

Apec® 1803

PC

Covestro Deutschland AG

- MVR (330 °C/2.16kg) 10 cm³/10 min
- high viscosity
- UV stabilized
- Vicat/B 120 = 184 °C
- covers for brake lights and indicator lights
- car interior light covers
- domestic lamp covers
- headlamp lenses
- covers for ships' lights
- connector pieces for halogen systems

Rheological properties	Value	Unit	Test Standard
ISO Data			
Melt volume-flow rate, MVR	10	cm ³ /10min	ISO 1133
Temperature	330	°C	-
Load	2.16	kg	-

Mechanical Properties	Value	Unit	Test Standard
ISO Data			
Tensile Modulus	2400	MPa	ISO 527
Yield stress	72	MPa	ISO 527
Yield strain	6.8	%	ISO 527
Nominal strain at break	>50	%	ISO 527
Charpy impact strength (+23 °C)	no break	kJ/m ²	ISO 179/1eU
Charpy impact strength, -30 °C	no break	kJ/m ²	ISO 179/1eU
Puncture - maximum force, +23 °C	5400	N	ISO 6603-2
Puncture - maximum force, -30 °C	6100	N	ISO 6603-2
Puncture energy, +23 °C	56	J	ISO 6603-2
Puncture energy, -30 °C	60	J	ISO 6603-2

Thermal Properties	Value	Unit	Test Standard
ISO Data			
Temp. of deflection under load (1.80 MPa)	159	°C	ISO 75-1/-2
Temp. of deflection under load (0.45 MPa)	174	°C	ISO 75-1/-2
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
Burning behav. at 1.5 mm nom. thickn.	HB	class	UL 94
Thickness tested	1.5	mm	-
UL recognition	yes	-	-
Burning behav. at thickness h	HB	class	UL 94
Thickness tested	3.0	mm	-
UL recognition	yes	-	-
Oxygen index	25	%	ISO 4589-1/-2

Electrical Properties	Value	Unit	Test Standard
ISO Data			
Relative permittivity, 100Hz	2.9	-	IEC 62631-2-1
Relative permittivity, 1MHz	2.8	-	IEC 62631-2-1
Dissipation factor, 100Hz	10	E-4	IEC 62631-2-1
Dissipation factor, 1MHz	80	E-4	IEC 62631-2-1
Volume resistivity	>1E13	Ohm*m	IEC 62631-3-1
Surface resistivity	>1E15	Ohm	IEC 62631-3-2
Electric strength	35	kV/mm	IEC 60243-1
Comparative tracking index	450	-	IEC 60112

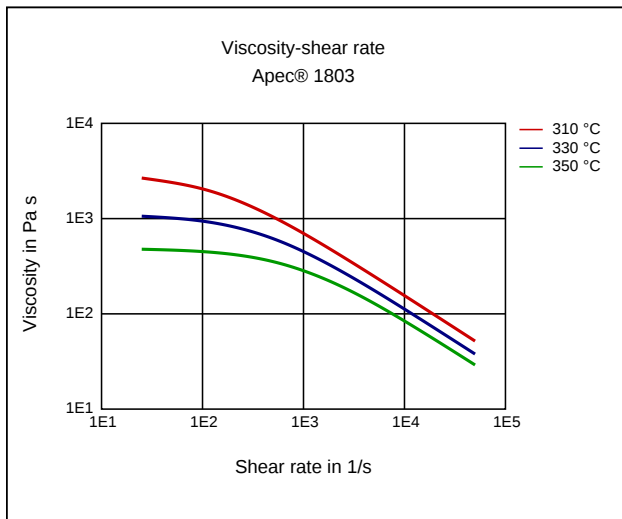
Other Properties	Value	Unit	Test Standard
ISO Data			
Water absorption	0.3	%	Sim. to ISO 62
Humidity absorption	0.12	%	Sim. to ISO 62
Density	1150	kg/m ³	ISO 1183

Rheological calculation properties	Value	Unit	Test Standard
ISO Data			
Density of melt	980	kg/m ³	-
Thermal conductivity of melt	0.206	W/(m K)	-
Spec. heat capacity of melt	2100	J/(kg K)	-
Eff. thermal diffusivity	1E-7	m ² /s	-
Ejection temperature	165	°C	-

