resoltech
ADVANCED TECHNOLOGY RESINS

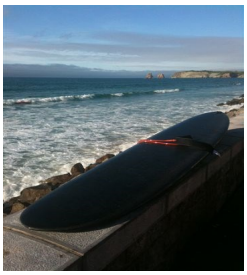
RESOLTECH 1070 CLEAR

Hardener 1077

Fast curing clear epoxy system

- **Clear laminates and topcoats**
- **Very fast hardening in film**
- **Excellent wetting properties**
- **Can be top coated with polyester without inhibition**




RESOLTECH 1070 CLEAR / 1077 is a crystal clear epoxy laminating system formulated to produce clear laminates and high gloss coatings with good mechanical properties while retaining some flex for improved fatigue performance such as for surfboards.

The 1070 CLEAR / 1077 system is formulated for professionals who manufacture surf, wind-surfs, kite-boards, or any composites parts with high-end finish aspects requirements — and that need a **very fast hardening system, closer to polyester curing speeds** for improved productivity.
The wetting out properties of this system and air release are acclaimed for and it has no sensitivity to blush unlike other surfboard resin systems that need extra additives for an equal performance or for improved sandability.

The resulting laminates will be absolutely clear on carbon fibre and even transparent if applied on special glass fabrics such as Hexcel TF970 treatment. The viscosity is adapted for squeegee, or brush application, and provides a perfect bubble 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 enables the use of any quality polyester finish coat for quick sanding on top of the laminate **without inhibition of the polyester**.
RESOLTECH 1070 CLEAR / 1077 will cure at room temperature and obtain 90% of its mechanical properties after 5 days at room temperature. Post curing will elevate the final T_G like any other epoxy system.

Resin 1070 CLEAR

Hardener 1077

Clear Epoxy Laminating System

MIXING RATIO

System	1070 CLEAR / 1077
Mixing ratio by weight	100 / 45
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 1070 CLEAR / 1077 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 the 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

1070 CLEAR : Clear purple liquid
1077 : Clear liquid
Mix : Clear purple liquid

Density according to ISO 1675 (±0.05)

References	1070 CLEAR	1077	1070 CLEAR / 1077
Density at 23°C	1.15	1.02	1.11

Viscosity according to ISO 12058.2 (±15%)

References	1070 CLEAR	1077	1070 CLEAR / 1077
Viscosity at 23°C (mPa.s)	2600	340	940

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REACTIVITY

System	1070 CLEAR / 1077
Pot life on 70mL (4cm thickness) at 23°C	15min
Temperature at exothermic peak on 70mL at 23°C	183°C
Time at exothermic peak on 70mL at 23°C	18min
Pot life on 2mm film at 23°C	50min
Handling time at 23°C	4h
Hard & sandable at 23°C	8h

CURING & POST-CURING

It is not advisable to post-cure the 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 5 days at room temperature (25°C). In order to obtain higher thermo-mechanical properties, it is necessary to post-cure the laminate according to the following cycle: **24h at room temperature (20-25°C) + 8h at 60°C**

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

Curing cycle	7 days at 23°C	24h23°C+3h60°C	24h23°C+8h60°C
T_G (°C)	41	47	50

Measurements realized with Kinetech® under mechanical sollicitation (DMA type)

MECHANICAL PROPERTIES

Traction (ISO 527)
Modulus: 1.8 GPa
Max strength: 41 MPa
Elongation at max strength: 3%

Flexion (ISO 178)
Modulus: 2.0 GPa
Max strength: 61.4 MPa
Elongation at max strength: 4.7%

Hardness (ISO 868)
85 Shore D

Measurements realized at 23°C on pure resin polymerized & stored 14 days at 23°C

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PACKAGING

Kits available :

- 1.45kg : (1+0.45)kg
- 6.23kg : (4.3+1.93)kg
- 29kg : (20+9)kg
- 290kg : (200+3x30)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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