CAMPUS® Datasheet

Makrolon® 2856 - PC
Covestro Deutschland AG

Product Texts
• MVR (300 °C/1.2 kg) 9.0 cm³/10 min
• food contact quality
• medium viscosity
• easy release
• available in transparent, translucent and opaque colors

Rheological properties	Value	Unit	Test Standard
Melt volume-flow rate, MVR	9	cm³/10min	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	65	MPa	ISO 527-1/-2
Yield strain	6.2	%	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/m²	ISO 179/1eU
Charpy impact strength, -30°C	N	kJ/m²	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
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

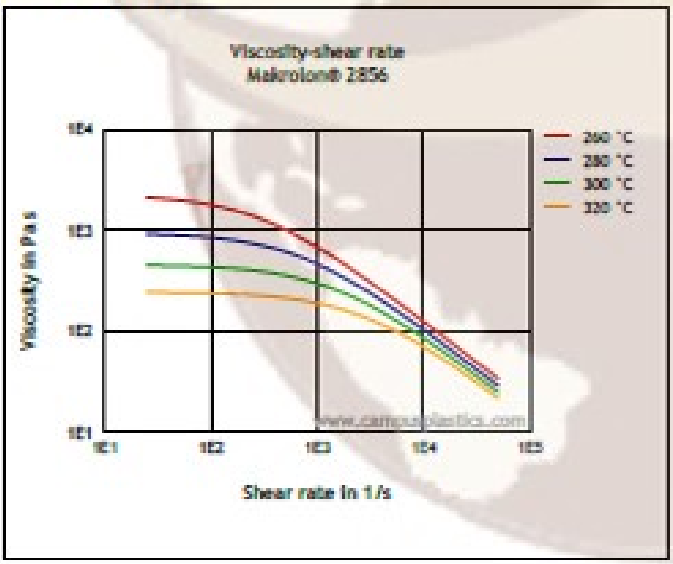
Material specific properties	Value	Unit	Test Standard
Luminous transmittance	89	%	ISO 13468-1, -2

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	-

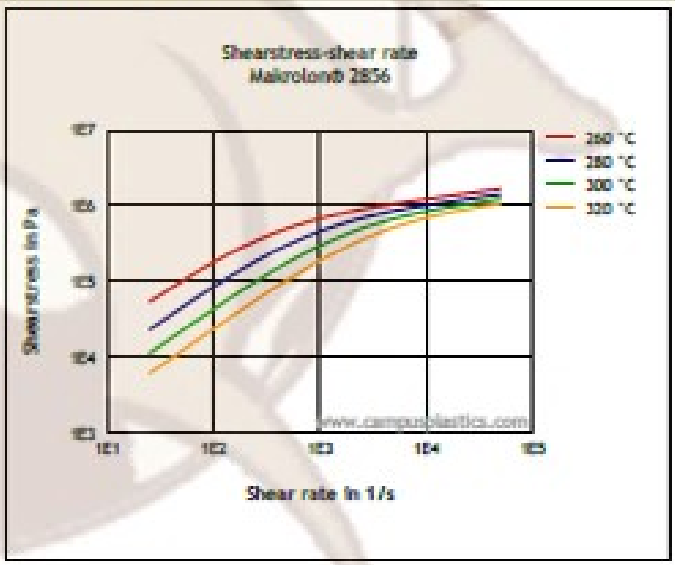
Test specimen production	Value	Unit	Test Standard
Injection Molding, melt temperature	300	°C	ISO 294
Injection Molding, mold temperature	80	°C	ISO 10724
Injection Molding, injection velocity	200	mm/s	ISO 294

