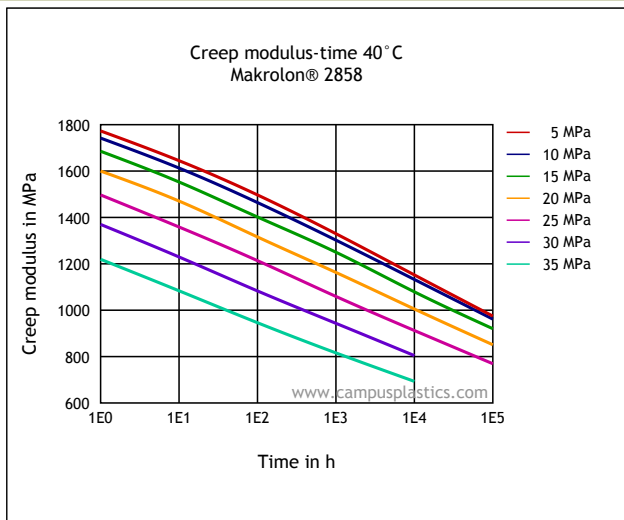
Creep modulus-time 23 °C



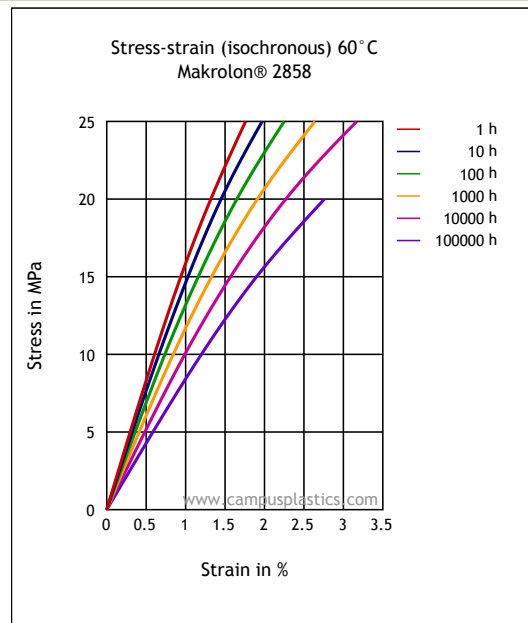
Stress-strain (isochronous) 40 °C



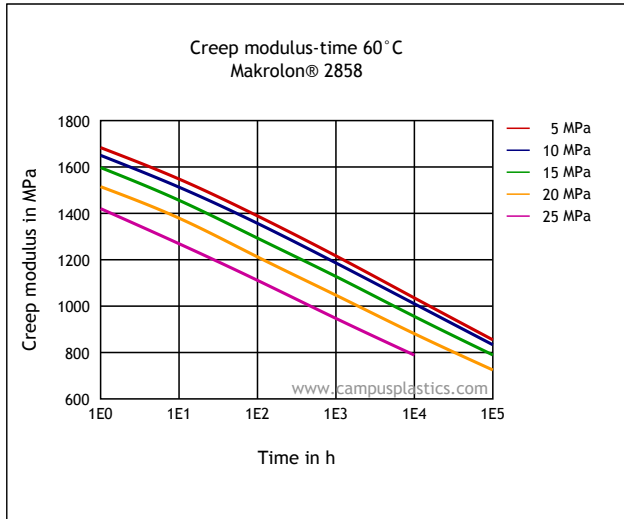
Creep modulus-time 40 °C



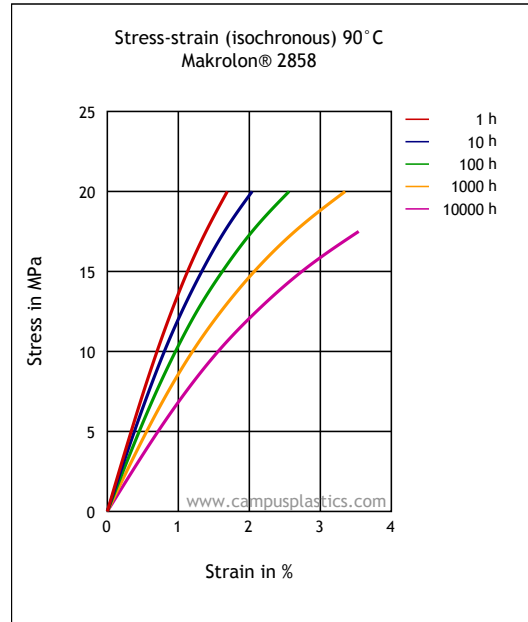
Stress-strain (isochronous) 60 °C



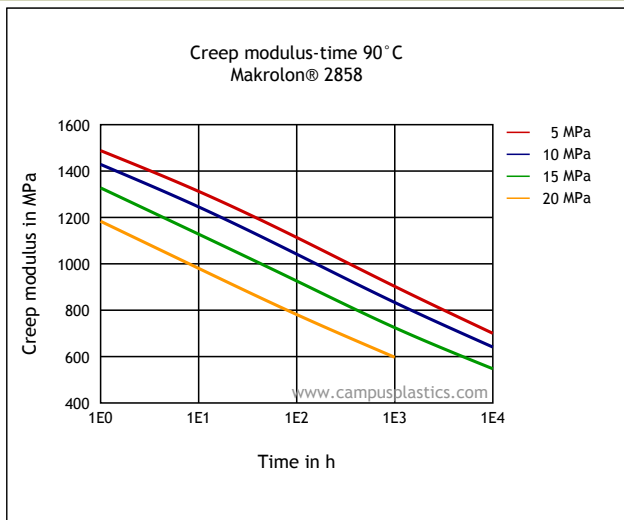
Creep modulus-time 60 °C



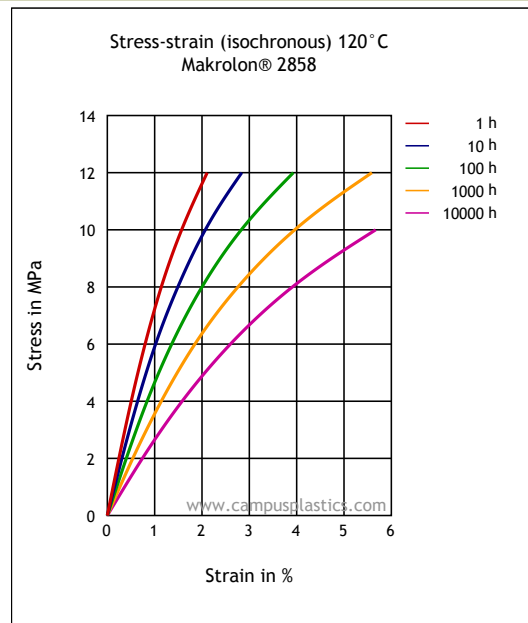
Stress-strain (isochronous) 90 °C



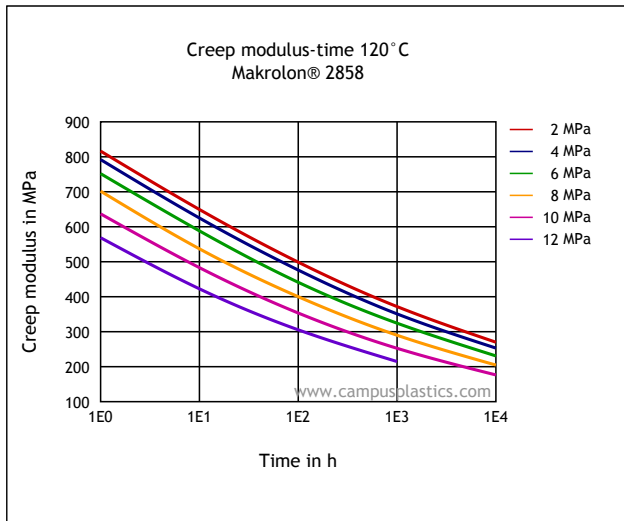
Creep modulus-time 90 °C



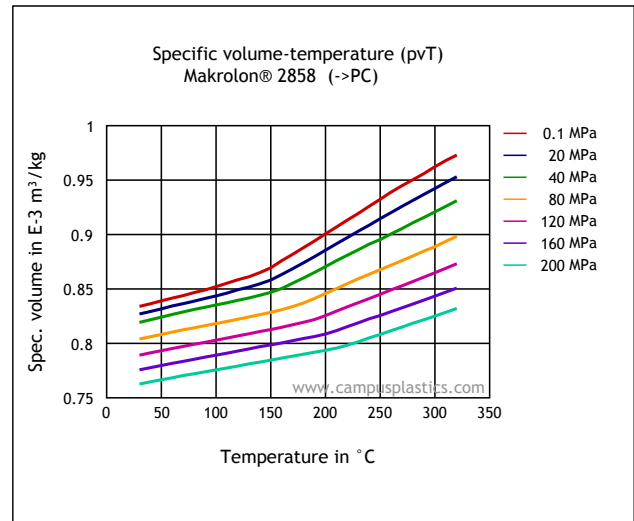
Stress-strain (isochronous) 120 °C



Creep modulus-time 120 °C



Specific volume-temperature (pvT)



Characteristics

Processing

Injection Molding, Blow Molding

Delivery form

Pellets

Additives

Release agent

Special Characteristics

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, they 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.

General

The manner in which you use and the purpose to which you put and utilize our products, technical assistance and information (whether verbal, written or by way of production evaluations), including any suggested formulations and recommendations, are beyond our control. Therefore, it is imperative that you test our products, technical assistance, information and recommendations to determine to your own satisfaction whether our products, technical assistance and information are suitable for your intended uses and applications. This

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