Apec® 1745

PC

Covestro Deutschland AG

- MVR (330 °C/2.16kg) 17 cm³/10 min
- easy release
- suitable for superheated steam sterilisation up to 143 °C as well as for pharmaceutical applications according to United States Pharmacopeia (USP) XXII Class VI
- softening temperature (VST/B 120)=170 °C
- Films for medical packaging
- Contact lens holders
- Medical vessels
- Safety valve for respiration aids
- Syringe tops

Rheological properties	Value	Unit	Test Standard
ISO Data			
Melt volume-flow rate, MVR	17	cm³/10min	ISO 1133
Temperature	330	°C	-
Load	2.16	kg	-
Molding shrinkage, parallel	0.8	%	ISO 294-4, 2577
Molding shrinkage, normal	0.8	%	ISO 294-4, 2577

Mechanical Properties	Value	Unit	Test Standard
ISO Data			
Tensile Modulus	2400	MPa	ISO 527
Yield stress	70	MPa	ISO 527
Yield strain	6.8	%	ISO 527
Nominal strain at break	>50	%	ISO 527
Impact Strength (Charpy), +23°C	no break	kJ/m²	ISO 179/1eU
Impact Strength (Charpy), -30°C	no break	kJ/m²	ISO 179/1eU

Thermal Properties	Value	Unit	Test Standard
ISO Data			
Temp. of deflection under load (1.80 MPa)	148	°C	ISO 75-1/-2
Temp. of deflection under load (0.45 MPa)	160	°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	-
Oxygen index	25	%	ISO 4589-1/-2

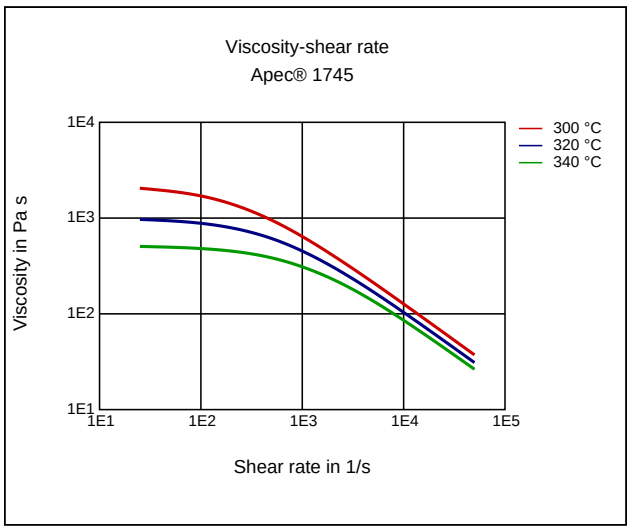
Electrical Properties	Value	Unit	Test Standard
ISO Data			
Relative permittivity, 100Hz	3	-	IEC 62631-2-1
Relative permittivity, 1MHz	2.9	-	IEC 62631-2-1
Dissipation Factor, 100Hz	10	E-4	IEC 62631-2-1
Dissipation Factor, 1MHz	80	E-4	IEC 62631-2-1
Volume Resistivity	>1E13	Ohm*m	IEC 62631-3-1
Surface Resistivity	>1E15	Ohm	IEC 62631-3-2
Electric Strength	35	kV/mm	IEC 60243-1
Comparative tracking index	250	-	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	1170	kg/m³	ISO 1183

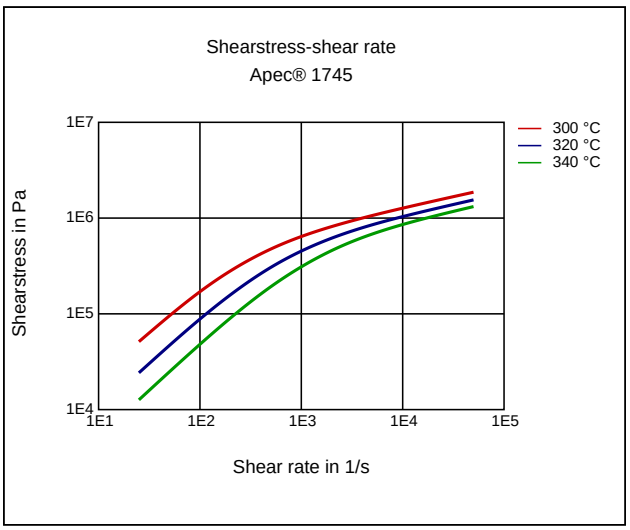
Test specimen production	Value	Unit	Test Standard
ISO Data			
Injection Molding, melt temperature	330	°C	ISO 294
Injection Molding, mold temperature	100	°C	ISO 294
Injection Molding, injection velocity	200	mm/s	ISO 294

