

Encapsulating

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Araldite Epoxy Casting System

## **Araldite® CW 2245LC Resin Hardener HY 956**

**UL rated, flame retardant, epoxy based casting system for processing and curing at room temperature.**

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**Applications**                      Transformers, filters, capacitors etc.

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**Processing Methods**            Casting / Impregnating  
Manually or with automatic mixing and dosing equipment

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**Properties**

- Low shrinkage on curing
- Good thermal conductivity
- Good temperature and shock resistance
- Flammability: UL 94 approval (V-0 for 4mm thick layer)

## Product data

(guideline values)

<b>Resin (Containing mineral filler)</b>				
<b>Araldite CW 2245LC</b>	Viscosity	at 25°C c.26000	mPa.s	
	Specific gravity	at 25°C	g/cm <sup>3</sup>	1.65
	Flash point		°C	190-200
As supplied form	White high viscosity liquid			
Hazardous decomposition products and gases and vapours if burned	Carbon monoxide, carbon dioxide other toxic			
Disposal national	Regular procedures approved by and/or local authorities			

<b>Hardener</b>				
<b>Hardener HY 956</b>	Viscosity	at 25°C	mPa.s	c.450
	Specific gravity	at 25°C	g/cm <sup>3</sup>	1.02
	Flash point		°C	>175-185
As-supplied form	Clear, pale, yellow liquid			
Hazardous decomposition products and burned	Carbon monoxide, carbon dioxide other toxic gases and vapours if			
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 and end properties

Mix Ratio		Parts by weight	Parts by volume
	Araldite CW 2245LC	Resin	100
	HY 956	Hardener	9
			14

Processing Data (guideline values)	Mixed System: (average values)		
	Viscosity	25°	mPa.s
		40°C	9000
			c.3000
	Pot life (100ml) mPa. s	25°C	min
		60°C	70
			15
	Minimum Curing cycle		24h at 25°C or 12h at 40°C or 6h at 60°C
	Peak exotherm (500ml)		100°C (after 80 min.)

**Araldite CW 2245LC 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.**

Mechanical and Physical Properties (guideline values)	Cured System:		
	Determined on standard test specimen at 25°C. Cured for 7 days/25°C		
	Specific gravity	g/cm <sup>3</sup>	1.55
	Glass transition temperature	°C	59
	Martens heat distortion temp.	°C	54
	Tensile strength	Mpa	37.7
	Coefficient of thermal expansion	K <sup>-1</sup>	56.4x10 <sup>-6</sup>
	Modulus of Elasticity	Mpa	5.7 x10 <sup>3</sup>
	Water absorption (specimen: 50x50x4mm)	ISO 62	
	1 days at 23°C	% by wt	0.17
	30 min at 100°C		0.23
	Thermal conductivity (23°C)	W/mK	0.67
	Flammability (UL 94)	grade	V-0

Electrical Properties (guideline values)	Determined on standard test specimen at 25°C. Cured for 7 days/25°C		
	Dielectric strength (@ 50HZ, 25°C)	kV/mm	23.9
	Dielectric constant (ε <sub>r</sub> , 50Hz)	23°C	6.3
		35°C	7.1
	Vol. resistivity (r, 50Hz) 25°C	Ohms/cm	3.3x 10 <sup>14</sup>
	40°C		3.6x 10 <sup>13</sup>
	Tracking resistance	grade	CTI>600
	Electrolytic corrosion	grade	A/1.2
	Dissipation factor tan (%)	23°C	14.7

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.

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**Handling precautions**

Araldite CW 2245LC and Hardener HY 956 have been formulated with the objective of being as safe as possible, however, in common with most epoxy resins and hardeners, consistent skin contact with uncured materials may cause irritation of sensitive skins. For this reason contact with the uncured materials should be avoided at all times.

**Caution**

Vantico Pty Limited products are generally quite harmless to handle provided that certain precautions normally taken when handling chemicals are observed. The uncured materials must not, for instance, be allowed to come into contact with foodstuffs or food utensils, and measures should also be taken to prevent the uncured materials from coming into contact with skin, since people with particularly sensitive skin may be affected. The wearing of impervious rubber or plastic gloves will normally be necessary; likewise the use of eye protection. The skin should be thoroughly cleansed at the end of each working period by washing with soap and warm water. The use of solvents is to be avoided. Disposable paper - not cloth towels - should be used to dry the skin. Adequate ventilation of the working area is recommended. These precautions are described in greater detail in Vantico Pty Limited Publication No. 24264/3/e Hygienic precautions for handling plastic products of Vantico Pty Limited and in the Vantico Pty Limited Material Safety Data sheets for the individual products. These publications are available on request and should be referred to for fuller information.

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**First Aid**

- If the material enters eyes, flood with water for at least 15 minutes, then consult a doctor.
- If skin rashes or allergic responses (such as wheezing, swelling) occur, consult a doctor.
- If swallowed, **DO NOT** induce vomiting. Drink copious amounts of water and contact a doctor or the Poisons Information Centre.

If more specific information on toxicity and safe handling is required, the following publications are available from Vantico on request.

Material Safety Data Sheet

"Epoxy Resins - Instructions for Use, Handling and Disposal"

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