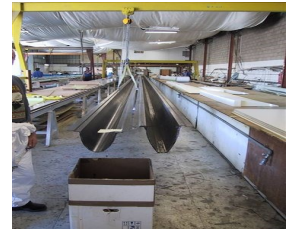
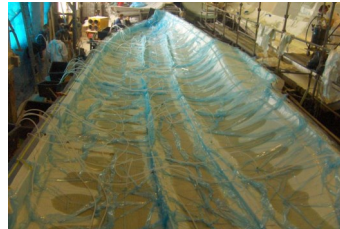


RESOLCOAT 7090 CLEAR or COLOURED

Hardener 7091(T)

High T_G Epoxy Gelcoat

- High T_G 140°C
- High mechanical properties
- Clear or coloured versions for parts & tooling manufacturing
- **New formulation 100 / 30 mixing ratio & improved applicability**



RESOLCOAT 7090 / 7091(T) epoxy system is a high T_G gelcoat specially formulated for the production of tooling and structural composites parts requiring high service temperatures.

This gelcoat may be applied from thicknesses from 300 to 600 microns depending if it is for parts or tool manufacturing where thickness of 600 microns is recommended.

The gelcoat may be ordered in clear version : **7090 CLEAR / 7091** mainly for parts such as carbon look parts. Factory coloured version **7090 NOIR & 7090 BLANC / 7091T** is available for tools production. The clear version could also be **pigmented to any RAL colour** : simply add 5% epoxy pigment paste in the resin part before mixing with the hardener.

Like most epoxy gelcoats it is best applied by brush while its formula guarantees low toxicity working conditions to the users. Laminates can be released from the moulds after a low temperature cure cycle (8h at 50°C) before post curing.

RESOLCOAT 7090 / 7091(T) is recommended to be used in wet layup, infusion and with prepregs reinforcements. Prepregs will be applied on the gelcoat in a window of minimum 8h at 23°C and maximum 1 week. Post-curing of the prepreg laminate should be done within a week.

Resin 7090 CLEAR or COLOURED

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High TG Epoxy Gelcoat

MIXING RATIO

System	7090 CLEAR / 7091	7090 COLOURED / 7091T
Mixing ratio by weight	100 / 30	

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 standard procedure of working with epoxy gelcoats applies this system. The 7090 system is best applied by brush, but some customers manage spraying it diluted with 5 to 10% MEK or acetone with 3,5mm nozzle gravity sprayguns. This method exposes to a high risk of solvent entrapment if spraying is not done from far enough, resulting in possible delaminating between the gelcoat and the laminate during the post curing. It is mandatory to test within the real workshop conditions before any industrial size spray application.

After a room temperature cure, the gelcoat will harden enough to enable laminating, infusing or placing prepregs onto the gelcoat without print through of the fiber on its surface.

After a room temperature cure, the crosslinking between the gelcoat resin+hardener will not be complete, so when final post cure of the laminated part or tool will be done, the lamination or prepreg resin, will co-cure with the gelcoat ensuring a good chemical and mechanical bond between the gelcoat and the laminate. Prepregs with very low resin content are not recommended.

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, and brush application of the clear version may result in a thicker gelcoat film reducing the transparency. On the contrary, a higher temperature will reduce the viscosity and the pot life of the mix.

Resin 7090 CLEAR or COLOURED

Hardener 7091(T)

PHYSICAL CHARACTERISTICS

Visual aspect

7090 CLEAR :	Opalescent thixotropic liquid
7091 :	Clear liquid
Mix :	Opalescent liquid
7090 COLOURED :	Coloured thixotropic liquid (black & white as standards)
7091T :	Translucid gel
Mix :	Coloured gel

Density (ISO 1675, ± 0.05)

References	7090 CLEAR	7091	7090 COLOURED	7091T
Density at 23°C	1.17	0.96	1.20	0.99
Mixed density at 23°C	1.12		1.15	

Viscosity (ISO 2555, $\pm 15\%$)

References	7090 CLEAR	7091	7090 COLOURED	7091T
Viscosity at 23°C (mPa.s)	13300	65	18700	13000 (250rpm)

REACTIVITY, CURING & T_g

References	7090 CLEAR or COLOURED / 7091(T)
Reactivity on 70mL (~4cm thickness) at 23°C	4h
Temperature at exothermic peak on 70mL at 23°C	69°C
Time at exothermic peak on 70mL at 23°C	4h
Touch dry at 23°C	8h to 12h
T _g after following post-curing cycle : 24h23°C+8h60°C+2h80°C+2h120°C	134.6°C (DMA) / 139°C (DSC)

Reactivity measurements made with Trombotech®

Resin 7090 CLEAR or COLOURED

Hardener 7091(T)

PACKAGING

Kits 7090 CLEAR or COLOURED / 7091(T)

- 1kg + 0.3kg
- 5kg + 1.5kg
- 10 kg + 3kg
- 25kg + 7.5kg
- 200kg + 3x20kg

TRANSPORT & STORAGE

Shelf life is minimum one year in sealed containers as provided. Keep containers 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 or hardener 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.