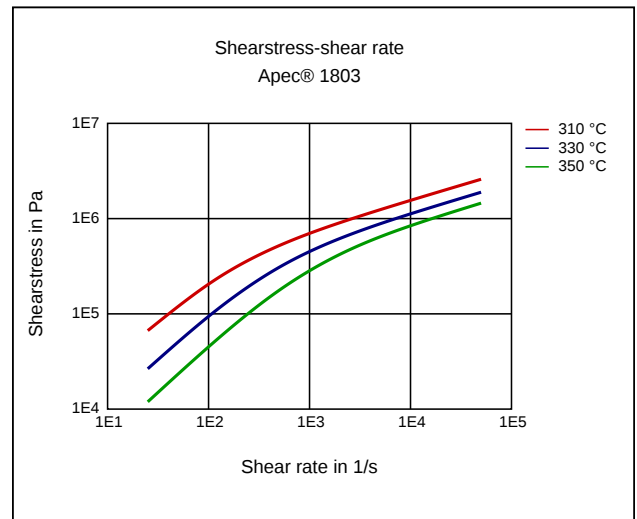
Test specimen production	Value	Unit	Test Standard
ISO Data			
Injection Molding, melt temperature	330	°C	ISO 294
Injection Molding, mold temperature	100	°C	ISO 294
Injection Molding, injection velocity	200	mm/s	ISO 294

