Filled ®Araldite casting resin system

Araldite CW 2243 L	100 pbw
Hardener HY 842	20 pbw

Optimally filled casting system for processing and curing at room temperature or slightly higher temperatures

Applications

Small transformers
(line transformers, switch-mode, coils, chokes)

Processing

Casting/vacuum casting

Properties

Flexible castings with good thermal ageing stability
Good thermal shock resistance
Flammability: UL 94 approval (V-0 for 6 mm thick layer)

(Average values)

Araldite CW 2243 L

Modified, solvent-free epoxy resin with inorganic filler

Viscosity at 25 °C	mPa s	c. 10 000
Density at 25 °C	g/cm³	1.63
Flash point (DIN 51 758)	°C	> 177
Filler content	%	59
As-supplied form	highly-viscous, filled ivory-like liquid[1]	
Shelf life at 18–25 °C	See expiry date on original container (at least 4 months)	
Odour	yes	
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	

[1] Araldite CW 2243 L is also available coloured blue and grey

Hardener HY 842

Modified hardener based on polyaminoamide

Viscosity at 25 °C (Hoeppler)	mPa s	c. 750
Density at 25 °C	g/cm³	0.95
Flash point (DIN 51 758)	°C	155–166
As-supplied form	brown liquid	
Shelf life at 18–25 °C	See expiry date on original container (at least 1 year)	
Odour	yes	
Hazardous decomposition products	Carbon monoxide, carbon dioxide and nitric oxides if burned	
Disposal	Regular procedures approved by national and/or local authorities	

Storage

The products described in this instruction sheet should be stored in a dry place and, whenever possible, in the tightly closed original containers. Under these conditions their shelf lives will be as shown above.
Since fillers tend to settle out, pre-filled products are best stored at temperatures of 15–20 °C.

Because of the tendency to sedimentation of the filler, pre-filled components in principle require stirring before removal from the original containers. To avoid errors in dosage this step is especially important when removing only part of the contents.
Highly-filled components are heated to 60–80 °C in the original container (e.g. overnight in an oven), to facilitate stirring and removal.
In preparing the casting mixture, the hardener component is thoroughly stirred into the preferably to 40–50 °C preheated resin component. Brief degasing of the casting mix under a vacuum of 5 to 10 mbar improves homogeneity as well as the dielectric properties of the casting.

Mix ratio

Araldite CW 2243 L	parts by weight	100
Hardener HY 842	parts by weight	20

Processing data

(average values)

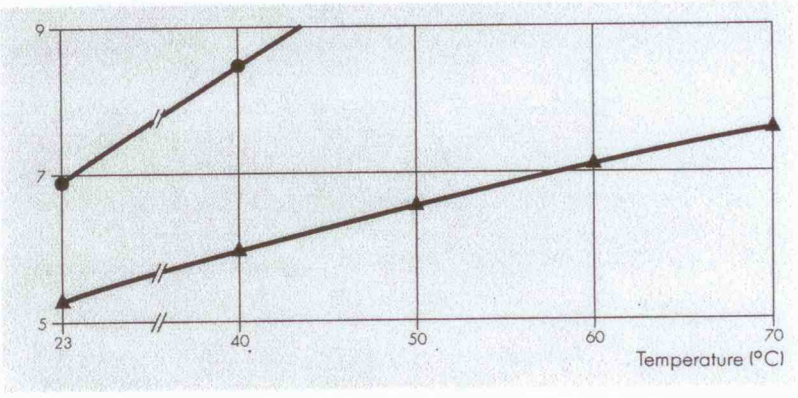
Initial viscosity (Hoeppler)	mPa s	25 °C	2740
		40 °C	910
Time to double initial viscosity (Hoeppler)	min	25 °C	45
		40 °C	20
Pot life to 15 000 mPa s (Hoeppler)	min	25 °C	157
		40 °C	93
Minimum cure time	h	25 °C	⩾ 48
		40 °C	16
		60 °C	8

After-cure properties

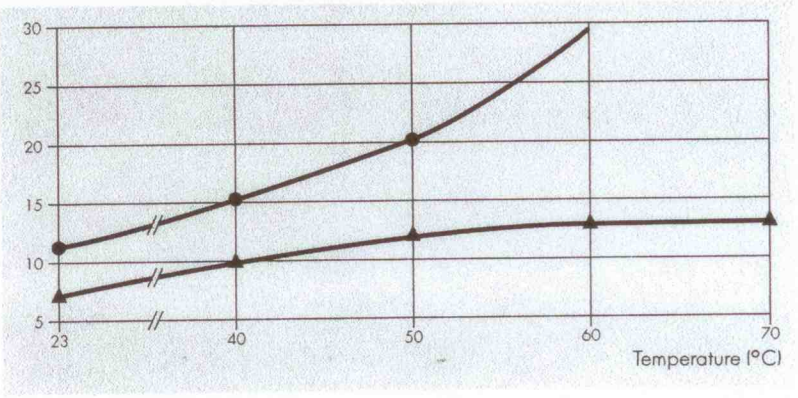
Average values determined on standard test specimens cured for 24 h/25 °C + 6 h/60 °C

