HUNTSMAN

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Advanced Materials

XB 5720 CI Resin
XB 5729 CI Hardener

Encapsulation systems

Optimally filled casting resin system with good impregnation capability for processing and curing at room temperatures or slightly elevated temperatures

Applications

Light starters, switches

Processing methods

Atmospheric or Vacuum casting

Properties

Very good thermal shock resistance
Very good thermal endurance
Flammability : UL 94 approval V0 for 4 mm thick layer

	Prefilled epoxy resin			
XB 5720 Cl Resin	Viscosity	at 25°C	mPa s	9 000 – 17 000
	(by Brookfield viscometer)			
	Specific gravity	at 25°C	g/cm³	ca. 1.7
	Flash point	DIN 51 758	°C	>200
	Hazardous decomposition products		Carbon monoxide, carbon dioxide and other toxic gases and vapours if burned	
	Disposal		Regular procedures approved by national and/or local authorities	

	Low-viscosity hardener			
XB 5729 Cl Hardener	Viscosity	at 25°C	mPa s	100 – 250
	(by brookfield viscometer)			
	Specific gravity	at 25°C	g/cm³	ca. 1.0
	Flash point	DIN 51 758	°C	ca. 160
	Hazardous decomposition products		Carbon monoxide, carbon dioxide and other toxic gases and vapours if burned	
	Disposal		Regular procedures approved by national and/or local authorities	

Storage

Store the components in a dry place at 18-25°C, in tightly sealed original containers. Under these conditions, the shelf life will correspond to the expiry date stated on the label. After this date, the product may be processed only after reanalysis. Partly emptied containers should be tightly closed immediately after use.
For information on waste disposal and hazardous products of decomposition in the event of a fire, refer to the Material Safety Data Sheets (MSDS) for these particular products.

Processing (guideline values)

The ARALDITE resin component should be stirred and homogenized in the original container before use.

The ARALDITE casting mix is best prepared by heating the ARALDITE resin up to 40-50°C before stirring in the hardener. Brief degassing of the mix under 5-10 mbar vacuum improves the mixture homogeneity and enhances the dielectric properties of the castings.

Mix Ratio and Processing data

Mix Ratio		pbw	100 : 12
		pbv	100 : 20.4
Initial Mix viscosity	25°C	mPa.s	ca. 3,900
	45 °C	mPa.s	ca. 780
Geltime (Gelnorm)	60°C	min	ca. 16

Mechanical and Physical properties

Determined on standard test specimens at 23°C, cured for 24 h/RT + 6 h/60°C

Colour of castings				Green
Specific gravity	at 25°C	DIN 55 990	g/cm^3	ca. 1.63
Shore D hardness (4 mm plate)	at 25°C	DIN 53 505		ca. 90
Tensile strength	at 25 °C	ISO 527T2/93	MPa	ca. 56
Elongation at break	at 25° C	ISO 527T2/93	%	ca. 1.1
E modulus	at 25 °C	ISO 527T2/93	MPa	ca. 8450
Glass transition temperature		TA STAR	°C	ca. 58
Coefficient of linear thermal expansion		DIN 53 752/80	ppm/K	ca. 52.25
Thermal conductivity		ISO 8894/90	W/mK	ca. 0.78
Water absorption				
1 day	at 23°C	ISO 63/80	%	ca. 0.08
30 min	at 100°C	ISO 62/80	%	ca. 0.4
Electric strength 2 mm plate	at 23°C	IEC 243-1	kV/mm	ca. 25
Flammability		UL 94	V-0	4 mm