Diagrams

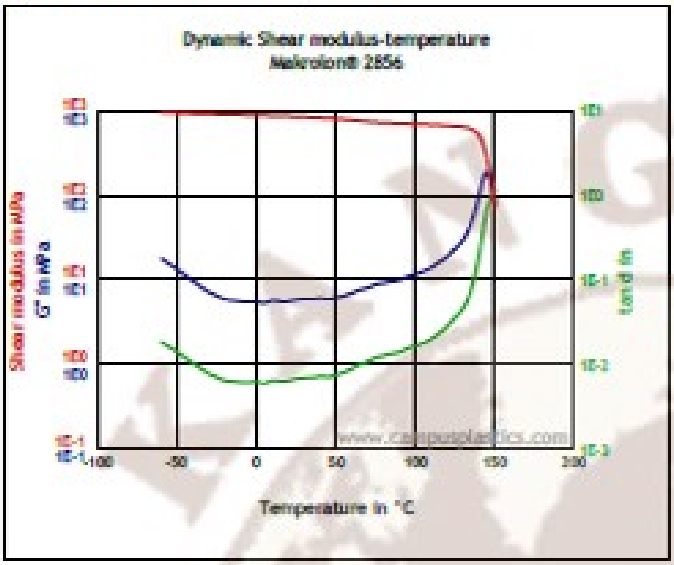
Viscosity-shear rate



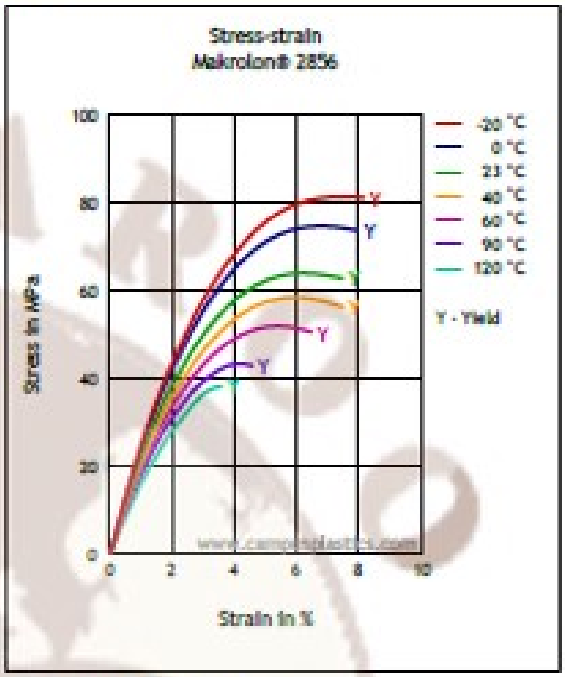
Shearstress-shear rate



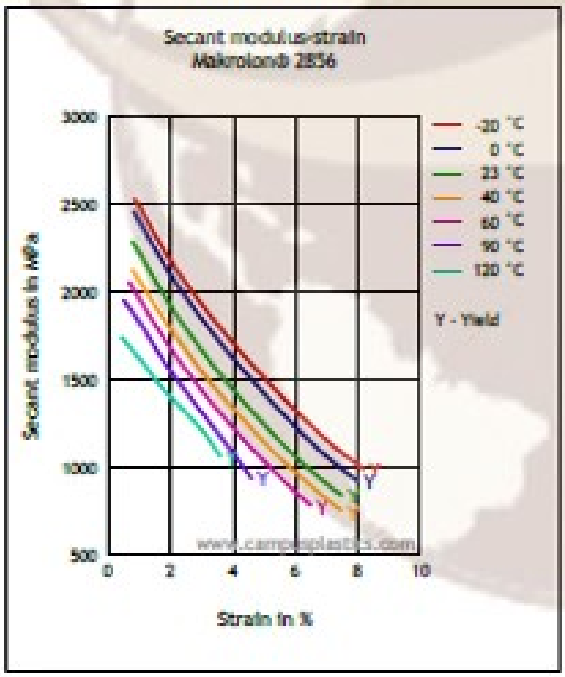
Dynamic Shear modulus-temperature



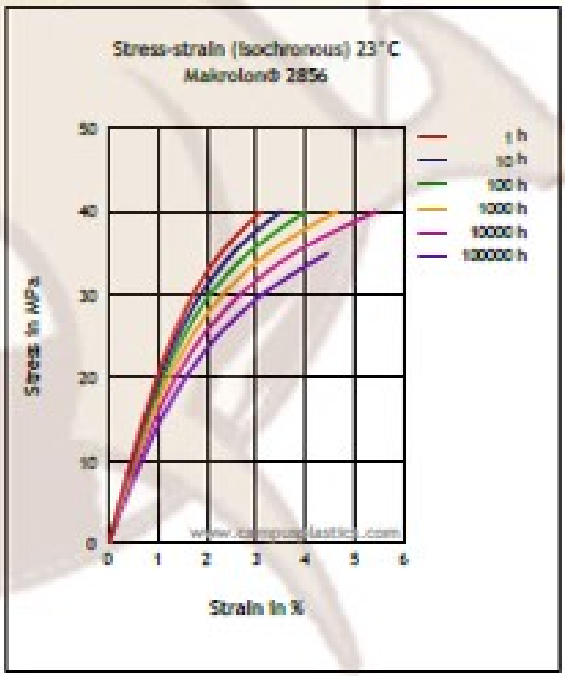
Stress-strain



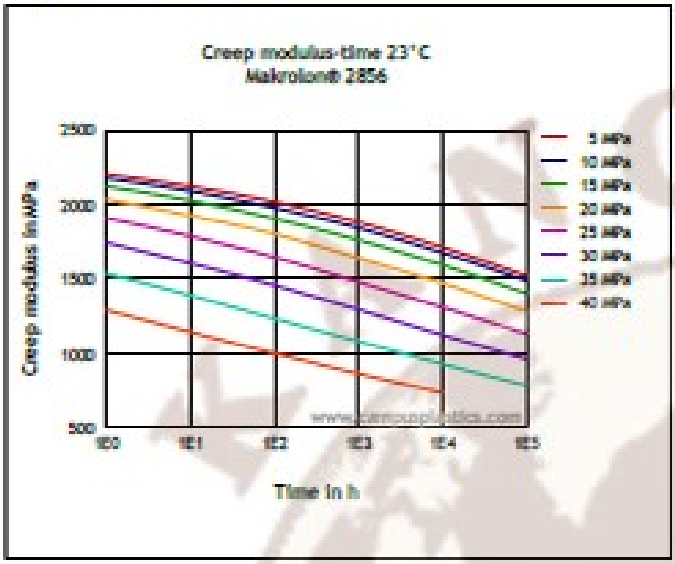
Secant modulus-strain