Diagrams

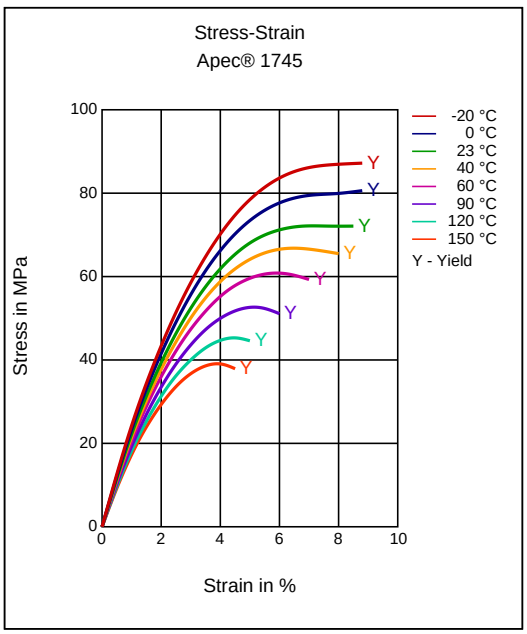
Viscosity-shear rate



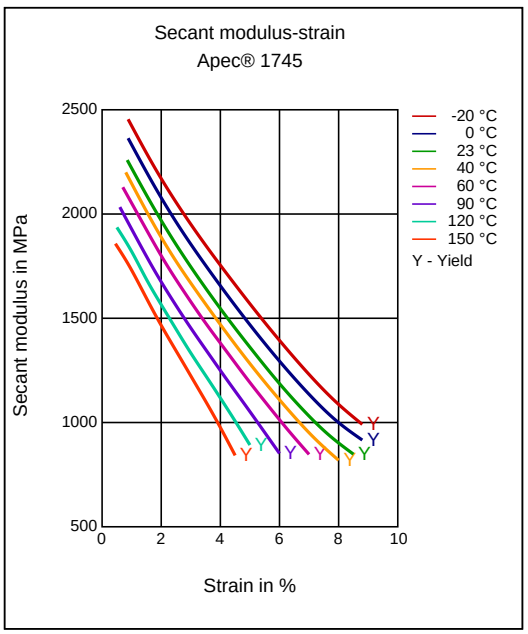
Shearstress-shear rate



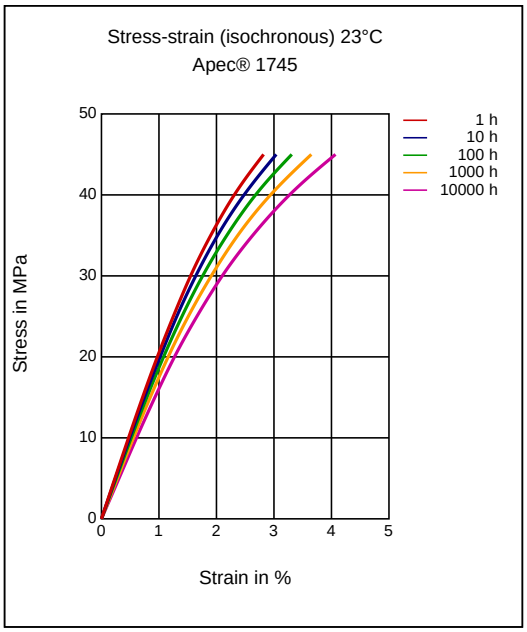
Stress-strain



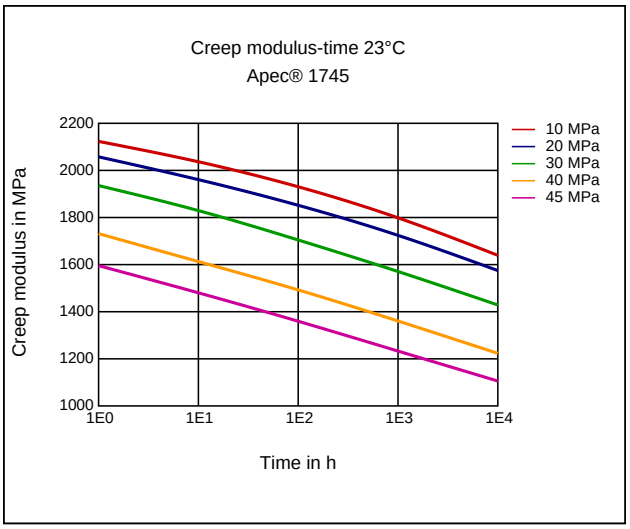
Secant modulus-strain



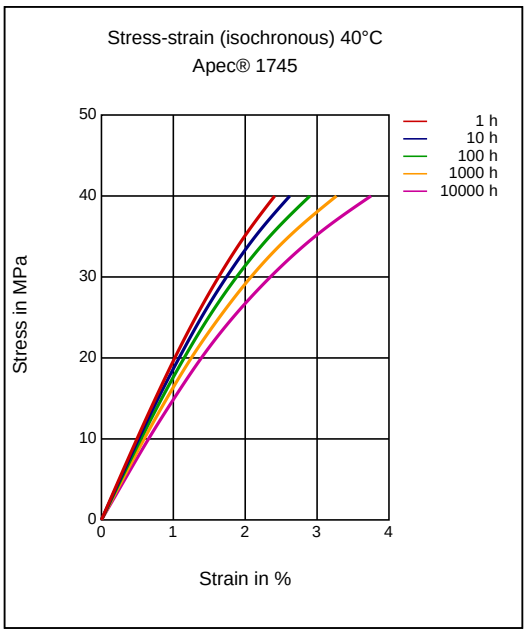
Stress-strain (isochronous) 23 °C



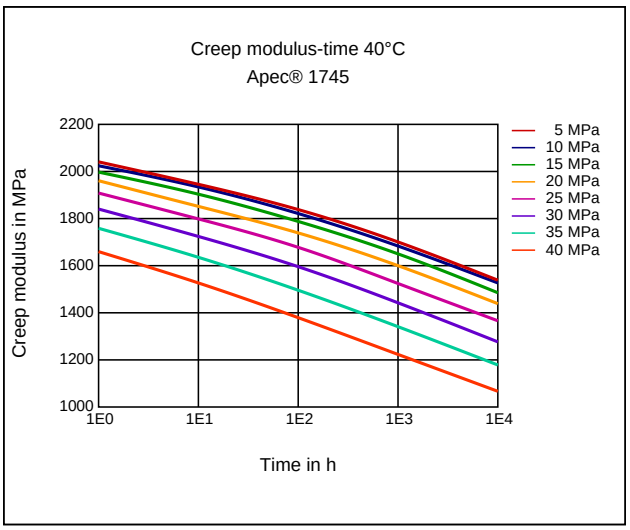
Creep modulus-time 23 °C



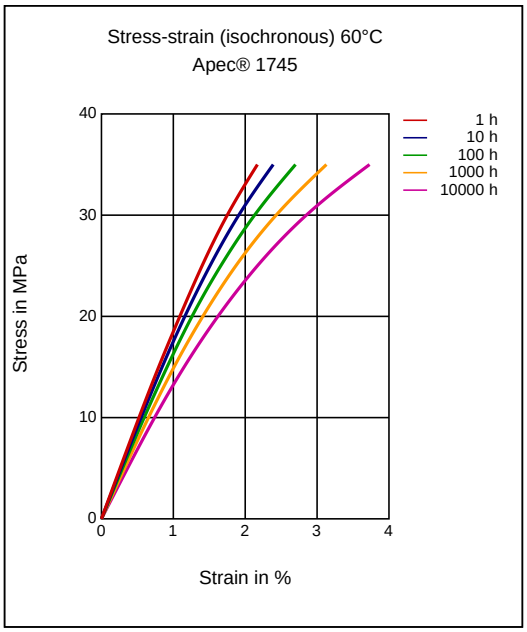
Stress-strain (isochronous) 40 °C



