

# resoltech 2060 ALU 25

Hardeners 2062 & 2066H

Aluminium filled epoxy casting system



## **New Hardener 2062**

- Hardener 2062 improved reactivity
- Casting & lamination resin system
- Excellent air release properties
- For demanding curing & thermoforming cycles
- No post curing needed to remove parts from molds
- High modulus & mechanical properties

## INTRODUCTION

RESOLTECH 2060 ALU 25 aluminum epoxy resin is formulated for the production of composites tooling using it as **casting resin** or as wet layup lamination system. It enables the production of tooling that will resist many years to the most demanding heating and cooling post-curing cycles of: heating **RTM & pre-preg tooling, thermoforming of thermoplastics or polymer concrete/solid surface injection tools**.

The heat conductivity of **0.81W/mK** (2062 hardener) is more than twice better than a conventional epoxy resin, meaning that the dwell temperature at which a part must be post-cured will be achieved in half the time on tools manufactured with this resin system, **improving the tool productivity**.

This new generation system, optimized with **excellent self levelling** characteristics and **excellent air release**, is suitable for the manufacture of large composite tooling. It should be applied by brush or casted.

The 2060 ALU 25 system is also available in **a gelcoat version the 2060 GC ALU**.

In order to **obtain an excellent adhesion between the gelcoat and the resin**, sprinkle the **ALUMINIUM 250 TV filler** on the gelcoat just before the gel. Once the gelcoat is hardened, remove the remaining filler and cast the resin. This will create a mechanical interface between the gelcoat and the resin. Furthermore, the delayed hardening between the two system will result in a better surface aspect of the mold.

**It is possible to de-mould tools from plugs without pre-cure**, enabling the use of cheap plug materials - and guaranteeing the dimensional stability of the plug and the mould.

## MIXING RATIO

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.

Systems	2060 ALU 25 / 2062	2060 ALU 25 / 2066H
Mixing ratio by weight	100/7	100/13

## APPLICATION

- It is recommended to have workshop temperature conditions between 18-25°C in order to facilitate the mixing and the application. 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.
- **Hardener 2062 is sensitive to moisture, use quickly after opening.**
- Thoroughly mix the resin component before pouring in mixing cup.
- It is recommended to mechanically mix the resin+hardener during 5 effective minutes to ensure effective mixing and do a double potting before use to ensure all the resin and hardener have been correctly mixed and that un-mixed resin or hardener left on the sides of the first mixing pot are not used.

# PHYSICAL CHARACTERISTICS

## 1 Visual aspect

### 2060 ALU 25 :

Viscous grey filled liquid

### 2062 & 2066H :

Transparent to yellow liquid

### Mix :

Filled grey liquid

## 2 Density

References	2060 ALU 25	2062	2066H
Density at 23°C	1.74	0.94	0.97
Mixed density at 23°C	-	1.67	1.65

ISO 1675, ± 0.05 tolerance

## 3 Viscosity

References	2060 ALU 25	2062	2066H
Viscosity at 23°C (mPa.s)	25 000	8	135
Mixed viscosity at 23°C (mPa.s)	-	3600	7500

Measured with rheometer, shear rate 20s-1, 2 min  
± 15% tolerance

## 4 Thermal conductivity

systems	2060 ALU 25 / 2062	2060 ALU 25 / 2066H
Bulk conductivity (W/mK)	0.81	0.78

ASTM 5470-12, grease mode, uncured mix, no pressure

# REACTIVITIES

Systems	2060 ALU 25 / 2062	2060 ALU 25 / 2066H
Gel time on 1L at 23°C (10cm high mix)	3h45min	-
Time at exothermic peak on 1L at 23°C	4h13min	-
Temperature at exothermic peak on 1L at 23°C	60°C	-
Gel time on 70mL at 23°C (4cm high mix)	4h17min	40min
Time at exothermic peak on 70 mL at 23°C	3h	-
Temperature at exothermic peak on 70mL at 23°C	31°C	28°C

Reactivity measurements realized on Trombotech®

# CURING AND POST-CURING

The 2060 ALU 25 system will cure at room temperature enabling to release moulds from the plugs/models at room temperature after 24h of its application, yet further post-cure will enable the resin system to obtain 100% of its mechanical characteristics.

Systems		2060 ALU 25 / 2062	2060 ALU 25 / 2066H
3h at 60°C + 3h at 90°C	T <sub>g</sub> (DSC)	94°C	82°C
	Shore D Hardness	92	90
3h at 80°C + 3h at 120°C	T <sub>g</sub> (DSC)	101°C	82°C
	Shore D Hardness	92	90

T<sub>g</sub> max : DSC, inflection point  
 Hardness : ISO 868

## PACKAGING

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- Box kit of 1kg + 0.07kg(2062) or 0.13 Kg (2066H)
- Bucket kit of 5kg + 0.35kg(2062) or 0.65 Kg(2066H)
- Bucket kit of 25kg + 1.75kg(2062) or 3.25Kg(2066H)
- Drum kit of 200kg + 14 Kg (2062) or 26 Kg (2066H)

## TRANSPORT & STORAGE

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Keep containers sealed and away from heat and cold preferably between 10°C and 30°C in a well ventilated area. Our products are guaranteed in their original packaging (check expiry date on the label).

## HEALTH & SAFETY

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Skin contact must be avoided by wearing protective nitrile gloves & overalls or other protective clothing.

Eye protection should be worn to avoid risk of resin, hardener, solvent or dust entering the eyes. If this occurs flush the eye with water for 15 minutes, holding the eyelid open, and seek medical attention.

Ensure adequate ventilation in work areas. Respiratory protection should be worn with ABEKP coded filters.

Resoltech issues full Material Safety Data Sheet for all hazardous products. Please ensure that you have the correct MSDS to hand for the materials you are using before commencing work.

**!** 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.



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