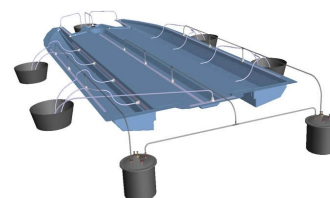


RESOLCOAT GC HT180 BLACK

Hardener GC HT186

High T_G Epoxy Gelcoat

- High temperature resistance
- T_G ~ 180°C
- Adapted rheology



RESOLTECH GC HT180 BLACK / GC HT186 epoxy system is a very high T_G epoxy gelcoat specially formulated for the production of tooling and large structural composites parts requiring high services temperatures and glass transition temperature up to **180°C**.

This new generation system is suitable for the manufacture of large moulds structures and composite parts. Laminates or moulds can be released after a low temperature cure cycle (8h at 50°C). Final thermo-mechanical properties will be obtained after a post curing cycle defined according later in this technical data sheet.

MIXING RATIO BY WEIGHT

System	GC HT180 BLACK / GC HT186
Mixing ratio by weight	100 / 13

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.

Resin GC HT180 BLACK

Hardener GC HT186

APPLICATION

The standard procedure of working with epoxy systems applies to this system. The gelcoat can be applied by brush or by roller.

It is recommended to have workshop temperature conditions between **18-25°C** in order to facilitate the mixing. 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

GC HT180 BLACK	:	Black viscous liquid
GC HT186	:	Transparent liquid
Mix	:	Black liquid

Density according to ISO 1675 (± 0.05)

References	GC HT180 BLACK	GC HT186
Density at 23°C	1.75	0.92
Mix density at 23°C	1.65	

Viscosity according to ISO 2555

References	GC HT180 BLACK	GC HT186
Viscosity at 23°C (mPa.s)	100 000	16
Mix viscosity at 23°C (mPa.s)	6 000	

REACTIVITY

System	GC HT180 BLACK / GC HT186
Pot life on 70mL at 23°C (4cm thickness)	8h30min
Pot life in 2mm film at 23°C	9h
Tack time in film at 23°C	4h30min - 5h30min
Vertical sag limit at 23°C	400µm

Reactivity measurements are realized on Rheotech®

Resin GC HT180 BLACK

Hardener GC HT186

MECHANICAL PROPERTIES

The following table indicates the T_G & hardness obtained with different post-curing cycles.

System	GC HT180 BLACK / GC HT186	
Curing cycles	16h60°C	3h50°C + 3h100°C + 3h150°C + 1h180°C
Shore D Hardness	92	
T_G (°C)	89°C	177°C

Shore D according to ISO 868

T_G measurements made by Kinetech®

PACKAGING

Available kits :

- 1.13 kg : (1+0.13) kg
- 6.78 kg : (6+0.78) kg
- 33.9 kg : (30+3.9) kg
- 286 kg : (220+3x22) kg

TRANSPORT & STORAGE

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 stated on the label).

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.

Nota : The data provided in this document are provided good-faith and are based on the test in laboratory and our practical experience and is believed to be accurate. Considering the application of our products gets away from our control, 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.