Diagrams

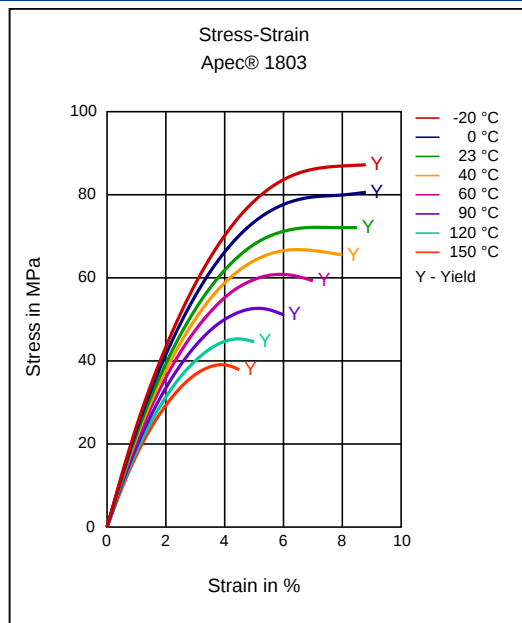
Viscosity-shear rate



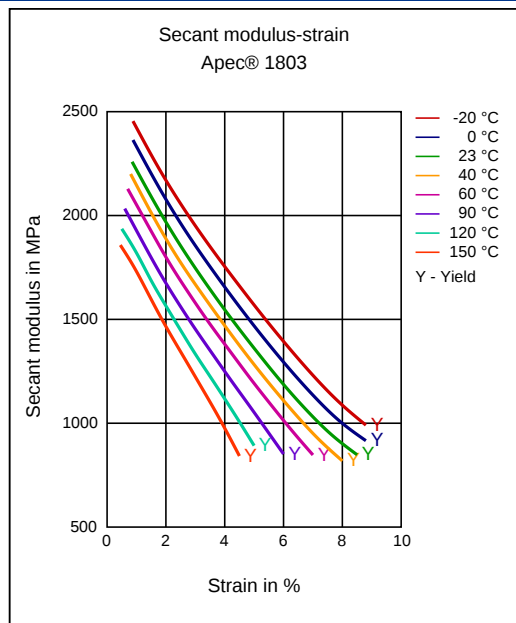
Shearstress-shear rate



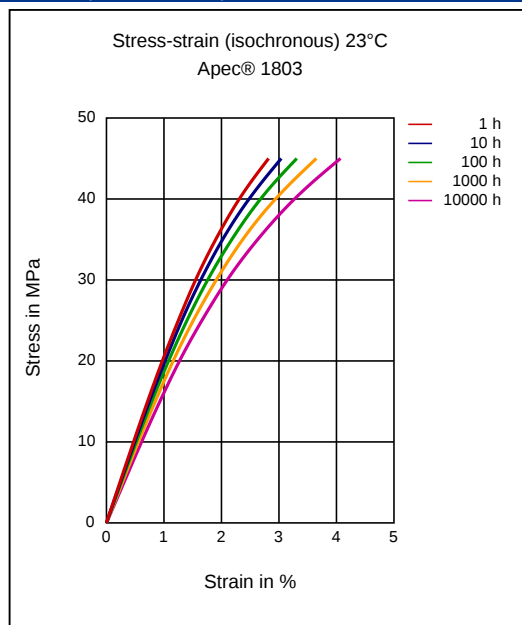
Stress-strain



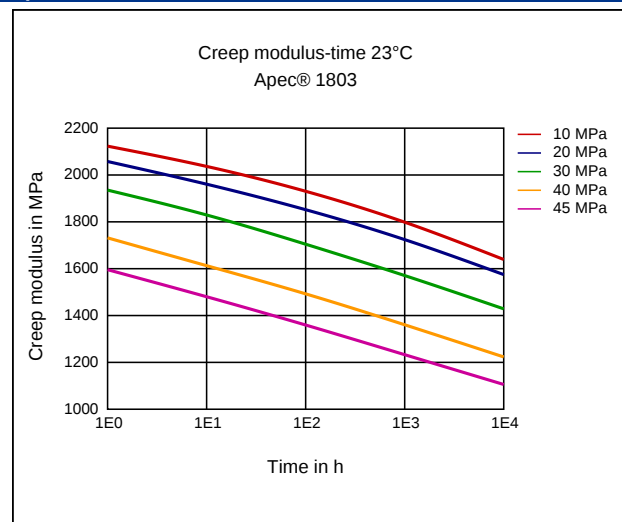
Secant modulus-strain



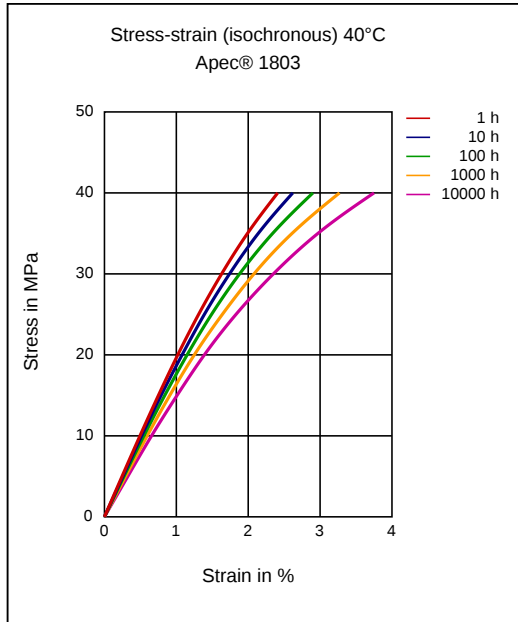
Stress-strain (isochronous) 23 °C



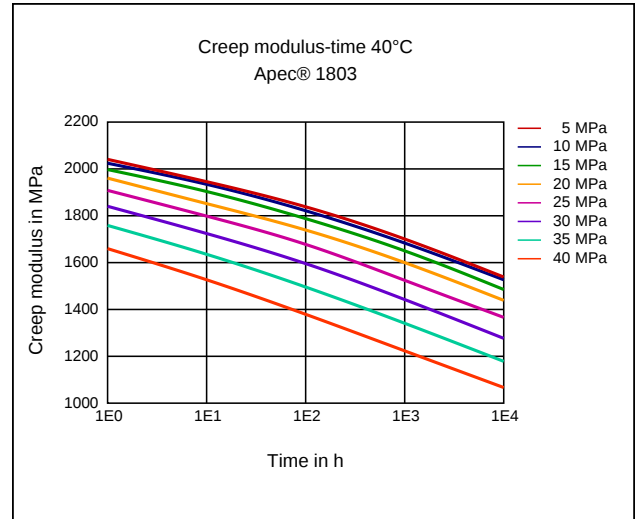
Creep modulus-time 23 °C



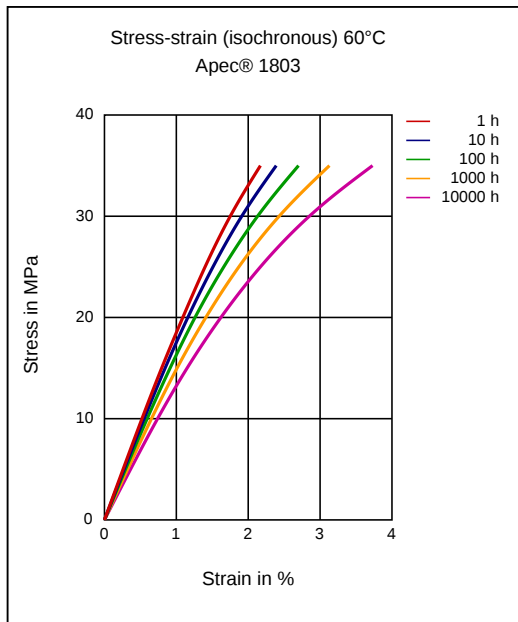
Stress-strain (isochronous) 40 °C



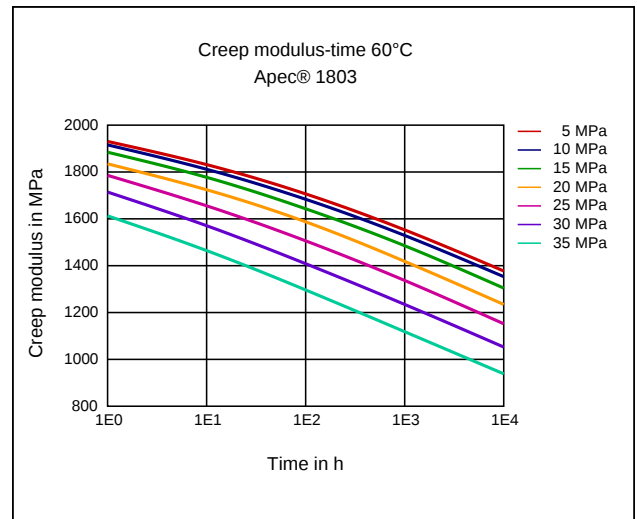
Creep modulus-time 40 °C



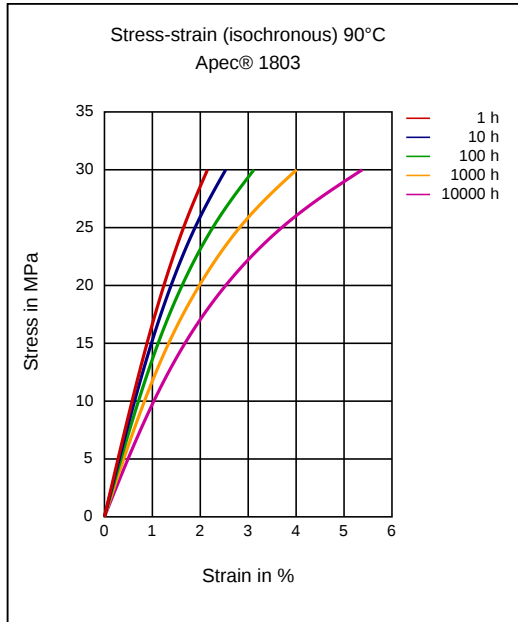
Stress-strain (isochronous) 60 °C



