TECHNICAL DATA SHEET

SINKRAL® C 442

Versalis S.p.A

ABS

Processing

Injection molding, Profile extrusion, Sheet extrusion

Delivery Form

Pellets

Special Characteristics

Heat stabilized or stable to heat

Product Text

Product Information

Symbol according to ISO 1043-1: ABS
Designation: Thermoplastics ISO 2580-ABS 1,MGN,105-08-16-20

SINKRAL C 442 is a heat resistant injection moulding grade offering good flow and impact resistance together with an excellent thermal stability during its processing.

Applications:
Thanks to its low Yellow Index and its colour constancy, it is suitable for self-colouring, mainly in the automotive industry for interior (extruded profiles, interior trims,..) and, with proper masterbatches, for exterior parts such as grilles and rear view mirrors.

Processing/Physical Characteristics	Value	Unit	Standard
Melt volume-flow rate, MVR	6	cm³/10min	ISO 1133
Temperature	220	°C	
Load	10	kg	
Density of melt	960	kg/m³	
Spec. heat capacity of melt	2150	J/(kg K)	

Mechanical Properties	Value	Unit	Standard
Tensile modulus	2400	MPa	ISO 527
Yield stress	48	MPa	ISO 527
Yield strain	3	%	ISO 527
Nominal strain at break	30	%	ISO 527
Poisson's ratio	0.35		ISO 527
Charpy impact strength, +23°C	N	kJ/m²	ISO 179/1eU
Charpy impact strength, -30°C	100	kJ/m²	ISO 179/1eU

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Mechanical Properties	Value	Unit	Standard
Charpy notched impact strength, +23°C	14	kJ/m²	ISO 179/1eA
Charpy notched impact strength, -30°C	7	kJ/m²	ISO 179/1eA

Thermal Properties	Value	Unit	Standard
Glass transition temperature, 10°C/min	110	°C	ISO 11357-1/-2
Temp. of deflection under load, 1.80 MPa	85	°C	ISO 75-1/-2
Vicat softening temperature, B	106	°C	ISO 306
Coeff. of linear therm. expansion, parallel	90	E-6/K	ISO 11359-1/-2
Burning behav. at 1.5 mm nom. thickn.	HB	class	IEC 60695-11-10
Thickness tested	1.5	mm	
Yellow card available	yes		

Electrical Properties	Value	Unit	Standard
Relative permittivity, 1MHz	3.1		IEC 62631-2-1
Dissipation factor, 1MHz	150	E-4	IEC 62631-2-1
Volume resistivity	1E13	Ohm*m	IEC 62631-3-1
Surface resistivity	1E14	Ohm	IEC 62631-3-2
Electric strength	30	kV/mm	IEC 60243-1
Comparative tracking index	600		IEC 60112

Other Properties	Value	Unit	Standard
Water absorption	0.6	%	Sim. to ISO 62
Humidity absorption	0.2	%	Sim. to ISO 62
Density	1040	kg/m³	ISO 1183

Test Specimen Production	Value	Unit	Standard
Processing conditions acc. ISO	2580		ISO ....-2
Injection molding, melt temperature	250	°C	ISO 294
Injection molding, mold temperature	60	°C	ISO 294
Injection molding, injection velocity	200	mm/s	ISO 294
Injection molding, pressure at hold	70	MPa	ISO 294

