versalis

Technical Data Sheet

Sinkral®

ABS Resin

C 442

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

Applications

Thanks to a low Yellow Index and colour constancy, it is suitable for self-colouring, 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.

Typical processing data

Injection moulding:
- pre-drying required at 80°C for 2 - 4 hr in an air circulating oven
- melt temperature 230 - 270°C
- mould temperature 40 - 70°C

General information

Grade available either in natural or coloured versions.

Extrusion:
- if no venting, pre-drying required at 80°C for 2 - 4hr in air circulating oven
- melt temperature 190 - 230°C

Sinkral®

ABS Resin

C 442

Properties	Test conditions	Test methods	Units	Values
General				
Density		ISO 1183	g/cm³	1.04
Water absorption	24 h / 23°C	ASTM D 570	%	0.3
Rheological				
Melt flow rate (MFR)	220°C - 10 kg	ISO 1133	g/10 min	6
Mechanical				
Tensile strength	50 mm/min	ASTM D 638	MPa	43
Strain at break	50 mm/min	ASTM D 638	%	45
Flexural strength	2 mm/min	ASTM D 790	MPa	65
Flexural modulus	2 mm/min	ASTM D 790	MPa	2300
Izod impact strength, notched	+23°C - thickness 3.2 mm	ISO 180/4A	J/m	200
	0°C - thickness 3.2 mm	ISO 180/4A	J/m	165
	-20°C - thickness 3.2 mm	ISO 180/4A	J/m	125
	-40°C - thickness 3.2 mm	ISO 180/4A	J/m	100
	+23°C - thickness 4,0 mm	ISO 180/1A	kJ/m²	17
	-40°C - thickness 4,0 mm	ISO 180/1A	kJ/m²	9
Charpy impact strength, notched	+23°C	DIN 53453	kJ/m²	12
unnotched	+23°C	DIN 53453	kJ/m²	NB
unnotched	-40°C	DIN 53453	kJ/m²	NB
Rockwell hardness	scale R	ISO 2039/2	-	R110
Thermal				
Vicat softening temperature	10 N - 120°C/h	ISO 306/A 120	°C	114
	50 N - 120°C/h	ISO 306/B 120	°C	108
Deflection temperature under load (annealed)	1.8 MPa - 120°C/h	ASTM D 648	°C	108
Coefficient of linear thermal expansion		ASTM D 696	10^{-5}/°C	9
Thermal conductivity		ASTM C 177	W/(K· m)	0.17
Moulding shrinkage		internal method	%	0.4 - 0.6
Flammability				
Flame behaviour	thickness 1.5 mm	UL 94	class	HB
Glow wire test (GWT)	thickness 3,0 mm	IEC 60695-2-1	°C	650
Electrical				
Surface resistivity	dry	IEC 60093	ohm	10E14
Volume resistivity	dry	IEC 60093	ohm·cm	10E15
Dielectric strength	dry	IEC 60243	kV/mm	30
Dielectric constant (relative permittivity)	1000 Hz - dry	IEC 60250	-	3.1
Dissipation factor	1000 Hz - dry	IEC 60250	-	15·10E-3