

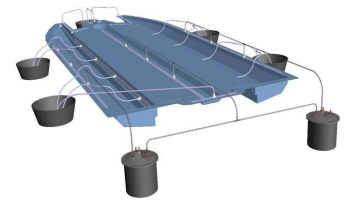
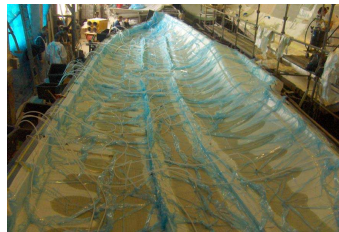


RESOLTECH HTG 210

Hardener HTG 216

High TG Structural wet layup Epoxy Systems

- High T_g 214°C
- Low viscosity and high wetting out properties



RESOLTECH HTG 210 / HTG 216 epoxy system is very high TG resin specially formulated for the production of **tooling and large structural** composites parts requiring TG's up to 210 °C

Due to its **low viscosity, high wetting properties and excellent air release**, is suitable for the manufacture of structures and composite parts by wet lay-up or filament winding while guaranteeing low toxicity working conditions to the users. The stable low viscosity vs temperature makes of the HTG 210 system a prime choice for infusion process.

This system guarantees **high inter-laminar** properties and impact resistance thanks to its **exceptional wetting properties** even on aramid reinforcements.

Laminates can be released from the moulds after a low temperature cure cycle (8h @ 50°C). Final thermo-mechanical properties will be obtained after a post curing cycle defined according later in this technical data sheet.

Resin HTG 210

Hardener HTG 216

High TG infusion epoxy resin system

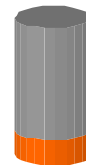
MIXING RATIO

Resin HTG 210

100 pbw

Hardener HTG 216

36 pbw



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 systems applies this system. The HTG 210 system can be applied by brush, roller, infused or injected. 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. For more information, please refer to the applications technical bulletins (TechNotes), available on request.

PHYSICAL CHARACTERISTICS @ 23°C

Visual aspect

HTG 210 : Opalescent neutral to light yellow liquid

HTG 216 : Clear to transparent yellow liquid.

Mix : Neutral to yellow opalescent liquid.

