RESOLTECH HTG 180

Hardener HTG 185

High TG Structural Infusion Epoxy Systems

- **High T_G 180°C**
- **Low viscosity and high wetting out properties**




RESOLTECH HTG 180 / HTG 185 epoxy system is very high TG infusion resin specially formulated for the production of tooling and large structural composites parts requiring TG's and service temperatures up to **180°C**.

This new generation system, optimized with **low viscosity, high wetting properties and excellent air release**, is suitable for the manufacture of large structures and composite parts by wet lay-up, infusion, injection moulding or filament winding while guaranteeing low toxicity working conditions to the users.

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.

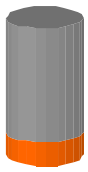
Résines HTG 180

Durcisseur HTG 185

High TG infusion epoxy resin system

MIXING RATIO

Resin HTG 180	**100 pbw**
Hardener HTG 185	**20 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 160 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 it's 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 180 : Opalescent neutral to light yellow liquid
HTG 185 : Neutral to transparent yellow liquid.
Mix : Neutral to transparent yellow liquid.

Density

REFERENCES	HTG 180	HTG 185	Mix
DENSITY	1.17	0,95	1,02

Resin HTG 180

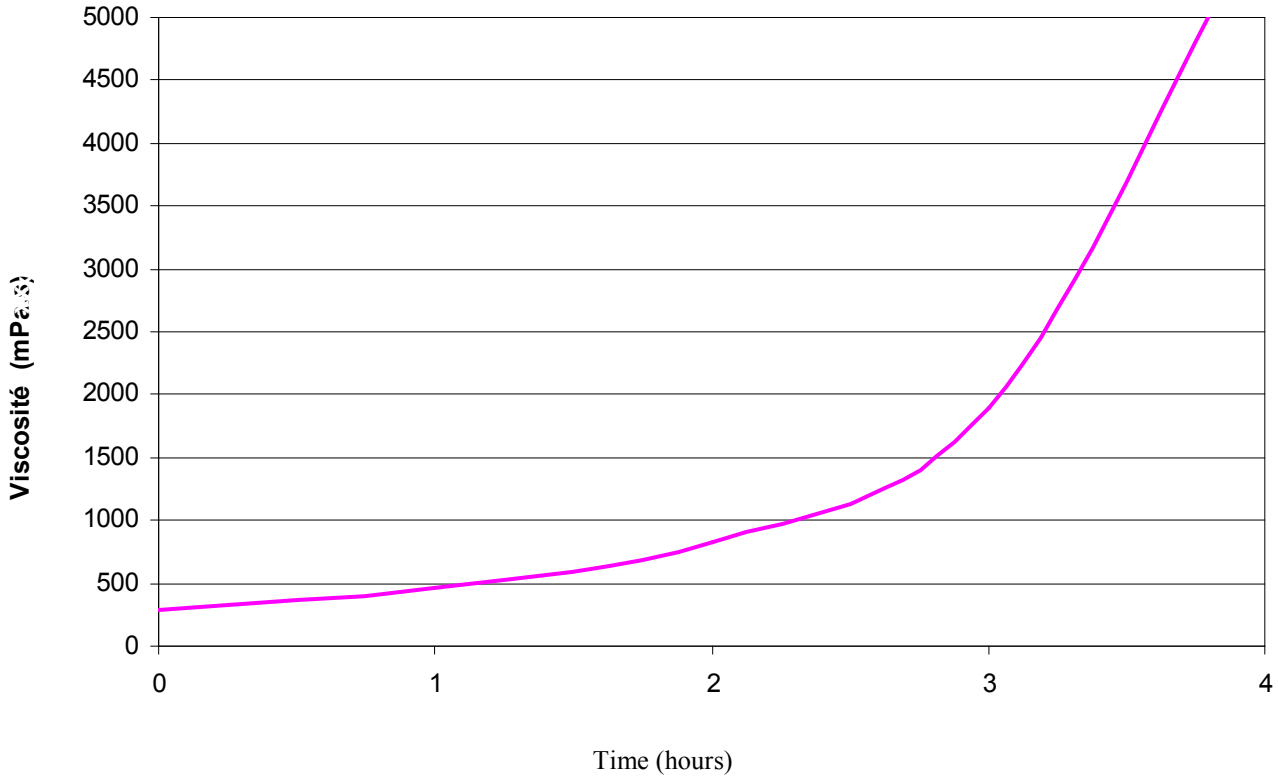
Hardener HTG 185

PHYSICAL CHARACTERISTICS @ 23°C

Viscosities (mPa.s)

