Sinkral® C 442

Acrylonitrile Butadiene Styrene

Versalis S.p.A.

Message:

Sinkral C 442 is a heat resistant injection moulding grade offering good flow and impact resistance together with excellent thermal stability during processing.
Designation: Thermoplastic ISO 2580-ABS 1,MGN,105-08-16-20
Thanks to a low Yellow Index and colour constancy, it is suitable for selfcolouring, mainly in the automotive industry for interior (extruded profiles, interior trim..) and with proper masterbatches, for exterior parts such as grilles and rear view mirrors.
Grade available either in natural or coloured versions.

General Information	
Features	Good Color Stability Good Flow Good Impact Resistance Good Thermal Stability High Heat Resistance
Uses	Automotive Applications Automotive Exterior Parts Automotive Interior Trim
Appearance	Colors Available Natural Color
Forms	Pellets
Processing Method	Injection Molding Profile Extrusion
Multi-Point Data	Isothermal Stress vs. Strain (ISO 11403-1) Secant Modulus vs. Strain (ISO 11403-1) Shear Modulus vs. Temperature (ISO 11403-1) Specific Heat vs. Temperature (ISO 11403-2) Specific Volume vs Temperature (ISO 11403-2) Viscosity vs. Shear Rate (ISO 11403-2)

Physical	Nominal Value	Unit	Test Method
Density	1.04	g/cm³	ISO 1183
Melt Mass-Flow Rate (MFR) (220°C/10.0 kg)	6.0	g/10 min	ISO 1133
Molding Shrinkage	0.40 to 0.60	%	Internal Method
Water Absorption (23°C, 24 hr)	0.30	%	ASTM D570

Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (R-Scale)	110		ISO 2039-2
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Strength [1]	43.0	MPa	ASTM D638
Tensile Elongation [2] (Break)	45	%	ASTM D638
Flexural Modulus [3]	2300	MPa	ASTM D790
Flexural Strength [4]	65.0	MPa	ASTM D790
Impact	**Nominal Value**	**Unit**	**Test Method**
Charpy Notched Impact Strength (23°C)	12	kJ/m²	DIN 53453
Charpy Unnotched Impact Strength			DIN 53453
-40°C	No Break		
23°C	No Break		
Notched Izod Impact			
-40°C, 3.20 mm	100	J/m	ISO 180/4A
-20°C, 3.20 mm	130	J/m	ISO 180/4A
0°C, 3.20 mm	170	J/m	ISO 180/4A
23°C, 3.20 mm	200	J/m	ISO 180/4A
-40°C [5]	9.0	kJ/m²	ISO 180/1A
23°C [6]	17	kJ/m²	ISO 180/1A
Thermal	**Nominal Value**	**Unit**	**Test Method**
Deflection Temperature Under Load (1.8 MPa, Annealed)	108	°C	ASTM D648
Vicat Softening Temperature			
--	114	°C	ISO 306/A120
--	108	°C	ISO 306/B120
CLTE - Flow	9.0E-5	cm/cm/°C	ASTM D696
Thermal Conductivity	0.17	W/m/K	ASTM C177
Electrical	**Nominal Value**	**Unit**	**Test Method**
Surface Resistivity	1.0E+14	ohms	IEC 60093
Volume Resistivity	1.0E+15	ohms·cm	IEC 60093
Electric Strength	30	kV/mm	IEC 60243-1
Dielectric Constant (1 kHz)	3.10		IEC 60250
Dissipation Factor (1 kHz)	0.015		IEC 60250
Flammability	**Nominal Value**	**Unit**	**Test Method**
Flame Rating (1.50 mm)	HB		UL 94
Glow Wire Ignition Temperature (3.00 mm)	650	°C	IEC 60695-2-13
Additional Information	**Nominal Value**		
Designation	Thermoplastic ISO 2580-ABS 1,MGN,105-08-16-20		
Injection	**Nominal Value**	**Unit**	
Drying Temperature	80.0	°C	
Drying Time	2.0 to 4.0	hr	
Processing (Melt) Temp	230 to 270	°C	

Mold Temperature	40.0 to 70.0	°C
Extrusion	Nominal Value	Unit
Drying Temperature	80.0	°C
Drying Time	2.0 to 4.0	hr
Melt Temperature	190 to 230	°C
NOTE		
1.	50 mm/min	
2.	50 mm/min	
3.	2.0 mm/min	
4.	2.0 mm/min	
5.	4 mm	
6.	4 mm	

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