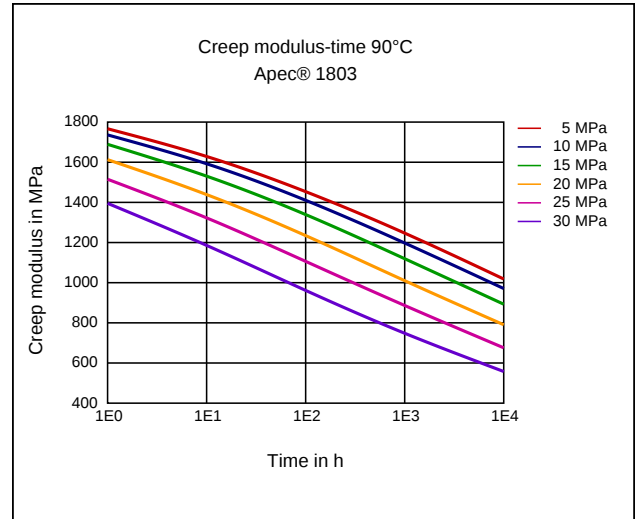
Creep modulus-time 60 °C



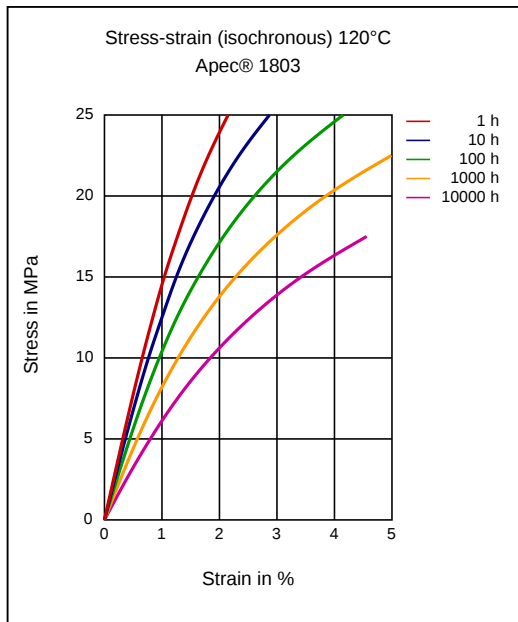
Stress-strain (isochronous) 90 °C



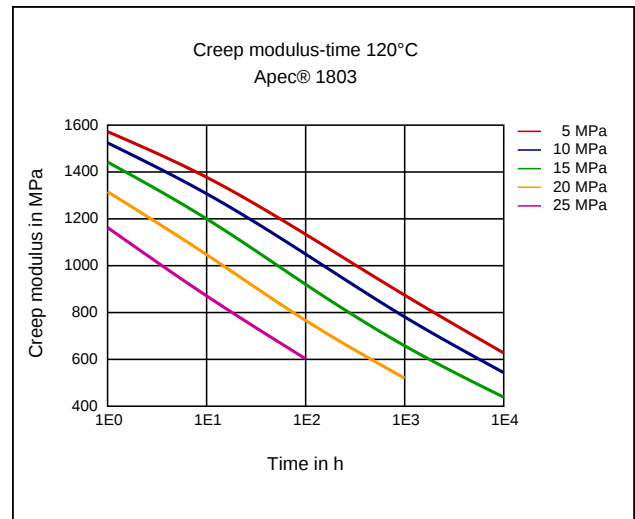
Creep modulus-time 90 °C



Stress-strain (isochronous) 120 °C



Creep modulus-time 120 °C



Characteristics

Processing

Injection Molding, Film Extrusion, Profile Extrusion, Sheet Extrusion

Delivery form

Pellets

Special Characteristics

UV stabilized, Transparent

Injection Molding

PREPROCESSING

Max. Water content: 0.02 %

Drying temperature: 130 °C
Drying time:
Circulating air drying oven (50 % fresh air) 4-12 h
Fresh air dryer (high speed dryer) 2-4 h
Dry air dryer 2-3 h

PROCESSING

Melt temperature: 330-340 °C
Mold temperature: 120-140 °C

Use open nozzle.

Disclaimer

These guide values are measured and provided by the product manufacturer and have been determined on standardised test specimens and can be affected by pigmentation, mould design and processing conditions. M-Base has taken the guide values from the producer's original Technical Data Sheet. **ALBIS AND M-BASE ARE THEREFORE NOT RESPONSIBLE FOR THE ACCURACY OF THE GUIDE VALUES AND CANNOT GIVE ANY WARRANTY WITH REGARD TO THEIR CORRECTNESS.**

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