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Advanced Materials

Araldite® CW 2243-2 L	**100**	**pbw**
Aradur® HY 842	**20**	**pbw**

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)

Araldite® CW 2243-2 L Blue

Modified, solvent free epoxy resin containing an inorganic filler.

Viscosity at 25°C	ISO 2555	mPa*s	4000 – 12000*
Specific gravity at 20°C	ISO 2811	g/cm³	1.610 – 1.650*
Appearance	Visual		Blue, viscous liquid*

Aradur® HY 842

Low-viscosity polyamidoamine.

Viscosity at 25°C	ISO 3219	mPa*s	400 – 700*
Specific gravity at 20°C	DIN 51757	g/cm³	0.95
Appearance	Visual		Clear liquid*

*Specified range

Processing Data (Guideline Values)

Mix Ratio

		Parts by weight	Parts by volume
CW 2243-2 L	Resin	100	100
HY 842	Hardener	20	34

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 2243-2L 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 according to the storage conditions stated on the label 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 Alpha 2		ppm/K		86 143
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 ($\geq$19 mm)
Water absorption	ISO 62			
1 day at 23°C 30 min at 100°C		% by wt.		0.22 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 (εr, 50Hz, 25°C)	IEC 60250		7
Volume resistivity (ρ, 25°C)	IEC 60093	Ω cm	10^{11}
Tracking resistance CTI	IEC 60112	grade	> 600
Electrolytic corrosion	IEC 60426	grade	AB/1.4

Legal Notice

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