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® Araldite Casting Resin System

<b>Araldite</b>	<b>CW 2122</b>	<b>100 pbw</b>
<b>Aradur</b>	<b>HY 2901-1</b>	<b>100 pbw</b>

**Optimally filled casting system with good impregnating capability for processing and curing at high temperatures**

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Pressure sensitive components (inductances with ferrite cores)

**Applications**

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Casting / Vacuum casting

**Processing**

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Flexible castings with good thermal ageing stability  
Excellent dielectric properties as a function of temperature  
Good thermal shock resistance ranging from -40°C to +120°C  
Flammability: UL 94 approval V.0 1.6 mm

**Properties**

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**Edition:** July 2003  
Replaces edition: March 2003

# Product data

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(Guideline values)

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<b>Araldite CW 2122</b>	Modified, solvent free epoxy resin with inorganic filler			
Viscosity	at 25°C	mPa s	ca. 35 000	
Specific gravity	at 25°C	g/cm <sup>3</sup>	1.68	
Flash point		ISO 1523 °C	>150	
Filler content		%	58	
As supplied form	Filled, highly viscous red brown liquid			
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			

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<b>Aradur HY 2901-1</b>	Medium viscous, modified prefilled anhydride hardener			
Viscosity	at 25°C	mPa s	ca. 5000	
Density	at 25°C	g/cm <sup>3</sup>	1.21	
Flash point		ISO 1523 °C	151	
As supplied form	Ivory coloured liquid			
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			

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**Remarks** Prefilled liquid products always show little filler sedimentation. We recommend to stir up carefully the components before use and to use each container as complete unit.

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**Storage** Store the components in a dry place at 18-25°C, in the 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 following 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 fire, refer to the Material Safety Data Sheets (MSDS) for these particular products.

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# Processing

Because of the tendency to sedimentation 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.

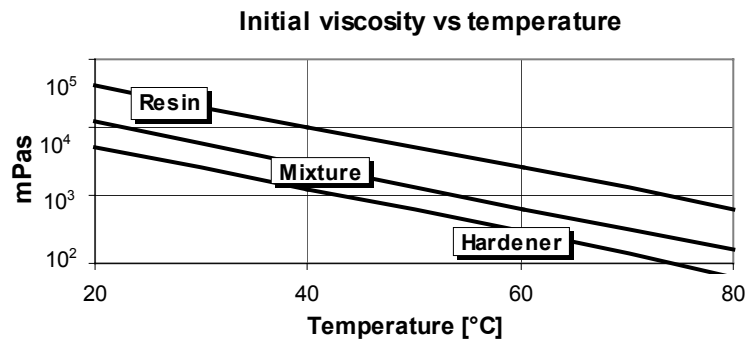
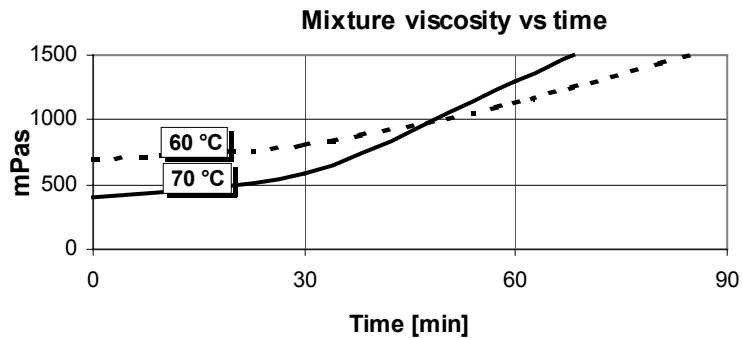
To facilitate stirring and removal, highly filled components are heated to 60-80°C in the original container (e.g. overnight in an oven).

To prepare the casting mix the resin component should be homogenized in holding tank A at 60-70°C under a vacuum of 1-5 mbar, the hardener component in holding tank B at 25-60°C and a vacuum of 1-5 mbar. A metering unit should be used to feed the resin and hardener components to an impeller mixer.

Mix ratio		parts by weight	parts by volume
Araldite CW 2122		100	100
Aradur HY 2901-1		100	135

Processing data (Guideline values)	Initial viscosity (Hoeppler)	mPa s	at 25°C	9400
			at 60°C	630
			at 70°C	360
	Time to double initial viscosity (Hoeppler)	min	at 60°C	70
			at 70°C	35
	Pot life to 15 000 mPas (Hoeppler)	h	at 60°C	4.75
			at 70°C	2.75
	Minimum curing time	h/°C	4/70 + 6/90	



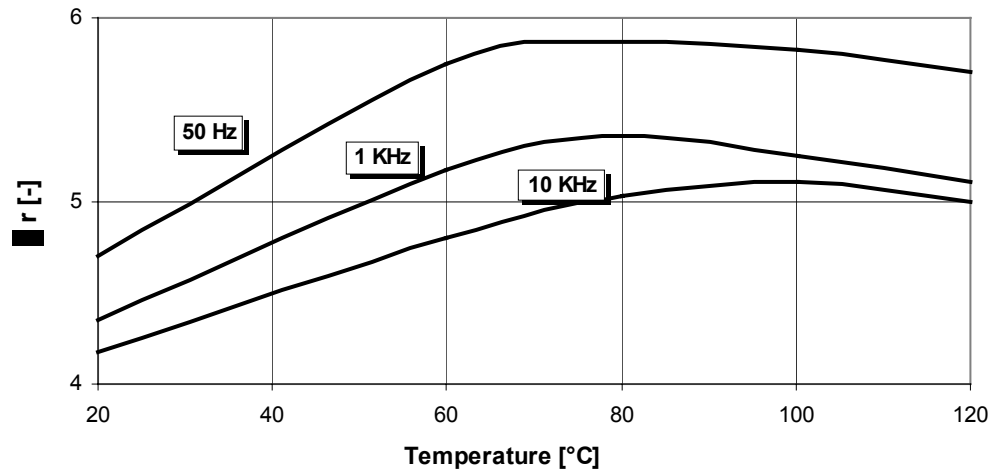
# Properties

Guideline values determined on standard test specimens cured for 4 h/70°C+6 h/90°C

