
Renlam LY 568 Aradur HY 2954

*High Temperature Multi-functional Epoxy Resin

General

Araldite® LY 568 with Hardener HY 2954 can be used as a Gelcoat, laminating or casting system.

Applications

Injection Moulding Dies. Vac-Form Tools.
Auto-Clave Component Curing Masters. Tools where high temperature rating is indicated.

Methods of application

1. Gelcoat: by addition of thixotrope - brush applied.
2. Laminating: using brush roller or Vac-Bag.
3. Solid Cast: incorporating suitable fillers.

Features

Low mixed viscosity giving excellent "wetting out".
Low-odour & vapour pressure. Solvent free.
Long working time. Easy to machine.
Compatible with glass & carbon fibres.
Exceptional compressive strength & thermal conductivity. * Operating temperature up to 210°C. After correct post-curing.

Product Data:**Araldite® LY 568 - Polyfunctional Epoxy Resin with Di-functional Aliphatic Diluent**

As supplied form:	
Aspect	Clear orange liquid
Viscosity @ 25°C	1600 - 2100 mPa.s
Density @ 25°C	1.10 - 1.16 g/cm ³
Flash Point:	170°C (Pensky-Martins)
Shelf Life @ 2 - 8°C:	12 months

Hardener HY 2954 - Cycloaliphatic Diamine

As supplied form:	
Aspect:	Clear colourless - yellow tinge
Viscosity @ 25°C:	90 - 150 mPa.s
Density @ 25°C:	0.93 - 0.96 g/cm ³
Flash Point:	175°C (Pensky-Martins)
Shelf Life @ 18-25°C:	6 years

Mixing Ratio: Parts by weight

Araldite LY568	100
Hardener HY2954	57

Viscosity of Mix (1000gms)

Initial @ 25°C:	700 mPa.s
After 24 hrs @ 25°C:	60,000 mPa.s

Note: Surface Pretreatment

The surface finish on the mould is only as good as the master pattern from which it is produced.

To ensure trouble-free de-moulding, after initial room temperature cure, apply several coats of Release Agent QZ5111 (liquid) or QV10 (solid wax) and polish to high finish.

Porous surfaces (timber & Cibatool 5450), should be sealed with polyurethane or cellulose varnish before applying Release Agent. (Shellac should not be used).

Cured Properties

		Mixes	
		1 & 2	3
		(1.2 - 1.5)	(3.3-3.5)
Specific Gravity			
Shore 'D' Hardness @ 25°C	ISO 868		90 - 95
Compressive Strength @ 25°C	ISO 604		210-220 N/mm ²
Elastic Modulus in Compression	ISO 604		7000-9000 N/mm ²
Flexural Strength @ 25°C	ISO 178		80-90 N/mm ²
Elastic Modulus in Flexure	ISO 178		9000-10000 N/mm ²
Heat Deflection temp (Tg)		208 - 215°C	200-210°C
Linear Coefficient of Thermal Expansion (20 - 200°C)			40 x 10 ⁻⁶ /°C
Thermal Conductivity	DIN 53752		1.8w/m°C

Ref (1 N/mm² = 1mPa = 145 P.S.I.)
(1 mPa.s = 1cp)

Processing

Add hardener to resin at room temperature and stir with a suitable mixing blade on a low-speed drill until a homogeneous mixture is achieved. Other components may now be added and stirred in.

Gel-Coat	Araldite® LY 568	100	Mixture 1
	Hardener HY 2954	57	
	Colouring Paste (DWO13 Series)	5	
	Slate or Iron Powder	90 - 120	(200 Mesh)
	Thixotropic Agent DT 5039	8 - 10	

Laminating	Araldite® LY 568	100	Mixture 2
	Hardener HY 2954	57	

Casting	Araldite® LY 568	100	Mixture 3
	Hardener HY 2954	57	
	Iron Powder	500	(100 Mesh)
	Thixotropic Agent DT 5039	2 - 5	

Application

Gel-Coat Mixture should be applied to the master model or mould with a short bristle brush.

Laminating or solid casting should be timed so that they are applied before the Gel coat reaches

the tack free stage.

When laminating fabric should not be 'pushed' through Gel-coat layer or print through may occur.

Optimum properties are achieved by de-gassing the mixture under vacuum.

Pot Life	Batch	Mixture:	1.	2.	3.
	1000 gms		15-17 hours		15 hours
	200 gms			22 hours	

Curing	Temperature °C	Time	Allow to cool &
	40°C	48 hours	Remove pattern if applicable
	Plus 60°C	1 hour	Continue cure
	80°C	1 hour	
	100°C	1 hour	For very large moulds/tools cure times should be doubled.
	120°C	1 hour	
	140°C	1 hour	
	160°C	1 hour	
	180°C	1 hour	
	200°C	1 hour	

Cool down to room temperature in 20°C steps per hour.

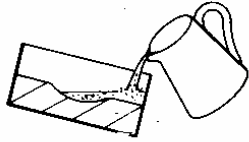
Storage

The resin and hardener have minimum shelf-lives as listed in the Product Data section.

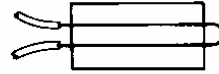
Resin should be stored at 2-8°C in cold store, and hardener should be stored at 18-25°C in a dry place.

Store both in sealed original containers.

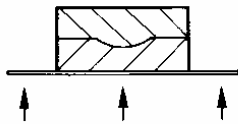
Quality is normally sustained well beyond expiry date, although a performance check by the user is advised on out-of-date material.



1. Pour slowly & continuously from lowest point to avoid entrapping air.



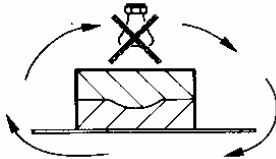
4. Copper Cooling Coils. Bends outside casting preferred.



2. Support mould correctly in over during curing cycle.



5. Minimum Coverage 1cm for cooling coils.



3. Heat up and cool down at rate as specified in convection type oven.



6. Large particle size fillers will settle during curing causing movement of casting.

First Aid

Contamination of the eyes by resin, hardener or mix, should be treated immediately by bathing with clean, running water for at least 10 to 15 minutes. A doctor should then be consulted.


Uncured material smeared on the skin should be dabbed off, and the contaminated area then washed with soap and water and treated with cleansing cream. A doctor should be consulted in the event of severe irritation or burns. Contaminated clothing should be changed without delay.

Anyone taken ill after inhaling vapours should be taken out of doors immediately. In all cases of doubt summon medical assistance.

Thermal stability tests show that when Araldite LY 568 is heated under certain conditions, it will react with itself, generating heat, i.e. will exotherm. To avoid the conditions giving rise to a bulk exotherm, any pre-heating of Araldite LY 568 should be limited to the quantity needed for immediate use, heating times should be as short as possible and temperatures greater than 100°C should be avoided. The use of localised high-temperature sources (hot plates or drum heaters) is not recommended unless special measures are taken to ensure that the temperature specified here is not exceeded.

Caution

Huntsman Advanced Materials 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 Huntsman Advanced Materials Publication No. 24264/3/e Hygienic precautions for handling plastic products of Huntsman Advanced Materials and in the Huntsman Advanced Materials 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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 APPROVED TO ISO 9001	

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