

Advanced Materials**Araldite® LY 3508*/ Aradur® 1571*/ Accelerator 1573*****TOWPREG EPOXY SYSTEM**

Araldite® LY 3508 (Epoxy resin)
 Aradur® 1571 (Hardener paste)
 Accelerator 1573 (Accelerator paste)

APPLICATIONS	Industrial composites, Pressure vessels		
PROPERTIES	Towpreg system with a long shelf life		
PROCESSING	Towpregging		
PRODUCT DATA	Araldite® LY 3508		
	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 ³]
	Epoxy index (ISO 3001)	4.80 - 5.40**	[Eq/kg]
	Aradur® 1571		
	Aspect (visual)	White viscous paste	
	Viscosity at 25 °C	28000-40000	[mPa s]
	Density at 25 °C (ISO 1675)	1.2	[g/cm ³]
	Accelerator 1573		
	Aspect (visual)	White viscous paste	
	Viscosity at 25 °C	60000 - 90000	[mPa s]
	Density at 25 °C (ISO 1675)	1.08	[g/cm ³]
STORAGE	Provided that Araldite® LY 3508 and Aradur® 1571, Aradur® 1573 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.		

* 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. Generally the same specifications apply for all versions. Please address any additional need for clarification to the appropriate Huntsman contact.

** 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.

TYPICAL SYSTEM DATA**PROCESSING DATA**

MIX RATIO	<i>Components, parts by weight</i>		
	Araldite® LY 3508		100
	Aradur® 1571		28
	Accelerator 1573		3

Mix Aradur® 1571 with Accelerator 1573 to get homogeneous paste, this pre-mix has a long shelf life at RT (min. 2 weeks)

The pre-mix Aradur® 1571 / Accelerator 1573 is blended into the Araldite® LY 3508 and mixed homogeneously just before the towpregging process.

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.

INITIAL MIX VISCOSITY	at 25°C	[mPas]	14000 – 15000
	at 40°C	[mPas]	2000 – 2200

TOWPREG PRODUCTION	Impregnation temperature	30 - 50°C
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TOWPREG SHELF LIFE	at 23 °C	> 4 weeks
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TYPICAL CURE CYCLES	30 min 150°C 2h 120°C + 2h 150°C
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PROPERTIES OF THE CURED, NEAT FORMULATION

GLASS TRANSITION TEMPERATURE (T_G) (ISO 6721 DMA, 5 K/MIN)	<i>Onset</i> <i>Tan δ</i>	<i>T_G [°C]</i> 142 – 146 155 – 160
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FLEXURAL TEST (ISO 178)	Cure cycle: 2h 120°C + 2h 150°C		
	Flexural strength	[MPa]	115 - 125
	Ultimate elongation	[%]	7.5 – 8.5
	Flexural modulus	[MPa]	2700 - 2800

FRACTURE PROPERTIES BEND NOTCH TEST (ISO 13586)	Cure cycle: 2h 120°C + 2h 150°C		
	Fracture toughness K _{1C}	[MPa√m]	0.9 – 1.1
	Fracture energy G _{1C}	[J/m ²]	370 – 400

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

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

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

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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