

Advanced Materials

Electronic
Polymers

HUNTSMAN

Encapsulating Systems

® Araldite Casting Resin System

Araldite®	DBF	100 pbw
Hardener	HY 918	65 pbw
Accelerator	DY 062	0.54 pbw

**Low viscosity casting resin system for processing
and curing at elevated temperature
High filler addition possibility.**

Encapsulation or potting of low voltage and electronic components

Applications

Casting / Impregnating

Processing

Excellent Mechanical and electrical properties

Properties

Edition: May 2004

Replaces edition: July 2003

Product data

(Guideline values)

Liquid epoxy resin modified by the addition of a plasticizer

Araldite DBF	Viscosity (Hoeppler)	at 25°C	mPa s	ca. 1500	
	Specific gravity	at 25°C	g/cm ³	1.14	
	Flash point		°C	192	
	Epoxy content		Eq/kg	4.25	
	As supplied form	Clear, pale yellow 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			

Liquid anhydride hardener

Hardener HY 918	Viscosity	at 25°C	DIN 53015	mPa s	50 - 80
	Specific gravity	at 20°C	ISO 1675	g/cm ³	1.18 – 1.24
	Flash point		DIN 51 758	°C	ca. 165
	As supplied form	Clear liquid			
	Hazardous decomposition products	Carbon oxides. Burning produces obnoxious and toxic fumes			
	Disposal	Regular procedures approved by national and/or local authorities			

Liquid tertiary amine accelerator

Accelerator DY 062	Viscosity	at 25°C	DIN 53015	mPa s	ca. 10
	Specific gravity	at 25°C	ISO 1675	g/cm ³	0.88 – 0.92
	Flash point		DIN 51758	°C	59
	As supplied form	Colorless or pale yellow 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			

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

The 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.

Mix ratios	Araldite DBF	parts by weight	100
	Hardener HY 918	parts by weight	65
	Accelerator DY 062	parts by weight	0.54

Processing data (Guideline values)	Gelttime	hours	at 80°C	3
			at 90°C	2
			at 100°C	1
	Minimum curing time		h/°C	2/80 + 1/120

Properties

Guideline values determined on standard test specimens cured for 2h/80°C + 1h/120°C

Specific gravity	DIN 55990	g/cm ³	1.42
Glass transition temperature	IEC 1006	°C	65-70
Thermal linear coefficient	DIN 53752		
	20 – 50°C	ppm/K	84
	60°C	ppm/K	90
	80°C	ppm/K	111
	90°C	ppm/K	123
Shore D hardness	DIN 53505		80
Dielectric strength	IEC 60243	kV/mm	32
Thermal conductivity	ISO 8894	W/mK	0.18
Dielectric loss factor (tan δ , 50Hz, 25°C)	IEC 60250	%	0.7
Dielectric constant (ϵ_r , 50Hz, 25°C)	IEC 60250	---	3.3
Electrolytic corrosion	IEC 60426	grade	A/1

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	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.

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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