

CAMPUS® Datasheet

Ultraform® N2320 003 AT - POM
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Product Texts

Rapidly solidifying standard grade for injection molding.

Abbreviated designation according to ISO 1043-1: POM

Designation according to ISO 29988-POM-K,M-GNR,3-2

Rheological properties	Value	Unit	Test Standard
Melt volume-flow rate, MVR	7.5	cm³/10min	ISO 1133
Temperature	190	°C	ISO 1133
Load	2.16	kg	ISO 1133
Molding shrinkage, parallel	2.1	%	ISO 294-4, 2577
Molding shrinkage, normal	2.1	%	ISO 294-4, 2577
Mechanical properties	Value	Unit	Test Standard
Tensile modulus	2700	MPa	ISO 527-1/-2
Yield stress	64	MPa	ISO 527-1/-2
Yield strain	10.7	%	ISO 527-1/-2
Nominal strain at break	32	%	ISO 527-1/-2
Tensile creep modulus, 1h	1800	MPa	ISO 899-1
Tensile creep modulus, 1000h	1400	MPa	ISO 899-1
Charpy impact strength, +23°C	270	kJ/m²	ISO 179/1eU
Charpy impact strength, -30°C	250	kJ/m²	ISO 179/1eU
Charpy notched impact strength, +23°C	6.5	kJ/m²	ISO 179/1eA
Charpy notched impact strength, -30°C	5.5	kJ/m²	ISO 179/1eA
Thermal properties	Value	Unit	Test Standard
Melting temperature, 10°C/min	166	°C	ISO 11357-1/-3
Temp. of deflection under load, 1.80 MPa	95	°C	ISO 75-1/-2
Temp. of deflection under load, 0.45 MPa	156	°C	ISO 75-1/-2
Vicat softening temperature, 50°C/h 50N	166	°C	ISO 306
Coeff. of linear therm. expansion, parallel	110	E-6/K	ISO 11359-1/-2
Burning behavior at 1.5 mm nominal thickness	HB	class	IEC 60695-11-10
Thickness tested (1.5)	1.6	mm	IEC 60695-11-10
Yellow Card available	Yes	-	-
Burning behavior at thickness h	HB	class	IEC 60695-11-10
Thickness tested (h)	0.8	mm	IEC 60695-11-10
Yellow Card available	Yes	-	-
Oxygen index	15	%	ISO 4589-1/-2
Electrical properties	Value	Unit	Test Standard
Relative permittivity, 100Hz	3.8	-	IEC 62631-2-1
Relative permittivity, 1MHz	3.8	-	IEC 62631-2-1
Dissipation factor, 100Hz	10	E-4	IEC 62631-2-1
Dissipation factor, 1MHz	50	E-4	IEC 62631-2-1
Volume resistivity	1E11	Ohm*m	IEC 62631-3-1
Surface resistivity	1E13	Ohm	IEC 62631-3-2
Electric strength	40	kV/mm	IEC 60243-1
Comparative tracking index	600	-	IEC 60112

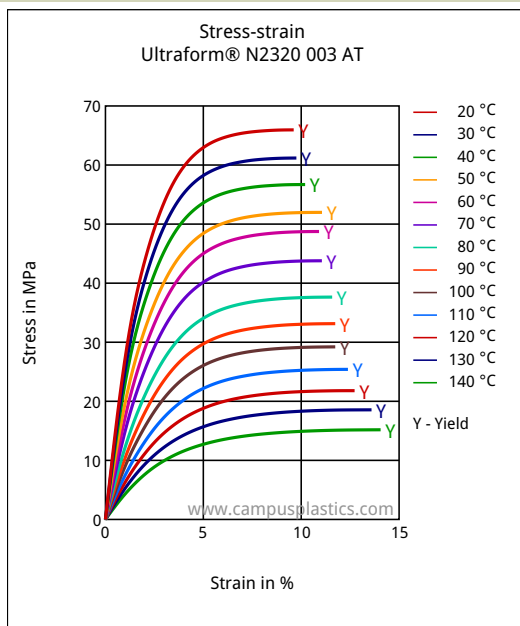
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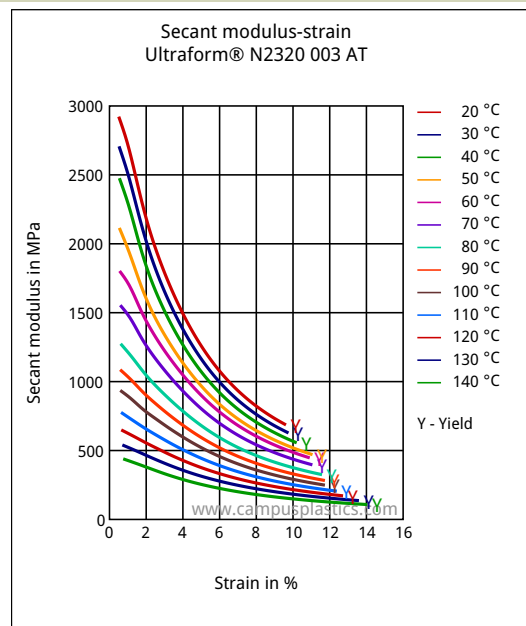
Other properties	Value	Unit	Test Standard
Water absorption	0.9	%	Sim. to ISO 62
Humidity absorption	0.2	%	Sim. to ISO 62
Density	1410	kg/m³	ISO 1183
Rheological calculation properties	Value	Unit	Test Standard
Ejection temperature	110	°C	-
Test specimen production	Value	Unit	Test Standard
Injection molding, melt temperature	200	°C	ISO 294
Injection molding, mold temperature	90	°C	ISO 294
Injection molding, injection velocity	200	mm/s	ISO 294