REFERENCES	HTG 180	HTG 185
Viscosity	1770	26
Viscosity mix	-	285

Evolution of viscosity in time



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

Resin HTG 180

Hardener HTG 185

REACTIVITY @ 25°C

Reactivity measures on Trombotech®

Gel time on 70g	3h20
Temperature at exothermic peak on 70g	160°C
Geltime on 2 layers of glass multiaxial 600 grams (~1,2mm)	ND

Resin HTG 180

Hardener HTG 185

CURE & POST CURING

The following data indicates the TG obtained with diferent 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_{Gd}	T_{Gf}
7j @ 23°C	BRITTLE	BRITTLE	BRITTLE	BRITTLE
Minimum : 8h @ 50°C	**82°C**	79°C	74.4°C	90.4°C
8h @ 50°C + 2h @ 150°C	**157°C**	152°C	141.4°C	166.5°C
8h @ 50°C + 3h @90°C + 3h @ 120°C + 2h @ 150°C	**177°C**	170°C	155.9°C	183°C
8h @ 50°C + 3h @90°C + 3h @ 120°C + 2h @ 150°C + 1h @ 200°C	**180°C**	178°C	161°C	190°C

MECHANICAL CHARACTERISTCIS

TRACTION

N/A Mechanical data are being validated

FLEXION

All Mechanical data are being validated

COMPRESSION

All Mechanical data are being validated

CHOC

All Mechanical data are being validated

HARDENESS SHORE D

All Mechanical data are being validated

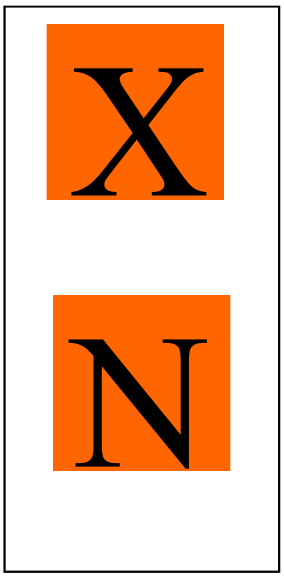
All mechanical values are given as indications. Testing is being done and values will be shortly validated

Resin HTG 180

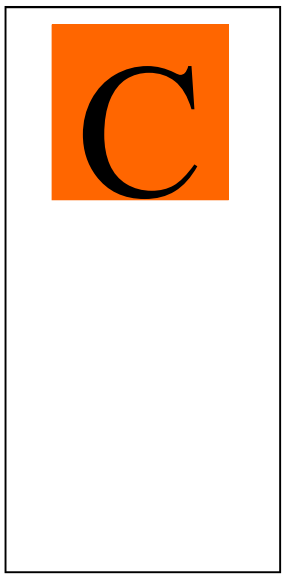
Hardener HTG 185

LABELLING

HTG 180



HTG 185



PACKAGING

- 1 kg de HTG 180	+	0.2 kg de HTG 185
- 5 kg de HTG 180	+	1 kg de HTG 185
- 25 kg de HTG 180	+	5 kg de HTG 185
- 200 kg de HTG 180	+	40 kg de HTG 185

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..

rēsoltech
ADVANCED TECHNOLOGY RESINS

35, impasse Emeri • Pôle d'activités
13510 EGUILLES • FRANCE
Tél : +33 4 42 95 01 95 • Fax : +33 4 42 95 01 98
e-mail : info@resoltech.com • website : www.resoltech.com