



RESOLTECH 1450 ALU

Hardener 1452

New improved viscosity system

Aluminium filled epoxy system

- High $T_G \sim 150^\circ\text{C}$
- Excellent thermal conductivity
- Low viscosity, good air release properties
- No decantation or sedimentation of the aluminium



RESOLCOAT 1450 ALU is an aluminium filled epoxy casting system formulated to produce parts or moulds from a few millimetres to several centimetres thick. It is mainly used to produce moulds and tooling plugs. RESOLCOAT 1450 ALU combines ease of use, high thermal and mechanical properties as well as virtually no shrinkage.

RESOLCOAT 1450 ALU offers a good chemical resistance and its high TG makes it an ideal product for phenolic resins parts production, thermoforming or any other high TG application where the mould will be subject to thermal shocks.

It is usually used for casting, but may also be used for laminating glass reinforcements and powdered mats. Its good thermal conductivity makes the 1450 ALU a choice system for heated moulds & parts.

Once cured at ambient temperature, the parts should be post-cured according to the thermal cycle indicated in this datasheet in order to obtain the maximum mechanical properties of this resin system.

Its T_G of 150°C enables the realisation of high quality and performance parts as well as tooling for prepreg parts.

Resin 1450 ALU

Hardener 1452

Aluminum filled epoxy system

MIXING RATIO

	by weight	
Resin 1450 ALU	100	
Hardener 1452	13	

WARNING: The mixing ratio must be accurately followed. It is not possible to change the ratio, it would result in lower mechanical properties. The mixture should be thoroughly stirred to ensure full homogeneity. It is important to note that epoxy systems tend to heat up much faster in a pot than as a thin film. It is therefore necessary to only mix the necessary amount usable within the given pot life. Keeping the mixture in flat open containers reduces the risks of exothermic reaction.

APPLICATION

The standard procedure of working with epoxy systems applies this system. It is recommended to stir mechanically the resin component before mixing it with the hardener. The 1450T ALU25 may be casted or laminated by brush and rollers. In case of laminating or casting over a cured surface without peel ply, it is required to deglaze, clean and degrease the support prior to laminating.

It is recommended to have workshop temperature conditions between **18-25°C** in order to facilitate the mixing, the air release and the reinforcement fibres impregnation. A lower temperature will increase the viscosity of the mix as well as its pot life. On the contrary, a higher temperature will reduce the viscosity and the pot life of the mix.

As the mixing ratio is only 100:12, it is highly recommended to mechanically mix during 5 effective minutes in order to obtain a correct dispersion of the hardener. Once mixed, pour into a second recipient and mix again before casting or laminating (double potting technique).

For more information, please refer to the applications technical bulletins (TechNotes), available on request.

PHYSICAL CHARACTERISTICS @ 23°C

Visual Aspect

- 1450 ALU : Aluminium filled liquid
- 1452 : Neutral to transparent yellow liquid.
- Mix : Aluminium filled liquid

REFERENCES	1450T ALU	1452
Density	1.9	0.94
Mix density	-	1.8

Resin 1450 ALU

Hardener 1452

PHYSICAL CHARACTERISTICS @ 23°C (continued...)

Viscosity (mPa.s)

REFERENCES	1040T Alu25	1452
Viscosity	125.000	100
Mix viscosity	-	25.000

REACTIVITY

QUANTITY	TEMPERATURE	POT LIFE
100 gr.	25°C	280 min
500 gr.	20°C	340 min.
500gr.	22°C	260 min.
500 gr.	24°C	210 min.
500 gr.	26°C	165min.
500 gr.	28°C	135 min.
500 gr.	30	120 min.

CURING & POST CURING

In order to obtain a material at the maximum of its mechanical properties with a TG of 150 °C, it is necessary to postcure with a cycle of :

24h at ambient temperature (20-25°C) + 4h at 80°C + 6h at 160°C

Minimum cure for mould release: 12H @ 60°C

Lower post-curing temperatures may be applied with longer postcuring schedules: 10H @ 120 °C will result in 150°C TG

MECHANICAL CHARACTERISTICS

N/A

Resin 1450 ALU

Hardener 1452

THERMAL CONDUCTIVITY

Reference	TC(i,y) [W/mK]	s (MJ/m³K)	TD(i,y) [mm²/s]
Resoltech 1450 ALU + 1452	0,763	1,424	0,5361

PACKAGING

- 33,9 kg. kit in plastic containers (30kg 1450 ALU+ 3,9 kg. 1452)

HEALTH & SAFETY

It is advised to follow basic rules such as avoiding skin contact, wear masks when producing dust. Please read our standard health and safety sheet for more information.

In case of eye contamination, wash with water and seek medical advice.

TRANSPORT & STORAGE

Shelf life is one year in sealed containers as provided. Keep containers sealed and away from heat and cold preferably between 10°C and 30°C in a well ventilated area.

Nota The data provided in this document is the result of tests and is believed to be accurate. We do not accept any responsibility over the mishandling of these products and our liability is limited strictly to the value of the products we manufacture and supply.



35, impasse Emeri • Pôle d'activités
13510 EGUILLES • FRANCE

Tél : +33 4 42 95 01 95 • Fax : +33 4 42 95 01 98

e-mail : export@resoltech.com • website : www.resoltech.com

Page 4/4