

Light Electrical

®Araldite Casting Resin System

Araldite®	MY	757		
Araldite®	CY	223		
Hardener	HY	842		
Hardener	HY	956	EN	
Hardener	HY	1473	BD	

Casting systems for processing and curing at room temperature or slightly higher temperatures.

Low initial viscosity.

High filler addition possibility.

Encapsulating or potting of low voltage and electronic components

Applications

Casting

Processing

Good mechanical resistance

Good resistance to atmospheric and chemical degradation

Properties

Edition: May 2004

Replace edition: July 2003

Product data

(Guideline values)

Modified, low viscosity, solvent free epoxy resin

Araldite MY 757	Viscosity (Hoeppler)	at 25°C		mPa s	ca. 550
	Specific gravity	at 25°C		g/cm ³	1.2
	Flash point		DIN 51 758	°C	138
	Epoxy content			Eq/kg	5.35
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				

Modified, low viscosity, solvent free epoxy resin

Araldite CY 223	Viscosity (Hoeppler)	at 25°C		mPa s	ca. 500
	Specific gravity	at 25°C		g/cm ³	1.15
	Flash point		DIN 51 758	°C	160
	Epoxy content			Eq/kg	6.25
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				

Modified hardener based on polyamidoamine

Hardener HY 842	Viscosity (Hoeppler)	at 25°C		mPa s	ca. 750
	Specific gravity	at 25°C		g/cm ³	0.95
	Flash point		DIN 51 758	°C	155-166
As supplied form	Brown liquid				
Hazardous decomposition products	Carbon monoxide, carbon dioxide, nitrogen oxides and other toxic gases and vapours if burned				
Disposal	Regular procedures approved by national and/or local authorities				

Product data

(Guideline values)

Modified hardener based on aliphatic polyamine

Hardener HY 956 EN	Viscosity (Hoeppler)	at 25°C	mPa s	450
	Specific gravity	at 25°C	g/cm ³	1.02
	Flash point		DIN 51 758 °C	175-185
As supplied form	Clear, pale yellow or yellow liquid			
Hazardous decomposition products	Carbon monoxide, carbon dioxide, nitrogen oxides and other toxic gases and vapours if burned			
Disposal	Regular procedures approved by national and/or local authorities			

Modified hardener based on polyamidoamine

Hardener HY 1473 BD	Viscosity (Hoeppler)	at 25°C	mPa s	700
	Specific gravity	at 25°C	g/cm ³	0.98
	Flash point		DIN 51 758 °C	116-122
As supplied form	Brown liquid			
Hazardous decomposition products	Carbon monoxide, carbon dioxide, nitrogen oxides 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

Araldite MY 757 is an alternative to Araldite CY 223.

	System		1	2	3	4
Mix ratio	Araldite MY 757	parts by weight	100	100	100	–
	Araldite CY 223	parts by weight	–	–	–	100
	Hardener HY 842	parts by weight	55	–	–	–
	Hardener HY 956 EN	parts by weight	–	25	–	30
	Hardener HY 1473 BD	parts by weight	–	–	40	–

	System		1	2	3	4	
Processing data (Guideline values)	Initial viscosity (Hoeppler)	at 25°C	mPa s	497	600	647	595
		at 40°C	mPa s	209	186	243	190
	Pot life (Hoeppler)	to 1500 mPa s at 40°C	min	59	32	35	31
		to 15 000 mPa s at 25°C	min	195	94	115	90
	Minimum curing time	at 25°C	h	24-36	24	24	24
		at 40°C	h	10-12	6-10	6-10	6-10
		at 60°C	h	4-6	2-3	2-3	2-3

Properties

Guideline values determined on standard test specimens cured for 24 h/25°C + 6 /60°C

System			1	2	3	4
Shore D hardness (4 mm plate)	25°C	DIN 53 505	65	75	69	78
Glass transition temperature (DSC, Mettler TA 4 000)		DIN 51 005 °C	40	50	46	57
Tensile strength						
max. tensile stress	25°C	ISO/R 527 MPa	37	90	39	75
elongation at break	25°C	ISO/R 527 %	4	4	3	3
Elastic modulus from tensile test	25°C	ISO/R 527 MPa	1440	2988	2118	3230
Water absorption						
10 days	23°C	ISO 62 %	0.69	0.31	0.47	0.51
30 min	100°C	ISO 62 %	0.30	0.19	0.34	0.34
Dielectric constant ϵ_r (50 Hz)	23°C	DIN 53 483	3.3	3.6	3.4	3.5
	60°C		7.2	3.9	6.2	3.8
	80°C		9.2	5.8	7.9	5.1
Dissipation factor $\tan \delta$ (50 Hz)	23°C	DIN 53 483 %	2.2	0.4	1.1	0.4
	60°C		19.6	0.9	14.7	0.8
	80°C		–	12.7	–	9.4
Volume resistivity ρ	23°C	DIN 53 482 $\Omega \cdot \text{cm}$	7×10^{14}	2×10^{16}	2×10^{15}	1×10^{16}
	60°C		5×10^{10}	6×10^{13}	2×10^{11}	1×10^{14}
	80°C		2×10^9	1×10^{11}	9×10^9	4×10^{11}
Electrolytic corrosion		DIN 53 489 grade	A-1	A-1	A-1	A-1
Tracking resistance		IEC 112	CTI>600 -0.2	CTI>600 -0.1	CTI>600 -0.2	CTI>600 -0.2
Electric strength 20 s for 1 mm plate (50 Hz)	23°C	IEC 243 kV/mm	28	30	27	29

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	no
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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