Remarks

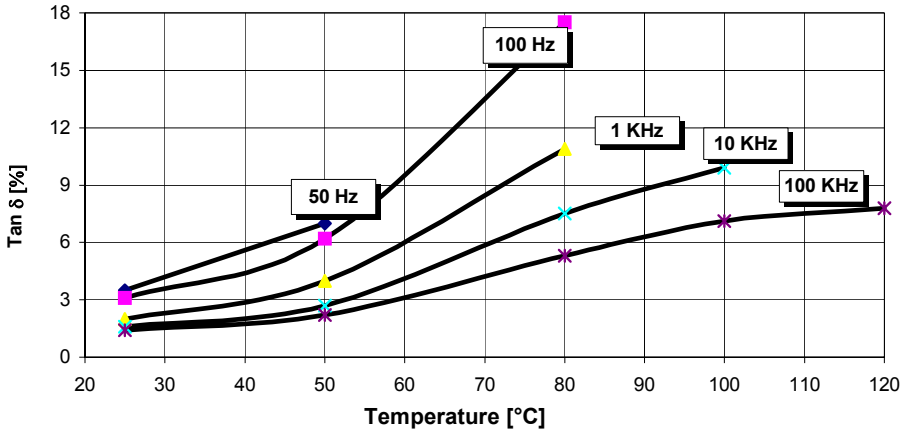
To determine whether cross-linking has been carried to completion and the final properties are optimal, it is necessary to carry out relevant measurements on the actual object or to measure the glass transition temperature. Different gelling and cure cycles in the customer's manufacturing process could lead to a different degree of cross linking and thus a different glass transition temperature..

System tested:
XB 5720 CI Resin / XB 5729 CI Hardener
Mix ratio: 100 / 12 pbw

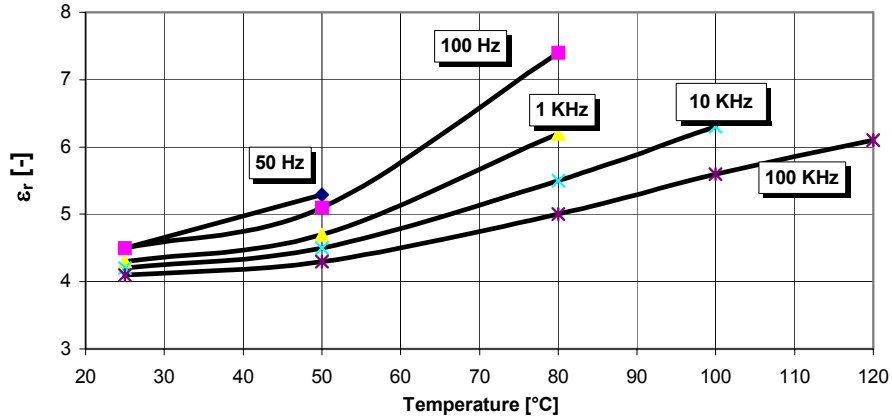
Guideline values determined on standard test specimens
cured for 24 h/ RT + 6 h/60°C

Electrical Properties

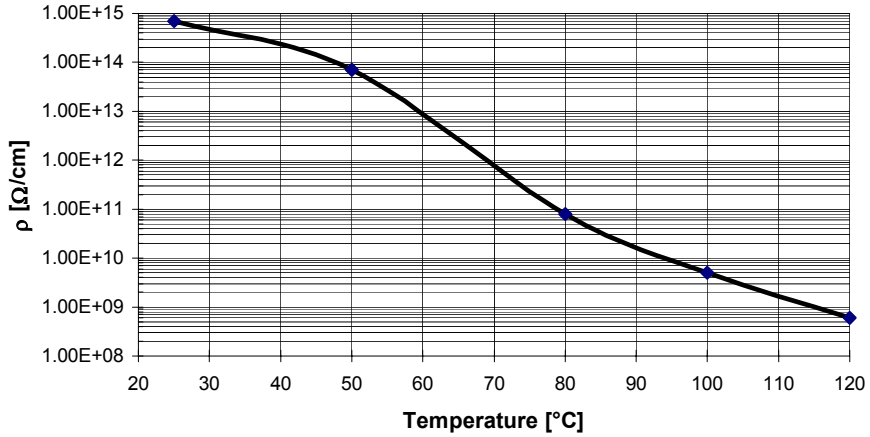
Loss factor tan δ vs temperature (DIN 53483)



Dielectric constant ε_r vs temperature (DIN 53483)



Specific volume resistivity ρ vs temperature (DIN 53482)



Legal Notice

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