

**Advanced Materials****Araldite<sup>®</sup> LY 3508\* / Aradur<sup>®</sup> 22962\*****TOUGHENED EPOXY RESIN**

Araldite<sup>®</sup> LY 3508 is a medium viscosity toughened epoxy resin.

<b>APPLICATIONS</b>	Industrial composites		
<b>PROPERTIES</b>	Laminating Araldite <sup>®</sup> LY 3508 has a good toughness effect combined with a low viscosity		
<b>PROCESSING</b>	<ul style="list-style-type: none"> <li>• Wet lay-up</li> <li>• Filament Winding</li> <li>• Pressure Moulding</li> <li>• Resin Transfer Moulding (RTM)</li> </ul>		
<b>PRODUCT DATA</b>	<b>Resin XU 3508</b>		
	Aspect (visual)	white liquid	
	Viscosity at 25 °C (ISO 2555)	11000 – 20000 **	[mPa s]
	Density at 25 °C (ISO 1675)	1.15 - 1.20	[g/cm <sup>3</sup> ]
	Epoxy value (ISO 3001)	4.8 - 5.4 **	[ep/Kg]
	<b>Aradur<sup>®</sup> 22962</b>		
	Aspect (visual)	clear liquid	
	Viscosity at 25 °C (ISO 12058-1)	5 - 20	[mPa s]
	Density at 25 °C (ISO 1675)	0.89 - 0.90	[g/cm <sup>3</sup> ]

\*\* Specified data are on a regular basis analysed. Data which is described in this document as 'typical' is not analysed on a regular basis and is given for information purposes only. Data values are not guaranteed or warranted unless if specifically mentioned.

<b>STORAGE</b>	<p>Provided that Araldite<sup>®</sup> LY 3508, Aradur<sup>®</sup> 22962 are stored in a dry place in their original, properly closed containers at the storage temperatures mentioned in the MSDS they will have the shelf lives indicated on the labels. Partly emptied containers should be closed immediately after use.</p> <p>Epoxy Araldite<sup>®</sup> LY 3508 which has crystallized and looks cloudy can be restored to its original state by heating to 60 - 80 °C.</p>
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\* In addition to the brand name product denomination may show different appendices, which allows us to differentiate between our production sites: e.g., BD = Germany, US = United States, IN = India, CI = China, etc.. These appendices are in use on packaging, transport and invoicing documents.

**TYPICAL SYSTEM DATA****PROCESSING DATA**

<b>MIX RATIO</b>	<i>Components</i>	<i>Parts by weight</i>	<i>Parts by volume</i>
	Araldite® LY 3508	100	100
	Aradur® 22962	22	29

We recommend that the components are weighed with an accurate balance to prevent mixing inaccuracies which can affect the properties of the matrix system. The components should be mixed thoroughly to ensure homogeneity. It is important that the side and the bottom of the vessel are incorporated into the mixing process.

When processing large quantities of mixture the pot life will decrease due to exothermic reaction. It is advisable to divide large mixes into several smaller containers.

<b>INITIAL MIX VISCOSITY</b> (CONE PLATE)	LY 3508 / Aradur® 22962	[°C] at 25		[mPa s] 1800 - 2100
<b>POT LIFE</b> (TECAM)	LY 3508 / Aradur® 22962	[°C] at 23	[g] 100	[min.] 100 – 150
<b>GEL TIME</b> (HOT PLATE)	LY 3508 / Aradur® 22962	[°C] at 100 at 120		[min] 6 – 10 4 – 8

The values shown are for small amounts of pure resin/hardener mix. In composite structures the gel time can differ significantly from the given values depending on the fibre content and the laminate thickness.

**PROPERTIES OF THE CURED, NEAT FORMULATION**

<b>GLASS TRANSITION TEMPERATURE</b>	<i>Cure:</i>	$T_G$	LY 3508 Aradur 22962
(ISO 11357-2, DSC, 10 K/MIN)	4 h 80°C 15 min 120°C + 2 h 150°C	[°C] [°C]	102 – 112 144 – 154
<b>FLEXURAL TEST</b>	<i>Cure:</i>		LY 3508 Aradur 22962
(ISO 178)	15 min 120°C + 2 h 150°C		
	Flexural strength	[MPa]	120 – 135
	Elongation at flexural strength	[%]	7.0 – 8.5
	Ultimate strength	[MPa]	120 – 135
	Ultimate elongation	[%]	8.0 – 10.0
	Flexural modulus	[MPa]	2700 – 2900
<b>FRACTURE PROPERTIES</b>	<i>Cure:</i>		LY 3508 Aradur 22962
<b>BEND NOTCH TEST</b>	15 min 120°C + 2 h 150°C		
(ISO 13586)	Fracture toughness $K_{1C}$	[MPa√m]	0.95 – 1.15
	Fracture energy $G_{1C}$	[J/m <sup>2</sup> ]	340 - 380
<b>WATER ABSORPTION</b>	<i>Cure:</i>		LY 3508 Aradur 22962
(ISO 62)	15 min 120°C + 2 h 150°C		
	10 days H <sub>2</sub> O 23°C	[%]	0.50 – 0.58

**HANDLING  
PRECAUTIONS****Personal hygiene***Safety precautions at workplace*

protective clothing	yes
gloves	essential
arm protectors	recommended when skin contact likely
<u>goggles/safety glasses</u>	<u>yes</u>

*Skin protection*

before starting work	Apply barrier cream to exposed skin
<u>after washing</u>	<u>Apply barrier or nourishing cream</u>

*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

*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 workplaces	Exhaust fans. Operatives should avoid inhaling vapours

**FIRST AID**

Contamination of the *eyes* by resin, hardener or 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.

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