

# Araldite<sup>®</sup> Casting System

<b>Araldite<sup>®</sup> CW 2243-2 L</b>	<b>Resin</b>	<b>100</b>	<b>pbw</b>
<b>Aradur<sup>®</sup> HY 842</b>	<b>Hardener</b>	<b>20</b>	<b>pbw</b>

Optimally filled casting system for processing and curing at slightly higher temperatures.

## Application

Small transformers  
Suppressor chokes

## Processing methods

Casting; vacuum casting

## Key Properties

Low viscosity  
Flexible castings  
Good thermal shock resistance  
Flammability: UL 94 V-0 (6 mm).

## 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	4000 – 12000*
Specific Gravity at 20°C	ISO 2811-3	g/cm <sup>3</sup>	1.59 – 1.64*
Appearance			Blue viscous liquid*

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### **Aradur HY 842**

Low-viscosity polyamidoamine

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Viscosity at 25°C	ISO 3219	mPa*s	400 – 700*
Specific Gravity at 20°C	DIN 51757	g/cm <sup>3</sup>	0.956
Appearance			Clear, yellow-brown liquid*

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\*Specified range

## Processing Data (Guideline Values)

### Mix Ratio

		Parts by weight	Parts by volume	
CW 2243-2 L	Resin	100		
HY 842	Hardener	20		

### Gel Time, Viscosity and Curing

Mix Viscosity at 25°C	CW 2243-2 L / HY 842		mPa*s	2600
Mix Viscosity at 40°C			mPa*s	1100
Gel time at 25°C	CW 2243-2 L / HY 842	Gelnorm	min	300
Gel time at 40°C			min	180
Gel time at 60°C			min	60
Pot life at 25°C	CW 2243-2 L / HY 842	Time to reach 15000 mPa*s	min	180
Pot life at 40°C			min	120
Minimum Curing Cycle		24 hours at RT or 6 hrs at 60°C		

\*Specified range

# 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 24h/RT + 6h/60°C

Glass transition temperature	ISO 6721	°C		22
Shear modulus G'	ISO 6721	MPa		43
Tensile modulus	ISO 527	MPa		18
Tensile strength	ISO 527	MPa		4
Elongation at break	ISO 527	%		27
Thermal linear coefficient	ISO 11359-2			
Alpha 1		ppm/K		86
Alpha 2				143
Thermal conductivity	ISO 8894-1	W/mK		0.6
Hardness	DIN 53505	Shore D		41
Flammability	UL 94		E 96722	V-0 (6 mm)
Test of fire reaction	NF F 16-102		Classification	F1/I3 (≥19 mm)
Water absorption	ISO 62/80			
1 day at 23°C		% by wt.		0.22
30 min at 100°C				0.6

## Electrical Properties (Guideline Values)

Determined on standard test specimen at 23°C. Cured for 24h/RT + 6h/60°C

Dielectric strength (2 mm specimen)	IEC 60243-1	kV/mm		23
Dielectric loss factor (tan δ, 50Hz, 25°C)	IEC 60250	%		14
Dielectric constant (ε <sub>r</sub> , 50Hz, 25°C)	IEC 60250			7
Volume resistivity (ρ, 25°C)	IEC 60093	Ω cm		10 <sup>11</sup>
Tracking resistance CTI	IEC 60112	grade		> 600
Electrolytic corrosion	IEC 60426	grade		AB/1.4

# 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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