Diagrams

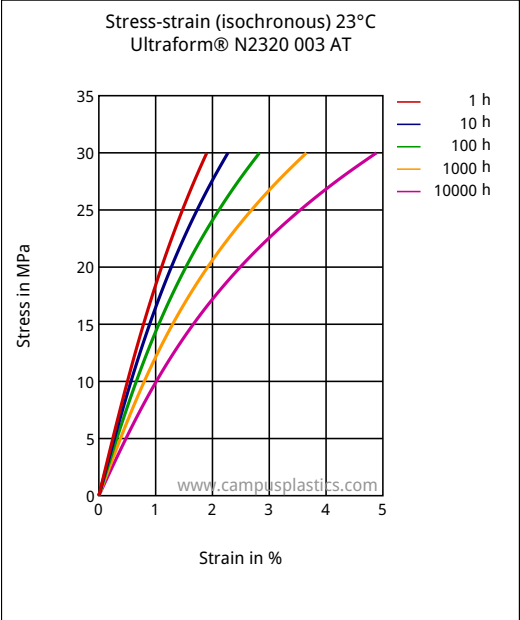
Stress-strain



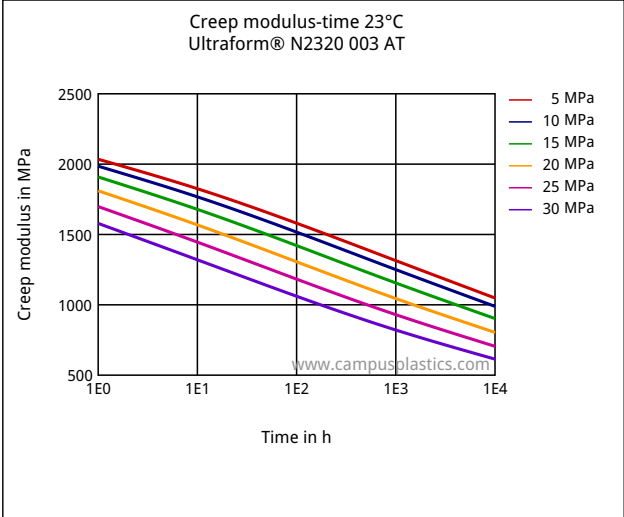
Secant modulus-strain



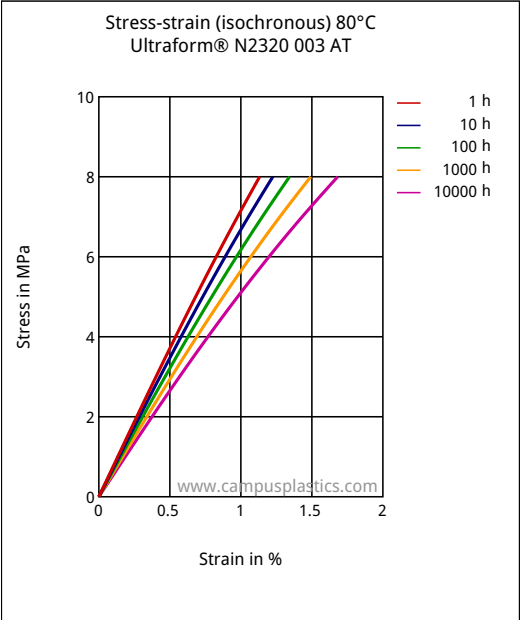
Stress-strain (isochronous) 23°C



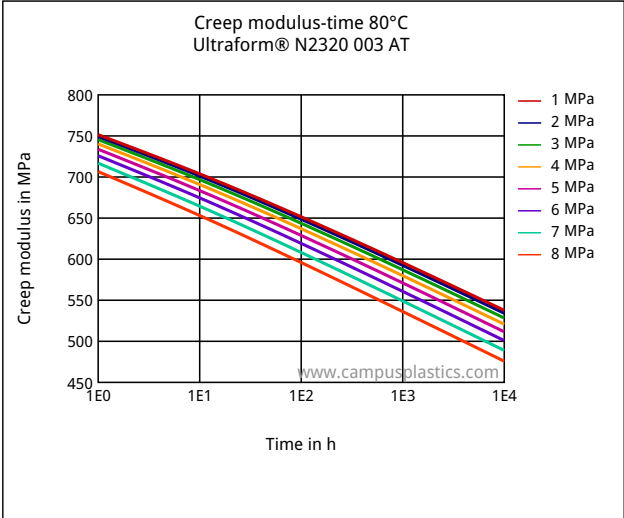
Creep modulus-time 23°C



Stress-strain (isochronous) 80°C



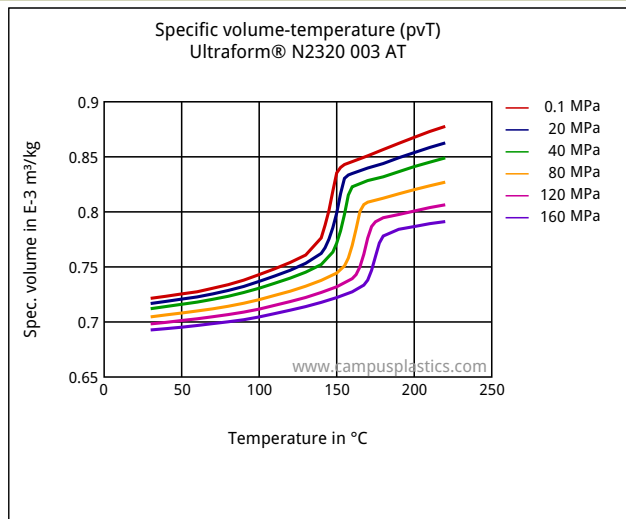
Creep modulus-time 80°C



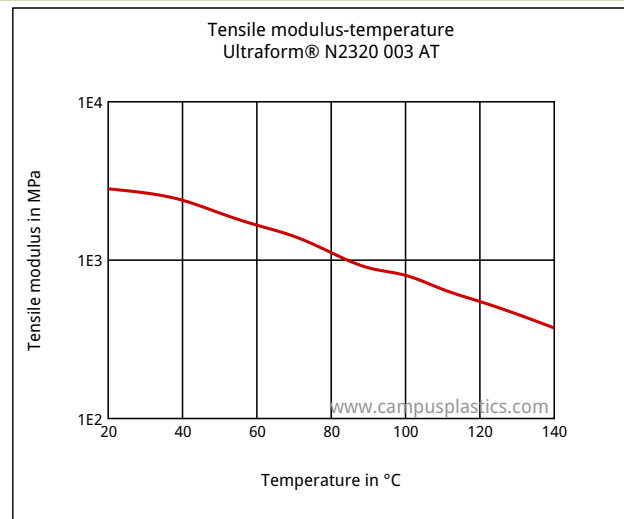
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Specific volume-temperature (pvT)



Tensile modulus-temperature



Characteristics

Processing

Injection Molding

Delivery form

Pellets

Additives

Release agent

Regional Availability

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

Other text information

Injection molding

PREPROCESSING

Pre/Post-processing, max. allowed water content: .2 %
Pre/Post-processing, Pre-drying, Temperature: 100 °C
Pre/Post-processing, Pre-drying, Time: 3 h

PROCESSING

injection molding, Melt temperature, range: 190 - 230 °C
injection molding, Melt temperature, recommended: 200 °C
injection molding, Mold temperature, range: 60 - 120 °C
injection molding, Mold temperature, recommended: 90 °C
injection molding, Dwell time, thermoplastics: 10 min

Processing

Usual single-flighted three-section screws with an effective screw length of at least 15 D, better 20 - 23 D are suitable for the injection molding of Ultraform.

Pretreatment

Granules or pellets in original packaging can be processed without any special pretreatment. Granules or pellets which have become moist due to prolonged or incorrect storage (e.g. by formation of condensed water) must be dried in dehumidifying or recirculating air dryers for approx. 3 hours at about 100 - 110 °C. The moisture content should not exceed 0.2 %.

Postprocessing

If parts were produced at a comparatively low mold temperature (e.g. in order to obtain short cycle times) and must not change their geometry in use thermal postprocessing inducing dimensional changes by postcrystallization may be necessary. In such cases parts should

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be stored in an oven with recirculated air at temperatures of 100 - 130 °C until dimensions don't change significantly any further. The time needed for this has to be determined experimentally.

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