

Advanced Materials**Resin XB 3292* and Amine Hardeners**

RESIN XB 3292 IS A LOW VISCOSITY EPOXY RESIN

APPLICATIONS

- Industrial composites
- Structural composites

PROPERTIES Amine cured matrix systems offering high Temperature resistance

PROCESSING

- Wet lay-up
- Filament Winding
- Resin Transfer Moulding (RTM)
- Pressure Moulding

KEY DATA	Resin XB 3292		
Aspect (visual)	Clear yellow to brown liquid		
Viscosity at 25 °C (ISO 12058-1)	2500 - 3500		[mPa s]
Density at 25 °C (ISO 1675)	1.10 - 1.20		[g/cm ³]
Flash point (ISO 2719)	> 100		[°C]
Storage temperature (see expiry date on original container)	2 - 8		[°C]

STORAGE Provided that resin XB 3292 are stored in a dry place in his original, properly closed containers at the above mentioned storage temperature 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.

PROCESSING DATA

Mix ratio [pbw]			
Resin XB 3292	100	100	100
Aradur 2954	48		
Hardener XB 3473		34	
Hardener LMB 6261			39
Gel time [min] (hot plate)			
at 80 °C	34 - 44	360 - 420	195 - 225
at 100 °C	11 - 17	170 - 210	70 - 90
at 120 °C	4 - 8	55 - 75	35 - 40
at 140 °C	2 - 4	25 - 35	15 - 20
at 150 °C	1 - 3	18 - 24	10 - 14
Pot life [hours] (Tecam, 100 ml)			
at 23°C	11 - 14	78 - 86	26 - 32
Initial mix viscosity [mPas] (cone plate viscosimeter)			
at 25°C	1400 - 1800	1600 - 2000	2300 - 2800

PROPERTIES OF THE CURED, NEAT FORMULATION

	Hardener	Hardener	Hardener
Resin XB 3292	Aradur 2954	XB 3473	LMB 6261
Cure cycle: 2h at 100°C + 1h at 140°C + 1h at 180°C + 2h at 200°C			
Glass transition temperature			
DSC, 10 K/min T_G [°C]	198 - 206	195 - 203	194 - 202
DMA, 2 K/min T_G [°C]	220 - 230	210 - 220	208 - 218
Flexural test (ISO 178)			
Flexural strength [MPa]	115 - 125	98 - 108	120 - 130
Elongation at flexural strength [%]	4.4 - 4.9	4.1 - 4.6	4.4 - 4.9
Ultimate strength [MPa]	115 - 125	98 - 108	120 - 130
Ultimate elongation [%]	4.4 - 4.9	4.1 - 4.6	4.4 - 4.9
Flexural modulus [MPa]	3050 - 3250	3050 - 3250	3150 - 3350
Fracture properties			
Bend notch test (PM 258-0/90)			
Fracture toughness K_{1C} [MPa√m]	0.53 - 0.58	0.50 - 0.55	0.50 - 0.55
Fracture energy G_{1C} [J/m ²]	75 - 85	70 - 75	70 - 75
Water absorption (ISO 62)			
10 days H ₂ O 23 °C [%]	0.62 - 0.68	0.76 - 0.82	0.67 - 0.73
1 day H ₂ O 100 °C [%]	0.34 - 0.40	0.39 - 0.45	0.37 - 0.43

**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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Main Office :
Huntsman Advanced Materials (Switzerland) GmbH
Klybeckstrasse 200
CH-4057 BASEL
Switzerland
+41 61 966 3333