Colour of casting				grey
Density	25 °C	DIN 55 990	g/cm³	1.50
Shore D hardness (4 mm plate)	25 °C	DIN 53 505		39
Glass transition temperature/Tg midpoint (DSC, Mettler TA 3000)			°C	5
Tensile strength				
max. tensile stress	25 °C	ISO/R 527	N/mm²	6
elongation	25 °C	ISO/R 527	%	22
Elastic modulus from tensile test	25 °C	ISO/R 527	N/mm²	26
Combustibility		UL 94	stage	V-0 (6 mm)
Water absorption				
1 day at	23 °C	ISO 62	%	0.58
30 min at	100 °C	ISO 62	%	0.78
Coefficient of linear thermal expansion	24–105 °C	DIN 53 752	K^{-1}	$120 \cdot 10^{-6}$
Thermal conductivity	23 °C	DIN 52 612	W/mK	0.58
Electrolytic corrosion		DIN 53 489	grade	AN/1.4
Tracking resistance		IEC 112		CTI > 600–0.1
Electric strength				
20 s value for 2 mm plate (50 Hz)	23 °C	IEC 243	kV/mm	16

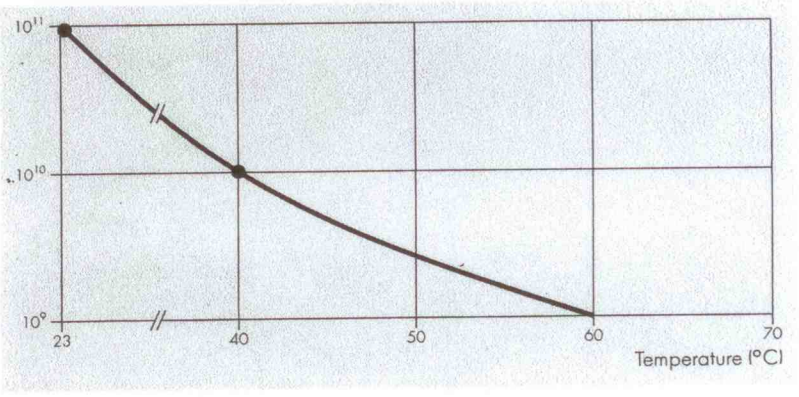
Dielectric constant ε_r (DIN 53 483)



Dissipation factor tan δ (%) (DIN 53 483)



Specific volume resistance ρ (Ω cm) (DIN 53 482)



Handling precautions

Mandatory and recommended industrial hygiene procedures should be followed whenever our products are being handled and processed. For additional information please consult the corresponding product safety data sheets and the brochure "Hygienic precautions for handling plastics products of Ciba-Geigy" (Publication No. 24 264/e).

Personal hygiene

Safety precautions at workplace:	
protective clothing	yes
gloves	essential
arm protectors	recommended when skin contact likely
goggles/safety glasses	yes
respirator/dust mask	no
Skin protection:	
before starting work	Apply barrier cream to exposed skin
after washing	Apply barrier or nourishing cream
Cleansing of contaminated skin	Dab off with absorbent paper, wash with warm water and alkali-free soap, then dry with disposable towels. Do not use solvents.
Clean shop requirements	Cover workbenches, etc. with light coloured paper. Use disposable beakers, etc.
Disposal of spillage	Soak up with sawdust or cotton waste and deposit in plastic-lined bin
Ventilation:	
of workshop	Renew air 3 to 5 times an hour
of workplaces	Exhaust fans. Operatives should avoid inhaling vapours

First aid

Contamination of the **eyes** by resin, hardener or mix should be treated immediately by flushing with clean, running water for 10 to 15 minutes. A doctor should then be consulted.

Material smeared or splashed on the **skin** should be dabbed off, and the contaminated area then washed and treated with a cleansing cream (see above). A doctor should be consulted in the event of severe irritation or burns. Contaminated clothing should be changed immediately.

Anyone taken ill after **inhaling** vapours should be moved out of doors immediately.

In all cases of doubt call for medical assistance.