

# RESOLTECH 1070 ECO

## Hardener 1074 ECO



### Bio-based Clear Lamination Epoxy System

- **31% Bio-sourced** epoxy resin system (ASTM D6866-12)
- Room temperature cure & mould release
- $T_G$  up to 73°C
- Excellent wetting properties on all reinforcements
- For structural laminates and top-coats



RESOLTECH 1070 ECO is a high end crystal clear epoxy laminating system formulated to produce clear laminates and high gloss clear coatings with good UV stability and high mechanical properties.

The 1070 ECO system is a state of the art formulation using two key elements in its bio composition: a partially bio sourced epoxy resin with a plant based reactive diluent, obtaining the highest available bio content without compromising the mechanical characteristics of a structural epoxy system.

The resulting laminates will be absolutely clear on carbon fibre and even transparent if applied on special Hexcel Silionne E- glass fabrics with TF970 treatment.

The viscosity is adapted for squeegee, brush or roller application, and enables to make perfect bubble free surface due to its surface tension properties. The 1070 ECO system has been formulated in order to leave virtually no free amines on the laminate. This even enables the use of any quality polyester finish coat for quick sanding on top of the laminate without inhibition of the polyester.

# Resin 1070 ECO

Hardener 1074 ECO

## MIXING RATIO

by weight

Resin 1070 ECO	100
Hardener 1074 ECO	35

**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 preferable 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 1070 ECO system can be applied by squeegee, brush or roller. In case of laminating 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 and the reinforcement fibers 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.

## PHYSICAL CHARACTERISTICS

### Visual Aspect

1070 ECO :	Purple liquid
1074 ECO :	Transparent liquid.
Mixture aspect :	Light purple liquid.

Densities	1070 ECO	1074 ECO
Density @ 23°C	1.18	0.96
Mixed Density @ 23°C		1.22

(ISO 1675, values with ± 0.05 tolerance)

### Viscosity

	1070 ECO	1074 ECO
Viscosity @ 23°C (mPa.s)	1750	50
Mixed Viscosity @ 23°C (mPa.s)		700

(ISO 12058.2, values with ± 15% tolerance)

# Resin 1070 ECO

Hardener 1074 ECO

## REACTIVITIES

System	Gel time on 70mL @ 23°C (4cm high mix)	Time at exothermic peak on 70mL @ 23°C	Temperature at exothermic peak on 70mL @ 23°C	Geltime on 2mm thick film @ 23°C
1070 ECO / 1074 ECO	28 min	31 min	185°C	2h50 min

Reactivity measurements on Trombotech®

## CURING & POST CURING

T<sub>G</sub> obtained with following curing cycles:

Curing Cycles	14 days @ 23°C		16h @ 60°C		
	System	T <sub>G</sub>	Shore D Hardness	T <sub>G</sub>	Shore D Hardness
1070 ECO / 1074 ECO		49.0°C	86	73.7°C	88

T<sub>G</sub> measured on Kinetech (TMA)  
Hardness: ISO 868

## MECHANICAL CHARACTERISTICS

System	Flexion according to ISO 178					
	Module (GPa)		Max Stress (MPa)		Failure Strain (%)	
	Curing Cycles					
	14 days	16h @ 60°C	14 days	16h @ 60°C	14 days	16h @ 60°C
1070 ECO / 1074 ECO	3.55	3.24	89.8	110.6	2.7	5.3

# Resin 1070 ECO

Hardener 1074 ECO

## MECHANICAL CHARACTERISTICS (continued)

Water Absorbtion (ISO 62) : 0.36%

### PACKAGING

- 1,35 kg kit (1 kg + 0.35 kg)
- 6,75 kg kit (5 kg + 1.75 kg)
- 37,8 kg kit (28 kg + 9.8 kg)
- 270 kg kit (200 kg + 3x23.33 kg)
- 1350 kg kit (1 IBC + 2x175kg drums)

### TRANSPORT & STORAGE

Shelf life is at least 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.

### HEALTH & SAFETY

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..