RESOLTECH 1070S CLEAR

Hardener 1074

Clear epoxy laminating system

- **Clear laminates and topcoats**
- **Ease of use, room temperature curing, self levelling**
- **Excellent air release properties**
- **Can be top coated with polyester without inhibition**




RESOLTECH 1070S CLEAR / 1074 is a crystal clear epoxy laminating system formulated to produce clear laminates and high gloss coatings with good UV stability and high mechanical properties.

This system is formulated for the manufacture of surfs, wind-surfs, kite-boards, wood glazing or any composites parts with high-end finish aspects requirements, enhancing the appearance of the reinforcement materials used.
The resulting laminate will be absolutely clear on carbon fibre and even transparent if applied on special glass fabrics with TF970 treatment, enabling the production of high-end finish aspects.

The viscosity is adapted for squeegee, brush or roller application, and provides a perfect bubble & blush free surface due to its surface tension properties.

The 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.

RESOLTECH 1070S CLEAR / 1074 will cure at ambient temperature and obtain 90% of its mechanical properties after 7 days at ambient temperature. Post curing will elevate the final T_G around 70ºC.

The UV stability of RESOLTECH 1070S CLEAR / 1074 is the highest on the market following comparative testing according to norm UNE EN 927-6 (700 hours of exposition).

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MIXING RATIO

System	1070S CLEAR / 1074
Mixing ratio by weight	100 / 40
Mixing ratio by volume	2 / 1

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 to this system. The 1070S CLEAR / 1074 can be applied by squeegee or brush. 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 fibers reinforcement 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

1070S CLEAR : Clear purple liquid
1074 : Clear liquid
Mix : Clear purple liquid

Density according to ISO 1675 (±0.05)

References	1070S CLEAR	1074	1070S CLEAR / 1074
Density at 23°C	1.15	0.99	1.10

Viscosity according to ISO 12058.2 (±15%)

References	1070S CLEAR	1074	1070S CLEAR / 1074
Viscosity at 23°C (mPa.s)	2200	70	560

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REACTIVITY

System	1070S CLEAR / 1074
Pot life on 70mL (4cm thickness) at 23°C	30min
Temperature at exothermic peak on 70mL at 23°C	139°C
Time at exothermic peak on 70mL at 23°C	31min
Pot life on 2mm film at 23°C	2h55min
Handling time at 23°C	8h
Hard & sandable at 23°C	12h

CURING & POST-CURING

It is not advisable to post-cure the 1070S CLEAR / 1074 system at a temperature above 60°C if working in open moulds or without moulds on a pre-shaped core. High temperature cures can result in surface tensions and deformations. 90% of the thermo-mechanical properties will be obtained after 7 days at room temperature (25°C). In order to obtain higher thermo-mechanical properties with a T_G above 50ºC, it is necessary to post-cure the laminate.

The following table shows the T_G obtained according to the curing cycles realized :

Curing cycle	14 days at 23°C	16h at 60°C
T_G DMA (°C)	50.0	63.9
T_G DSC (°C)	60.1	69.0

T_G realized wtih Kinetech® (DMA type) and by DSC according to ISO 11357-2

MECHANICAL PROPERTIES

System	1070S CLEAR / 1074	
Curing cycle	7 jours à 23°C	24h à 23°C + 8h à 60°C
Flexural modulus (GPa)	3.0	2.3
Flexural max. strength (MPa)	64.0	85.8
Elongation at max. strength (%)	3.1	4.7
Shore D Hardness	85	87

Tests realized on pure resin samples according to following standards:
Flexion: ISO 178 ; Shore Hardness: ISO 868

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PACKAGING

Available kits :

- 1.4kg : (1+0.4)kg
- 2.8kg : (2+0.8)kg
- 7kg : (5+2)kg
- 14kg : (10+4)kg
- 35kg : (25+10)kg
- 280kg : (200+8x10)kg
- 1400kg : (1000+2x200)kg

TRANSPORT & STORAGE

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

HEALTH & SAFETY

It is advised to follow basic rules such as avoiding skin contact, wear masks & gloves. Please read our Material Safety DataSheet (MSDS) for more information. In case of eye contamination, wash with water and seek medical advice.

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