Density

REFERENCES	HTG 210	HTG 216	Mix
DENSITY	1.17	0,92	1,01

Resin HTG 210

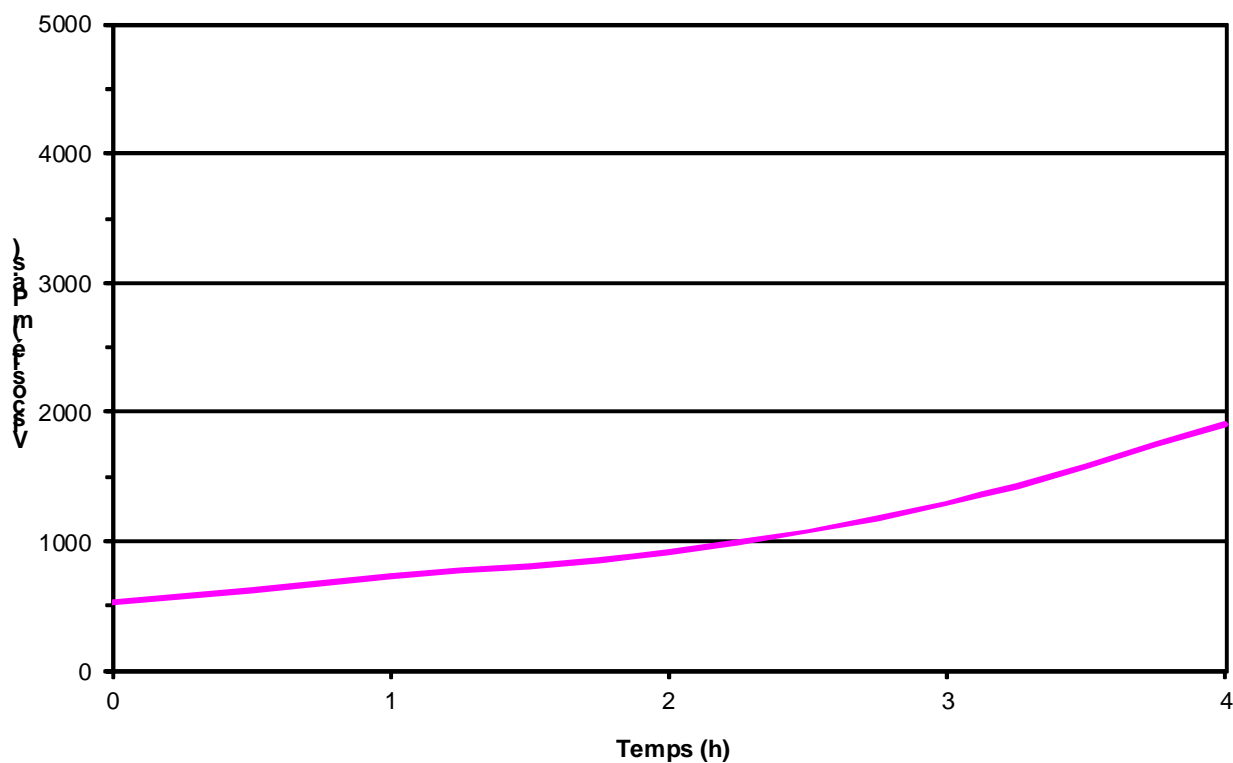
Hardener HTG 216

PHYSICAL CHARACTERISTICS @ 23°C

Viscosities (mPa.s)

REFERENCES	HTG 210	HTG 216
Viscosity	4458	29
Viscosity mix	-	579

Evolution of viscosity in time



Measures realized at 23°C in test tubes of 180mm high and 18mm diameter (~40g)

Resin HTG 210

Hardener HTG 216

REACTIVITY @ 25°C

Reactivity measures on Trombotech®

Gel time on 70g	8h00
Temperature at exothermic peak on 70g (50 mm thickness pure resin)	180°C
Geltime on 2 layers of glass multiaxial 600 grams (~1,2mm)	8h45

Resin HTG 210

Hardener HTG 216

CURE & POST CURING

The following data indicates the TG obtained with different post curing cycles. The first cycle is considered as « minimum » in order to release from the mould.

TG according to post-curing cycle

CYCLES	T _{Gm}	T _{GM}	T _{Gi}	T _{Gf}
7j @ 23°C	Brittle	Brittle	Brittle	Brittle
Minimum : 8h @ 50°C	89°C	94°C	73,3°C	120°C
8h @ 50°C + 3h @90°C + 3h @ 120°C + 2h @ 150°C + 1h @ 200°C	214°C	230°C	209°C	247°C

MECHANICAL CHARACTERISTICS

TRACTION

N/A Mechanical characteristics are being validated

FLEXION

All Mechanical characteristics are being validated

COMPRESSION

All Mechanical characteristics are being validated

CHOC

All Mechanical characteristics are being validated

HARDENESS SHORE D

All Mechanical characteristics are being validated

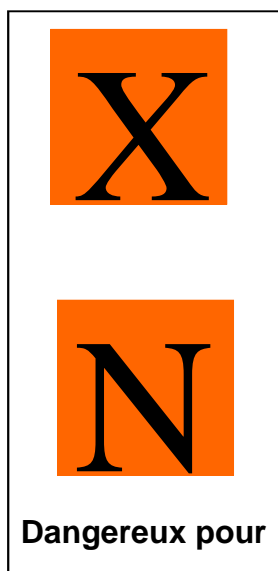
All mechanical values are given as indications. Testing is being done and values will be shortly validated

Resin HTG 210

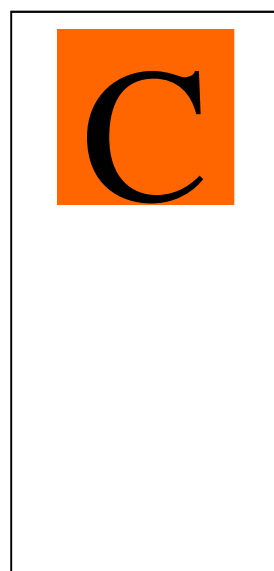
Hardener HTG 216

LABELLING

HTG 210



HTG 216



PACKAGING

- 1 kg HTG 210	+ 0.36 kg HTG 216
- 4 kg HTG 210	+ 1,44 kg HTG 216
- 27 kg HTG 210	+ 9,72 kg HTG 216
- 200 kg HTG 210	+ 72 kg HTG 216
- 1000 kg HTG 210	+ 360 kg HTG 216

TRANSPORT & STORAGE

Shelf life is 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

It is advised to follow basic rules such as avoiding skin contact, wear masks when producing dust. Please read our standard health and safety sheet for more information.

In case of eye contamination, wash with water and seek medical advice.

Nota 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.



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