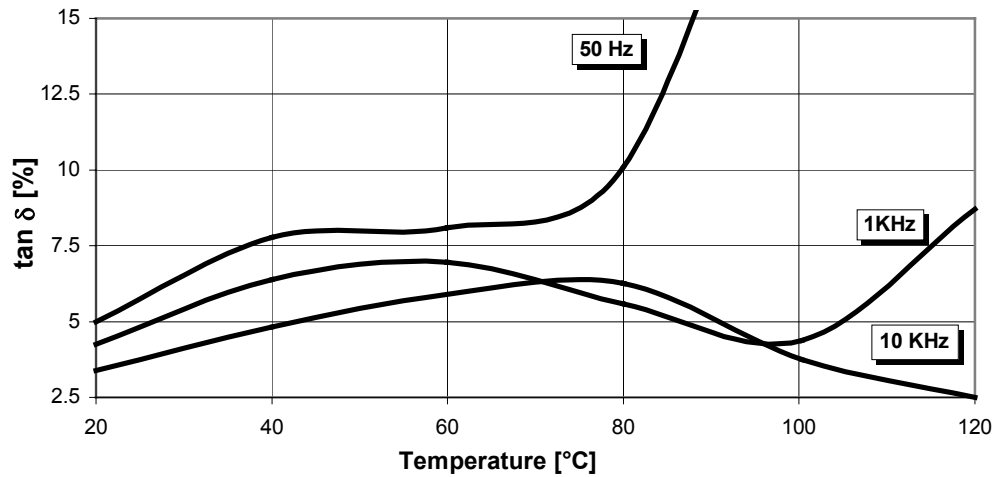
Colour of casting					red brown
Specific gravity	at 25°C	DIN 55 990	g/cm <sup>3</sup>		1.42
Shore D hardness (4 mm plate)	at 25°C	DIN 53 505			47
Shore A hardness (4 mm plate)	at 25°C	DIN 53505			96
Glass transition temperature derived from modulus in torsion (DSC, Mettler TA 3000)			°C		22
Tensile strength					
max. tensile stress	at 25°C	ISO 527	MPa		9
elongation at break	at 25°C	ISO 527	%		55
Elastic modulus in tension	at 25°C	ISO 178	MPa		90
Flammability		UL 94	grade		V-0 (1.6 mm)
Water absorption					
1 day	at 23°C	ISO 62	%		0.21
30 min	at 100°C	ISO 62	%		0.42
Coefficient of linear thermal expansion	at 24-38°C	DIN 53752	ppm/K		60-80.
	at 38-65°C	DIN 53752	ppm/K		160-175.
Thermal conductivity	at 25°C	DIN 52 612	W/mK		0.34
Electrolytic corrosion		DIN 53489	grade		A-1.2
Tracking resistance		IEC 60112			CTI>600-0.0
Electric strength					
20 s value for 1 mm plate (50 Hz)	at 23°C	IEC 60243	kV/mm		25

# Properties

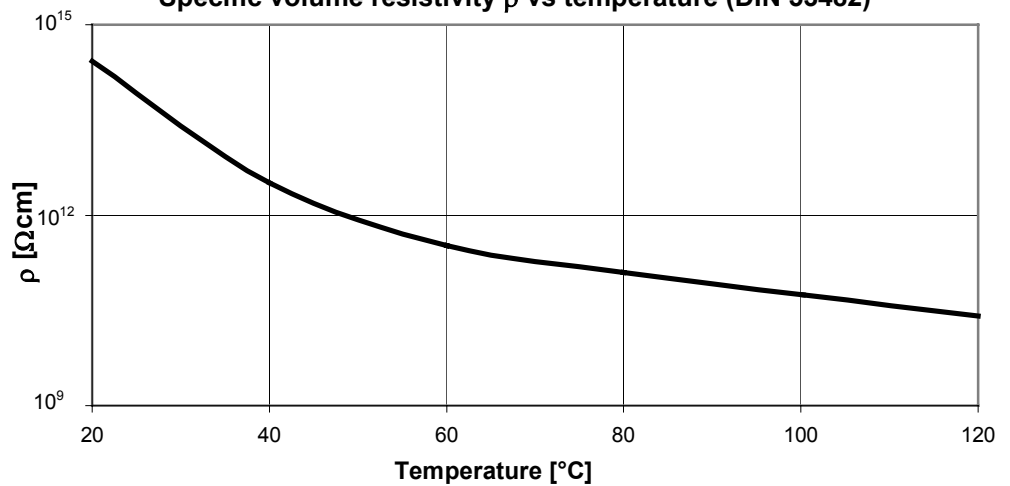
Dielectric constant  $\epsilon_r$  vs temperature (DIN 53483)



Loss factor  $\tan \delta$  vs temperature (DIN 53483)



Specific volume resistivity  $\rho$  vs temperature (DIN 53482)



# Industrial hygiene

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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 of Huntsman" (Publ. No. 24264/e).

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## Handling precautions

Safety precautions at workplace:	
protective clothing	yes
gloves	essential
arm protectors	recommended when skin contact likely
goggles/safety glasses	yes
respirator/dust mask	recommended
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 workplace	Exhaust fans. Operatives should avoid inhaling vapours.

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## 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.

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