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Advanced Materials

ARALDITE® LY 3508

Liquid toughened epoxy resin

DATA SHEET

Bisphenol A based epoxy resin

Applications

- Adhesives
- Composites (filament winding , pultrusion , prepreg …)

Properties

- Similar viscosity and EEW as standard liquid Bisphenol-A based epoxy resins
- Can replace partly or totally standard liquid Bisphenol-A based epoxy resins
- Unique multi-phase toughening technology
- High tougheness (increase K1c and G1c by factor greater than 2) with minor effect on Tg

Key data

Specified key data*		
Aspect (visual)	**White viscous liquid**	
Epoxy Index (ISO 3001)	**4.80 – 5.40**	**[Eq/kg]**
Viscosity at 25 °C (ISO 2555)	**11 000 – 20 000**	**[mPa s]**
Typical key data*		
Flash point (Pensky Martens, DIN 51758)	≥ 200	[°C]
Density at 25 °C (ISO 1675)	1.15 – 1.20	[g/cm^3]

*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.

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.

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Toughening

Resin ARALDITE® LY 3508 presents similar viscosity as standard liquid Bisphenol-A based epoxy resins.

Touhening effect is verified (K1C and G1C increase) with both Amine and Anhydrid hardeners as shown by examples in the table below, with minor effect on glass transition temperature .

Mix ratio	*Components, parts by weight*	*System 1*	*System 2*	*System 3*	*System 4*
	Araldite® LY 556	100		100	
	Araldite® LY 3508		100		100
	Aradur® 22962	22	22		
	Aradur® 917			90	90
	Acc. DY 070			1	1
Initial mix viscosity (cone plate viscosimeter)					
at 25°C, [mPa.s]		1800 - 2000	1800 - 2100	600 - 900	600 - 1000

PROPERTIES OF THE CURED, NEAT FORMULATION

Glass transition temperature (TG) (IEC 1006, DSC, 10 K/min)	*Cure:*	*15min/120°C +2h/150°C*	*15min/120°C +2h/150°C*	*4h/80°C +8h/140°C*	*4h/80°C +8h/140°C*
[°C]		148 - 158	144 - 154	148 - 153	135 - 145
Flexural Strength (ISO 178)					
[MPa]		130 - 136	120 - 135	130 - 150	140 - 150
Elongation at breack (ISO 178)					
[%]		7.5 – 10.0	8.0 – 10.0	7.0 – 8.5	5.7 – 6.7
Fracture properties Bend notch test (ISO 13586/3)					
K_{1C} (MPa.m$^{1/2}$)		0.68 – 0.78	0.95-1.15	0.56 – 0.60	0.85 - 0.95
G_{1C} (J/m^2)		140-175	340-380	88 - 96	210 - 240

Storage	Resin ARALDITE® LY 3508 should be stored between 2 and 40°C in original container protected from direct sunlight in a dry, cool and well ventilated area , away from food, drink and incompatible materials. Keep container tighly closed and sealed until ready for use . Containers that have been opened must be carefully resealed and kept upright to prevent leakage . Don't store in unlabelled containers. Use appropriate containment to avoid environmental contamination .
Handling precautions	Mandatory and recommended industrial hygiene procedures should be followed whenever our products are being handled and processed. For additional information please consult the corresponding product safety data sheets and the brochure "Hygienic precautions for handling plastics products".

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