

Electrical Insulation Materials

ARALDITE Casting Resin System

- ARALDITE® DW 0131 White**
- ARALDITE® DW 0133 Red**
- ARALDITE® DW 0136 Brown**
- ARALDITE® DW 0137-1 Black**
- ARALDITE® DW 0138 Grey**
- ARALDITE® DW 0139 Red**

Colouring pastes for epoxy casting resin systems

The uniform and homogeneous colouration of filled or unfilled ARALDITE casting resin systems.

Applications

The colouring paste is preferably added to the resin and blended with it to produce a homogeneous mix.

Processing

Minor effects on the processing and end properties of a casting resin systems.

Properties

Light and heat resistant.

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Product data (guideline values)

Solvent free colouring pastes based on bisphenol A epoxy resin				
ARALDITE DW 0131 to DW 0139	Flash point	DIN 51 758	°C	>150
	Vapour pressure at 180°C		Pa	10
	Size of pigment particles		µm	≤ 50
	As supplied form	Slightly thixotropic paste		
	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		

Storage

The components have to be stored under dry conditions 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 following reanalysis. Partly emptied containers should be closed tightly 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 (guideline values)

The filled resin component should be stirred and homogenized in the original container before use.

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.

The colouring paste should normally be added to the resin component and mixed with it until a homogeneous colouration results. Prefilled, highly viscous resin components are best heated to 40-60°C to facilitate uniform dispersion of the colouring paste.

Colouration of the resin component

When pigmenting unfilled resins, the covering power of Red (DW 0133) and Brown (DW 0136) can be enhanced by adding some White (DW 0131). Depending on the amount of white added, shades ranging from pale to dark can be obtained.

Coloured resin or mixes of several colouring pastes and resins are stable for some considerable time if stored at room temperature.

As a rule, 0.5 to 5.0 parts by weight colouring paste are added to 100 parts by weight resin. Such additions up to 5% on the weight of the resin have virtually no effect on the end properties of an unmodified resin-to-hardener mix. If more than 5% colouring paste is used, the amount of hardener used will have to be increased accordingly.

Hardeners can be coloured to a limited extent (e.g. to facilitate visual control of a mixing operation) provided that

Colouration of the hardener component

- not more than 2 parts of weight are added to 100 parts by weight hardener
- the hardener and colouring paste are blended immediately to produce a homogeneous mix.

Hardener components coloured as described will remain stable at room temperature for several weeks.

When seeking to match a colour it should be kept in mind that the obtained shade will depend on the thickness of the epoxy insulation, the resin / hardener system utilized, the type and amount of filler and other additives incorporated in the mix.

Colour of castings

The processing of coloured casting resin in contact with the air at temperatures of 160°C to 180°C, or prolonged postcuring at temperature above 150°C, may lead to darkening of the resin system and to undesirable changes in the colour shade of the surface of castings.

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