SINKRAL® C 442

ABS Versalis S.p.A

Product Texts

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.

Rheological properties	Value	Unit	Test Standard
ISO Data			
Melt volume-flow rate, MVR	6	cm³/10min	ISO 1133
Temperature	220	°C	ISO 1133
Load	10	kg	ISO 1133

Mechanical properties	Value	Unit	Test Standard
ISO Data			
Tensile Modulus	2400	MPa	ISO 527-1/-2
Yield stress	48	MPa	ISO 527-1/-2
Yield strain	3	%	ISO 527-1/-2
Nominal strain at break	30	%	ISO 527-1/-2
Charpy impact strength (+23°C)	N	kJ/m²	ISO 179/1eU
Charpy impact strength, -30°C	100	kJ/m²	ISO 179/1eU
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	Test Standard
ISO Data			
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, 50°C/h 50N	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	IEC 60695-11-10
UL recognition	UL	-	-

Electrical properties	Value	Unit	Test Standard
ISO Data			
Relative permittivity, 1MHz	3.1	-	IEC 60250
Dissipation factor, 1MHz	150	E-4	IEC 60250
Volume resistivity	1E13	Ohm*m	IEC 60093
Surface resistivity	1E14	Ohm	IEC 60093
Electric strength	30	kV/mm	IEC 60243-1
Comparative tracking index	600	-	IEC 60112

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

SINKRAL® C 442

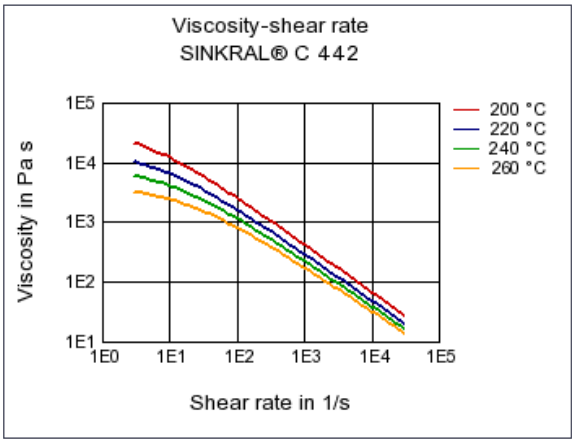
ABS — Versalis S.p.A

Rheological calculation properties	Value	Unit	Test Standard
ISO Data			
Density of melt	960	kg/m³	-
Spec. heat capacity of melt	2150	J/(kg K)	-

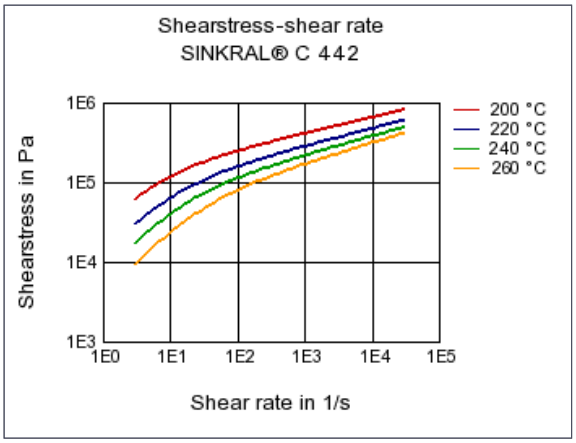
Test specimen production	Value	Unit	Test Standard
ISO Data			
Processing conditions acc. ISO	2580	-	ISO ....-2
Injection Molding, melt temperature	250	°C	ISO 294
Injection Molding, mold temperature	60	°C	ISO 10724
Injection Molding, injection velocity	200	mm/s	ISO 294
Injection Molding, pressure at hold	70	MPa	ISO 294