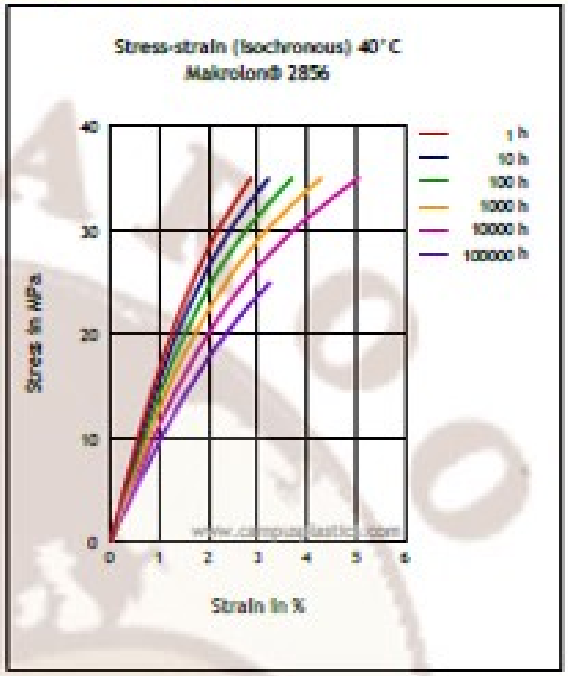
Stress-strain (isochronous) 23°C



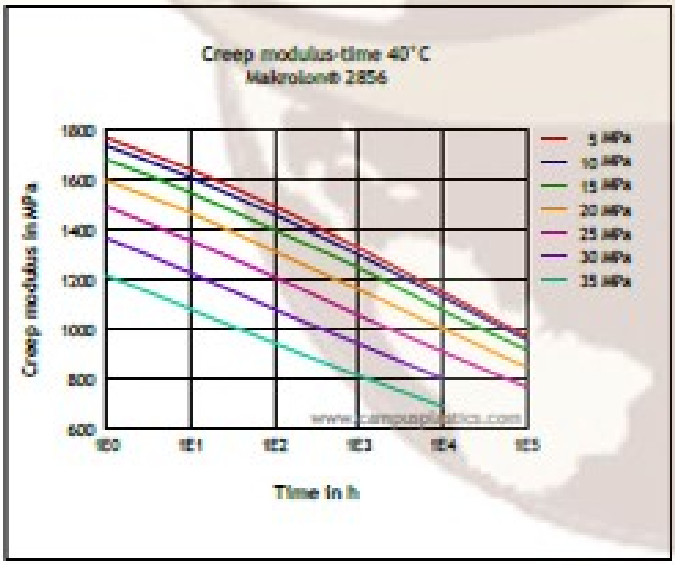
Creep modulus-time 23 °C



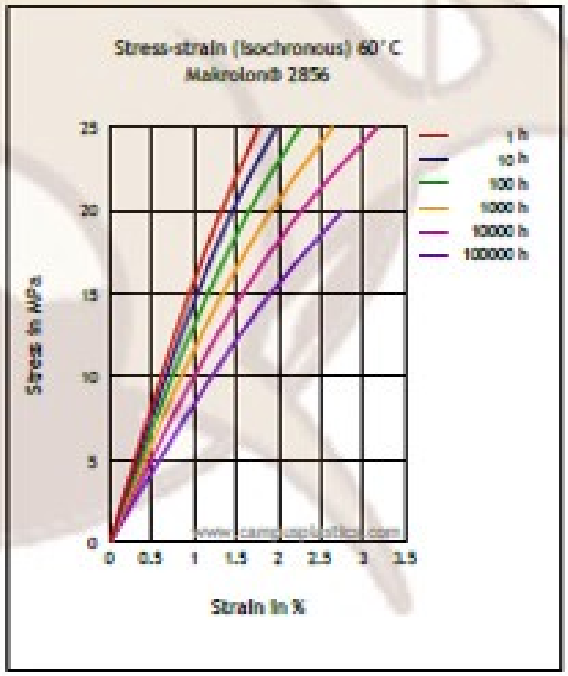
Stress-strain (Isochronous) 40 °C



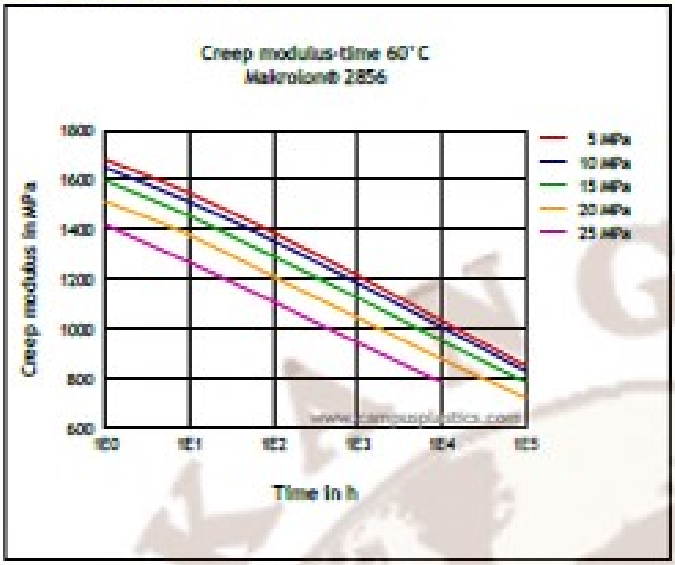
Creep modulus-time 40 °C



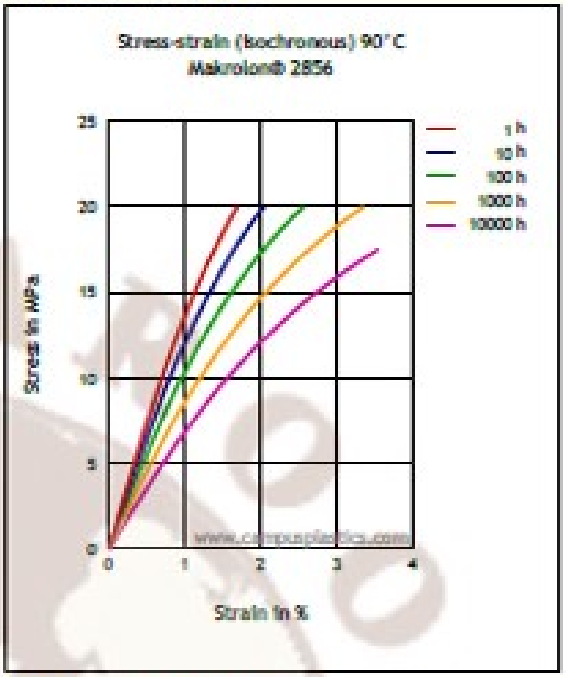