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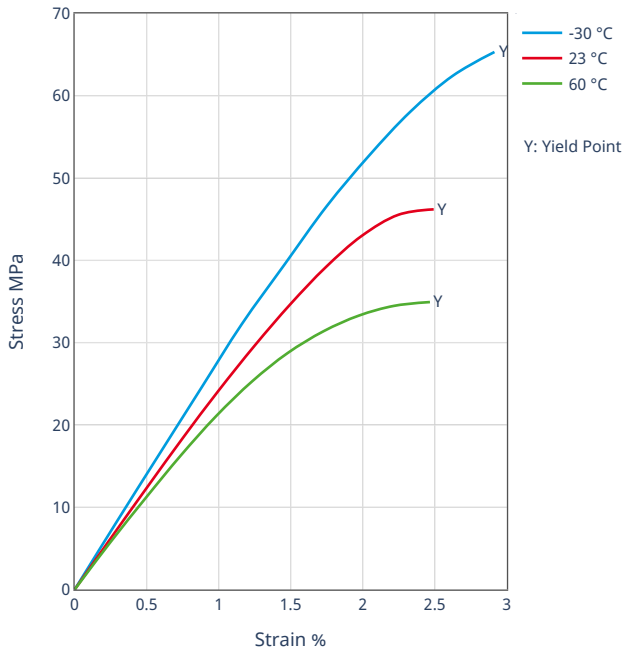
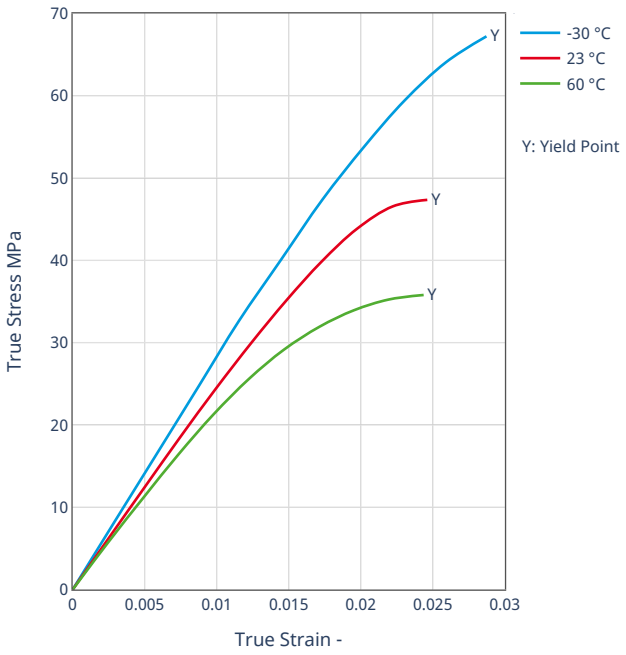
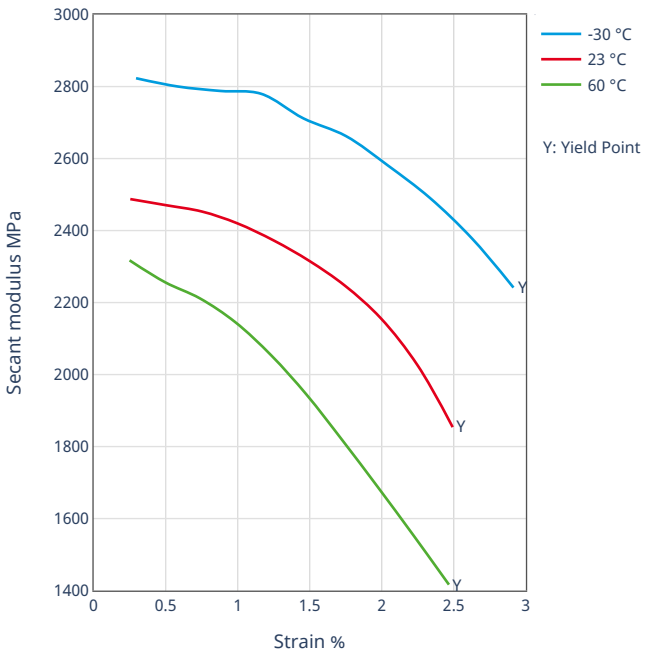
Stress-strain



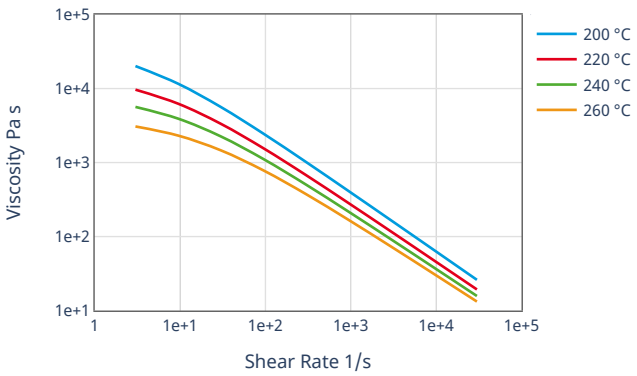
True stress-true strain



Secant modulus-strain



Viscosity-shear rate



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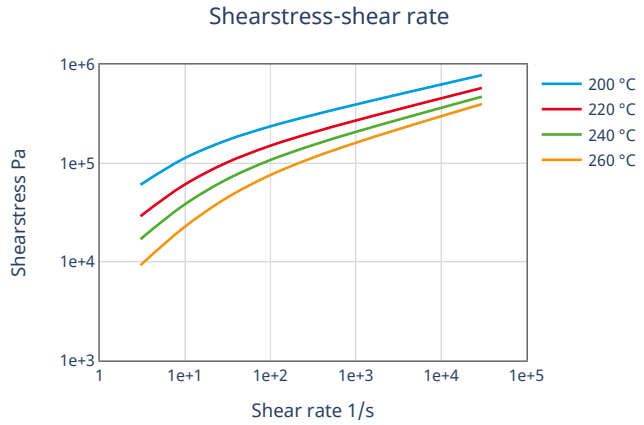