Diagrams

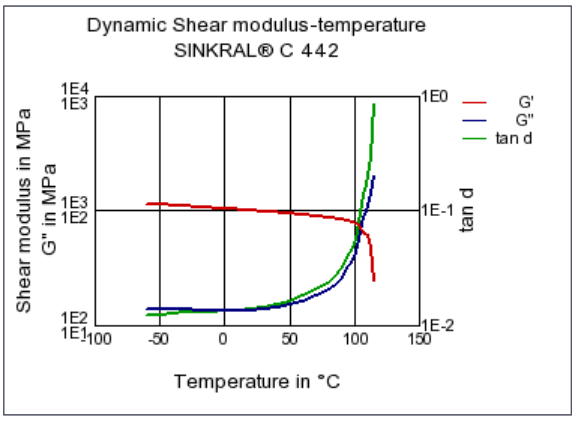
Viscosity-shear rate



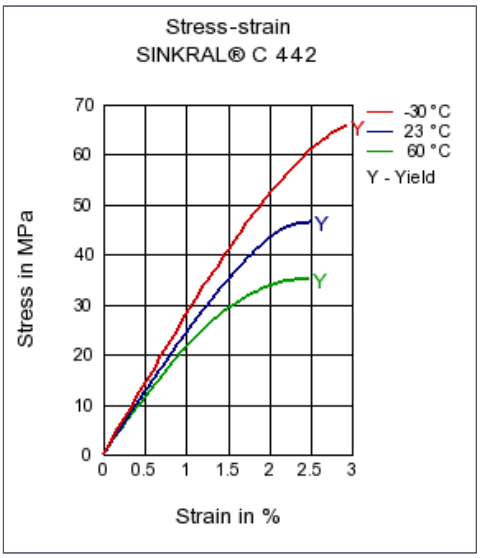
Shearstress-shear rate



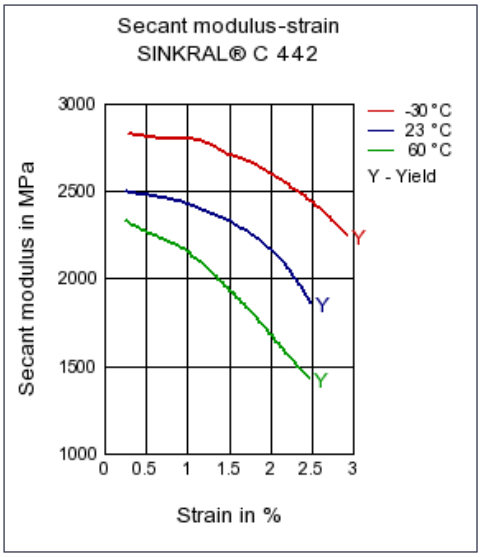
Dynamic Shear modulus-temperature



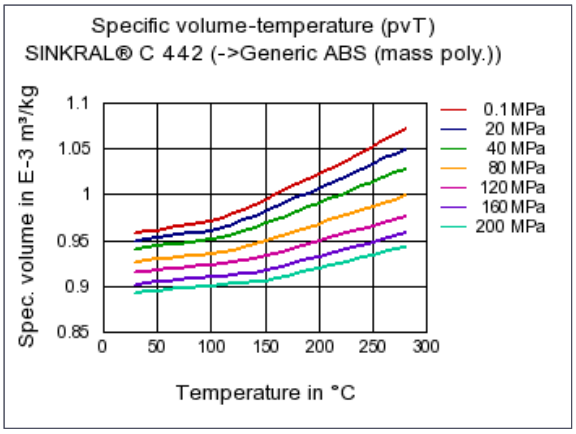
Stress-strain



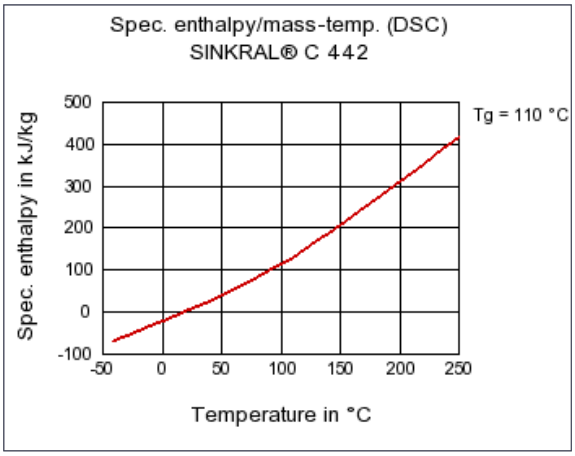
Secant modulus-strain



Specific volume-temperature (pvT)



Spec. enthalpy/mass-temp. (DSC)



Characteristics

Processing
Injection Molding, Profile Extrusion, Sheet Extrusion

Special Characteristics
Heat stabilized or stable to heat

Delivery form
Pellets

Other text information

Injection Molding
0 Injection Molding
PREPROCESSING
Drying conditions:
Drying temperature80 °C
Drying time2- 4 h
Maximum water content0.2 %

PROCESSING
Typical processi ng temperature range:
Melt temperature230 - 270 °C
Mold temperature40-70 °C

Profile extrusion
PREPROCESSING

Drying conditions if no venting:
Drying temperature80 °C
Drying time2- 4 h
Maximum water content0.2 %

PROCESSING
Typical processing temperature range:
Melt temperature190 - 230 °C

Sheet extrusion

PREPROCESSING
Drying conditions if no venting:
Drying temperature80 °C
Drying time2- 4 h
Maximum water content0.2 %

PROCESSING
Typical processing temperature range:
Melt temperature190 - 230 °C