Stress-strain (Isochronous) 60 °C



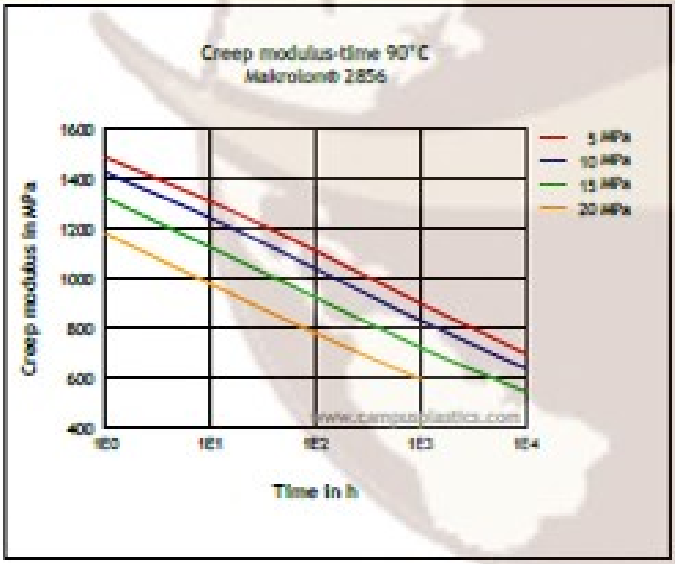
Creep modulus-time 60°C



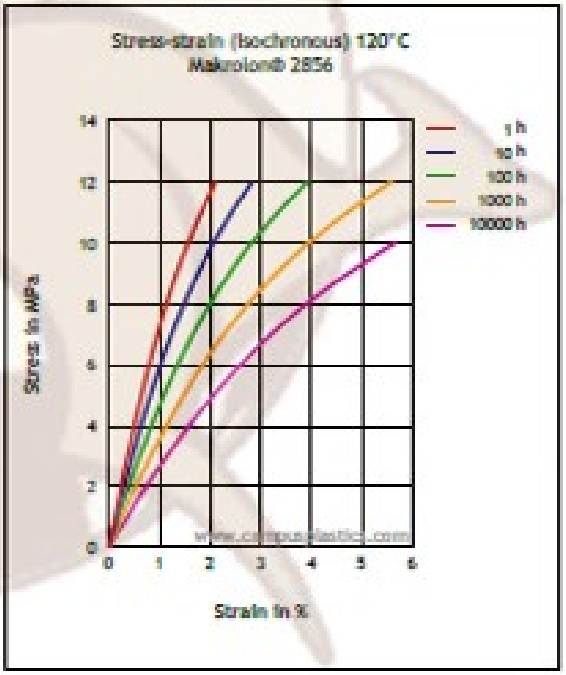
Stress-strain (isochronous) 90°C



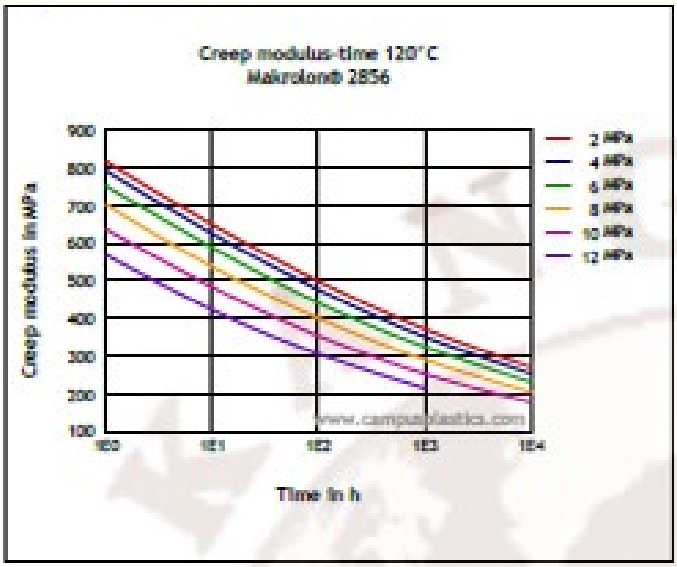
Creep modulus-time 90°C



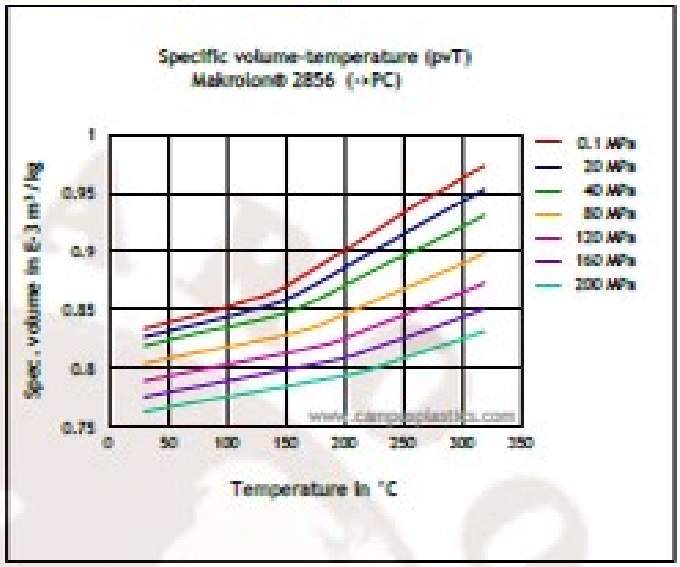
Stress-strain (isochronous) 120°C



Creep modulus-time 120 °C



Specific volume-temperature (pvT)



Characteristics

Processing
Injection Molding, Blow Molding

Special Characteristics
Transparent

Delivery form
Pellets

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

Additives
Release agent

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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