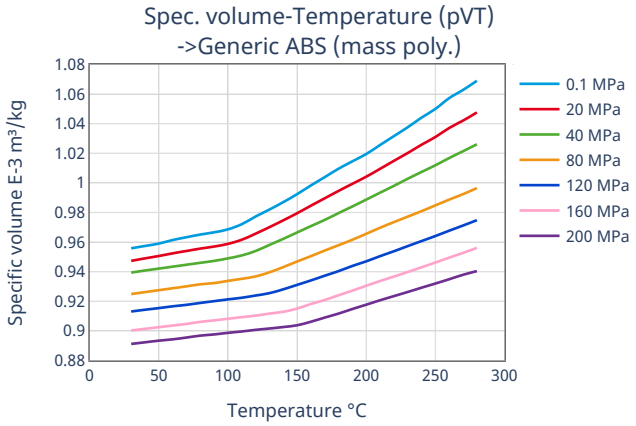

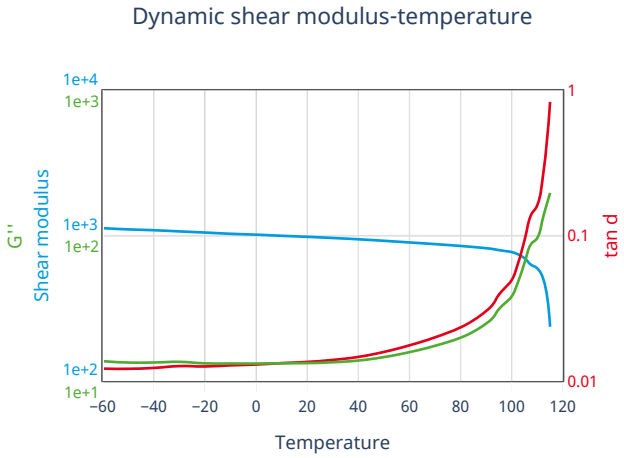

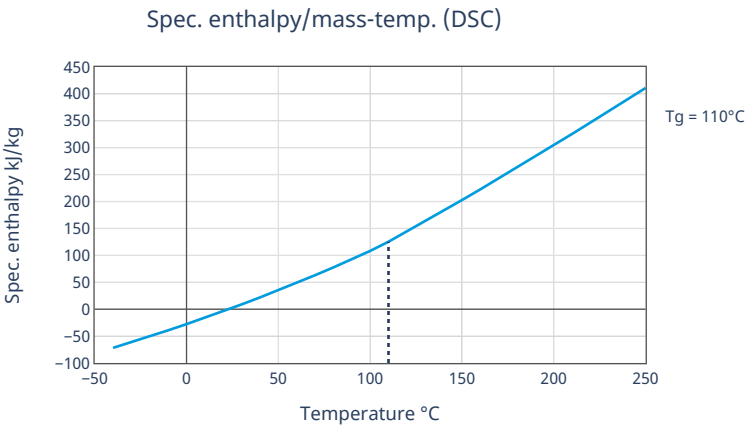

Processing Information

Injection molding

Injection Molding
PREPROCESSING
Drying conditions:

Drying temperature	80 °C
Drying time	2 - 4 h
Maximum water content	0.2 %

PROCESSING
Typical processing temperature range:

Melt temperature	230 - 270 °C
Mold temperature	40 - 70 °C

Profile extrusion

PREPROCESSING

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Drying conditions if no venting:

Drying temperature	80 °C
Drying time	2 - 4 h
Maximum water content	0.2 %

PROCESSING

Typical processing temperature range:

Melt temperature	190 - 230 °C

Sheet extrusion

PREPROCESSING

Drying conditions if no venting:

Drying temperature	80 °C
Drying time	2 - 4 h
Maximum water content	0.2 %

PROCESSING

Typical processing temperature range:

Melt temperature	190 - 230 °C