

# resoltech 4000 CLEAR

Hardener 4006  
Epoxy Clear Coating System



- Colorless and high gloss film
- Easy to use, room temperature curing and self-leveling
- Excellente air release capacity
- Polyester topcoat or polyurethane varnish application without inhibition

## INTRODUCTION

**RESOLTECH 4000 CLEAR / 4006** is a clear epoxy coating system formulated to produce **high gloss coatings** with the best possible **UV stability** for an epoxy system – with all the high mechanical characteristics epoxies offer compared to other coatings.

The system is formulated for the coating of all type of surfaces with **high-end finish aspects** requirements for inside or outside exposure such as surfboards, art pieces, outdoor furniture... etc...

One only coat should be necessary as the film is thick enough.

Should a second coat be applied, **sanding** is required between coats unless the second coat is applied within the first coat curing time.

On wood or other porous materials, it is recommended to work in descending temperatures so air does not release while the 4000 CLEAR / 4006 is curing.

**To avoid air release & entrapment** while curing on porous materials, layer of RESOLCOAT 1010 / 1014 water based epoxy primer may be used.

The system 4000 CLEAR / 4006 **can be tint** with pigment and transparent dyes. It is necessary to check the compatibility epoxy/pigment or dye beforehand.

RESOLTECH 4000 CLEAR / 4006 has been formulated in order **to leave any free amine**, this allowing an uninhibited finish with a polyester “topcoat” or a polyurethane varnish.

## 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	4000 CLEAR / 4006
Mixing ratio by weight	100/40

## APPLICATION

- It is recommended to use products at a temperature close to 18–25°C in order to facilitate the mixing and the reinforcements impregnation.
- Lower temperatures will increase the viscosity of the mixture and the gel time, but the resin will not crystallize at low temperatures.
- On the contrary, a higher temperature will reduce the viscosity of the mixture as well as the pot life.
- The standard procedure of working with epoxy systems applies to this system. The 4000 CLEAR / 4006 can be applied preferably by squeegee or brush. In case of coating a cured surface without peel ply, it is required to deglaze, clean and degrease the support prior to applying the varnish.

# PHYSICAL CHARACTERISTICS

## 1 Visual aspect

### 4000 CLEAR :

Clear slightly opalescent liquid

### 4006 :

Clear liquid

### Mix :

Clear liquid

## 2 Density

References	4000 CLEAR	4006
Density at 23°C	1.18	1.01
Mix density at 23°C	-	1.13

ISO 1675,  $\pm 0.05$  tolerance

## 3 Viscosity

References	4000 CLEAR	4006
Viscosity at 23°C (mPa.s)	3900	40
Mix viscosity at 23°C (mPa.s)	-	630

ISO 12058.2,  $\pm 15\%$  tolerance

# REACTIVITIES

System	4000 CLEAR / 4006
Gel time on 70mL at 23°C* (4cm high)	29min
Time at exothermic peak on 70mL at 23°C	32min
Temperature at exothermic peak on 70mL at 23°C	167.3°C
Gel time on 1mm film at 23°C**	5h15min

\* Gel time measurements realized with Rheotech\*

\*\* Gel time on film measurement realized on rheometer

## RETICULATION & POST-CURING

In order to obtain the maximum thermo-mechanical properties, it is necessary to respect the recommended curing cycle. The table below shows the glass transition temperatures (DSC) according to different curing cycles.

System		4000 CLEAR / 4006
14 days at 23°C	T <sub>g</sub>	51.9 °C
	Shore D Hardness	87
16h at 60°C	T <sub>g</sub>	60 °C
	Shore D Hardness	89

T<sub>g</sub> measured by DSC, 10°C/min, inflexion point  
Shore D hardness measured at 23°C according to ISO 868

Post-curing cycles previously presented were chosen in order to reach the maximum potential of each systems. Depending on piece size, oven performance and hardener used, shorter post-curing cycles could lead to fully cured parts.

Please contact our laboratory service for any help on post-curing cycles.

## WATER ABSORPTION

System	4000 CLEAR / 4006
Water absorption after 24h of immersion in water at 23°C	0.20 %

Measured on pure resin according to ISO 62

## PACKAGING

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- Plastic jerrycan kit of 1kg + 0.4kg
- Plastic jerrycan kit of 5kg + 2kg
- Plastic drum kit of 25kg + 10kg
- Metal drum kit of 200kg + 3 x 26.66kg

## 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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