

# Araldite<sup>®</sup> Casting System

<b>Araldite<sup>®</sup> CW 2243-2 L Blue</b>	<b>Resin</b>	<b>100</b>	<b>pbw</b>
<b>Aradur<sup>®</sup> HY 1872</b>	<b>Hardener</b>	<b>22</b>	<b>pbw</b>

**Optimally filled casting system for processing and curing at slightly higher temperatures. Flexible castings with good thermal aging stability.**

## **Application**

Voltage regulators  
Suppressor chokes  
Proximity switches  
Ferrite core transformers

## **Processing methods**

Casting; vacuum casting

## **Key Properties**

Low viscosity  
Long pot life  
High flexibility after cure  
Very good thermal aging resistance

## Product Data (Guideline Values)

### **Araldit CW 2243-2 L Blue**

Modified, solvent free epoxy with inorganic filler

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Viscosity at 25°C	ISO 2555	mPa*s	8000
Specific Gravity at 25°C	ISO 1675	g/cm <sup>3</sup>	1.61
Flash point	ISO 1523	°C	> 177

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### **Aradur HY 1872**

Liquid Amine-type hardener

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Viscosity at 25°C	ISO 2555	mPa*s	150
Specific Gravity at 25°C	DIN 53217	g/cm <sup>3</sup>	0.95
Flash point	ISO 1523	°C	> 100

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## Processing Data (Guideline Values)

### Mix Ratio

		Parts by weight	Parts by volume
CW 2243-2 L	Resin	100	
HY 1872	Hardener	22	

### Gel Time, Viscosity and Curing

Mix Viscosity at 25°C	CW 2243-2 L / HY 1872	Rheomat	mPa*s	4400
Mix Viscosity at 60°C			mPa*s	560
Gel time at 60°C	CW 2243-2 L / HY 1872	Gelnorm	min	110
Gel time at 80°C			min	35
Pot life at 60°C	CW 2243-2 L / HY 1872	Time to reach 15000 mPa*s	min	46
Minimum Curing Cycle		2 hours at 80°C		

## Processing and Storage (Guideline Values)

### Preparation

CW 2243-2 L contains fillers, which tend to settle over time. It is therefore recommended to carefully homogenize the complete contents of the container before use.

In the storage vessels of the production equipment, the pre-filled products should be stirred up from time to time to avoid sedimentation and irregular metering.

### Mixing

The casting mix is best prepared by heating the 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.

### Curing

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 gel 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.

### Storage Conditions

Store the components in a dry place at RT, 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.

## Mechanical and Physical Properties (Guideline Values)

Determined on standard test specimen at 23°C. Cured for 2 hours at 80°C

Color of Casting			Blue
Glass transition temperature	ISO 6721	°C	8
Modulus in Torsion (G')	ISO 6721	MPa	15.5
Tensile strength	ISO 527	MPa	3.5
Elongation at break	ISO 527	%	26
Elastic Modulus	ISO 527	MPa	18
Thermal linear coefficient	ISO 11359-2		
Alpha 1		ppm/K	44
Alpha 2			143
Hardness	DIN 53505	Shore A / D	70 / 20
Thermal Conductivity	ISO 8894	W/mK	0.53
Tear Growth Resistance	DIN 53356	N/mm	2.24
Water absorption	ISO 62/80		
1 days at 23°C		% by wt.	0.67
30 min at 100°C			0.63

## Electrical Properties (Guideline Values)

Determined on standard test specimen at 23°C. Cured for 2 hours at 80°C

Dielectric strength (3 mm specimen)	IEC 60243-1	kV/mm	22.2
Dielectric loss factor (tan $\delta$ , 50Hz, 25°C)	IEC 60250	%	14.2
Dielectric constant ( $\epsilon_r$ , 50Hz, 25°C)	IEC 60250		7.7
Volume resistivity ( $\rho$ , 25°C)	IEC 60093	$\Omega$ cm	$1.3 \times 10^{11}$
Electrolytic corrosion	IEC 60426	grade	B-1.6
Tracking resistance	IEC 60112	CTI	> 600 M-0.1

## Industrial Hygiene

Mandatory and recommended industrial hygiene procedures should be followed whenever our products are being handled and processed. For additional information please consult the corresponding Safety Data Sheets and the brochure "Hygienic precautions for handling plastics products".

### Handling Precautions

Safety precautions at workplace:

protective clothing  
gloves  
arm protectors  
goggles/safety glasses  
respirator/dust mask

Yes.  
Essential.  
Recommended when skin contact likely.  
Yes.  
Recommended.

Skin protection:  
before starting work  
after washing

Apply barrier cream to exposed skin.  
Apply barrier or nourishing cream.

Cleaning 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  
of workplace

Renew air 3 to 5 times an hour.  
Exhaust fans. Operatives should avoid inhaling vapors.

### First Aid

Contamination of the **eyes** by resin, hardener or casting 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.

### Note

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