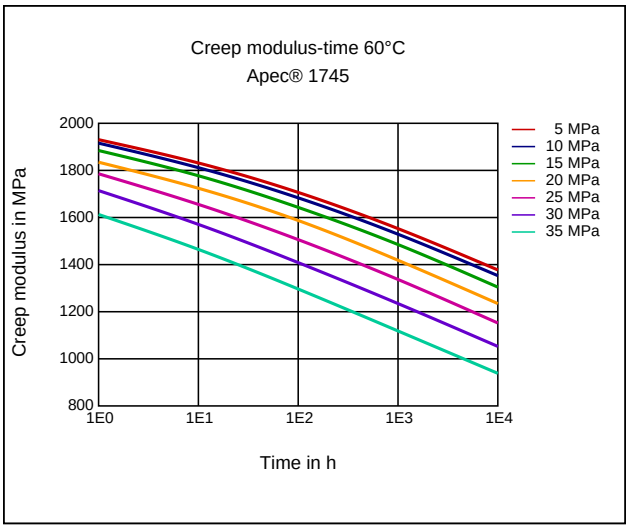
Creep modulus-time 40 °C



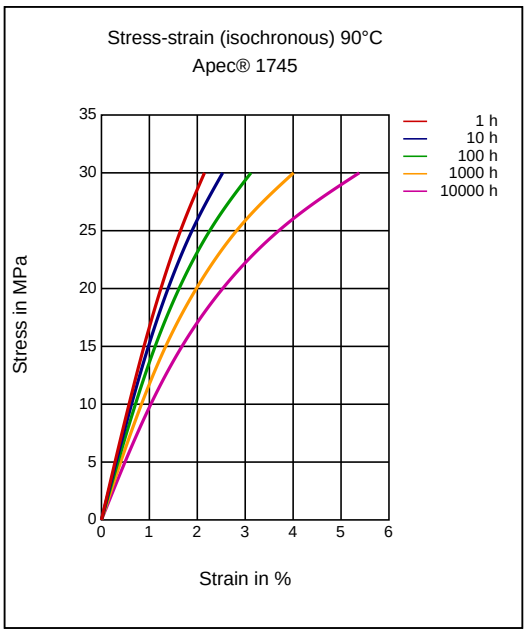
Stress-strain (isochronous) 60 °C



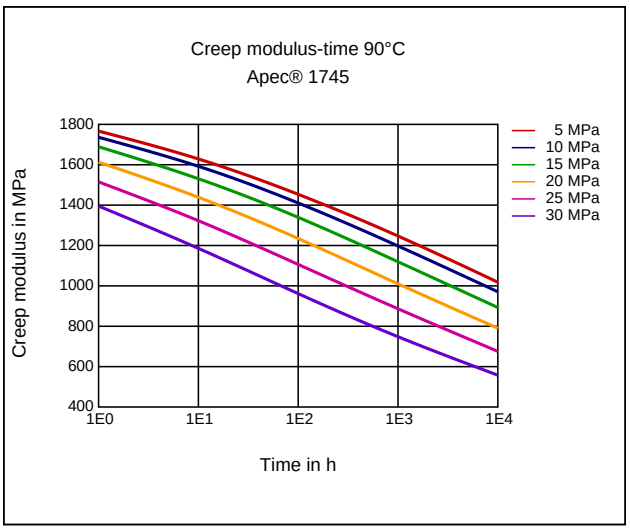
Creep modulus-time 60 °C



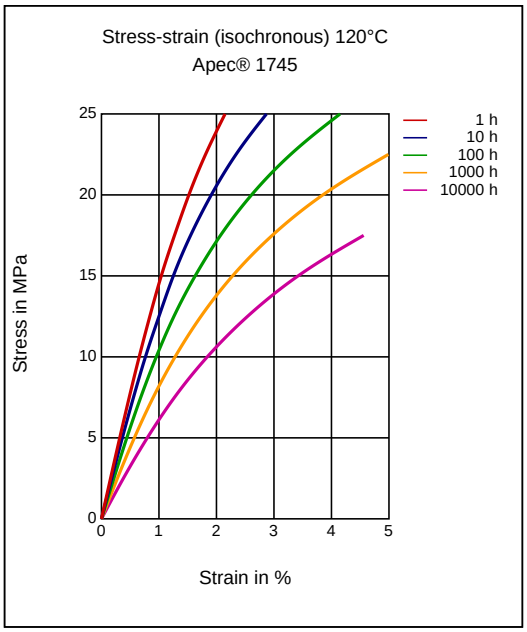
Stress-strain (isochronous) 90 °C



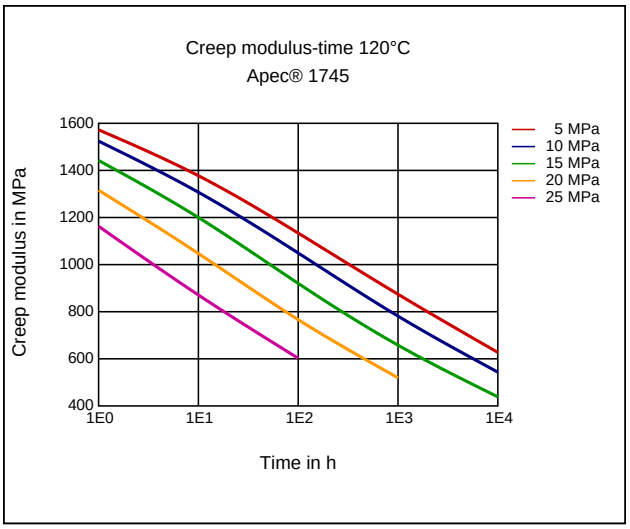
Creep modulus-time 90 °C



Stress-strain (isochronous) 120 °C



Creep modulus-time 120 °C



Characteristics

Processing
Injection Molding, Film Extrusion, Profile Extrusion, Sheet Extrusion

Delivery form
Pellets

Additives
Release agent

Special Characteristics
Transparent, Sterilizable, Ethylene Oxide (EtO) Sterilization, Steam sterilization, Gamma irradiation sterilization

Certifications
Medical, US Pharmacopeia Class VI Approved

Applications
Medical

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: 320-340 °C
Mold temperature: 110-130 °C

Use open nozzle.

Disclaimer

Liability Exclusion
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