

RESOLTECH 1040

Hardener 1405

Infusion Epoxy Resin system

- **High T_G ~ 150°C**
- **Low viscosity and exceptional wetting properties**



RESOLTECH 1040 - 1405 is an epoxy resin system formulated for infusion applications. It enables to manufacture structural composites parts with all existing reinforcement fabrics.

Thanks to its low viscosity and high wetting properties, it can be used by hand lay-up or via infusion, vaccum bagging and RTM .

Once reticulated at ambient temperature, the parts should be post-cured according to the thermal cycle indicated in this datasheet in order to obtain the maximum mechanical properties of this resin system.

It's T_G of 150°C enables the realisation of high quality and performance parts as well as tooling for pre-preg parts.

Resin 1040

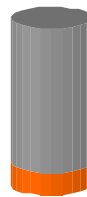
Hardener 1405

Structural epoxy laminating system

- High $T_G \sim 150^\circ\text{C}$
- Low viscosity and exceptional wetting properties

MIXING RATIO

	by weight
Resin 1040	100
Hardener 1405	16,5



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 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 this system. The 1040/1045N/1048N 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

PHYSICAL CHARACTERISTICS @ 23°C

Visual Aspect

1040 : Opalescent neutral liquid
1405 : Neutral to transparent yellow liquid.
Mix : Neutral to transparent yellow liquid.

Densities

REFERENCES	1040	1405
Density	1.17	0.94
Mix density	-	1.12

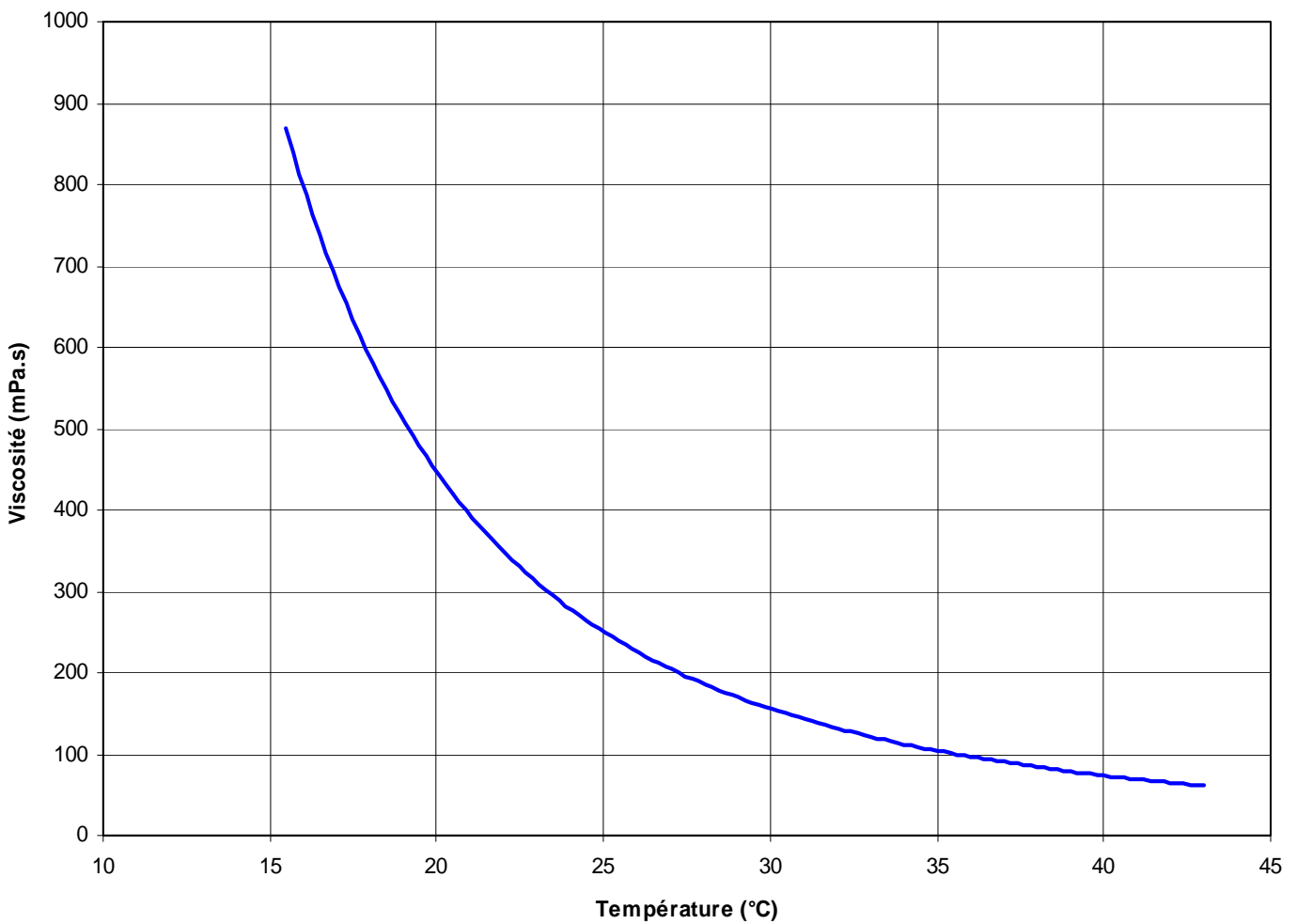
Resin 1040

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PHYSICAL CHARACTERISTICS @ 23°C (continued...)

Viscosity (mPa.s)

REFERENCES	1040	1405
Viscosity	2800	30
Mix viscosity	-	300



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REACTIVITY @ 23°C

Reactivity measures realized on Trombotech®

Hardeners	1405
Gel time on 70g	2h00
Time at exothermic peak on 70g	2h05
Temperature at exothermic peak on 70g	230°C

CURING & POST CURING

In order to obtain a material at the maximum of its mechanical properties with a TG of 150 °C, it is necessary to postcure with a cycle of : 24h at ambient temperature (20-25°C) + 8h at 70°C + 6h at 125°C

MECHANICAL CHARACTERISTICS

TRACTION

Module :	3500 MPa
Maximum resistance :	68 MPa
Resistance until breaking :	65 MPa
% elongation :	4 %

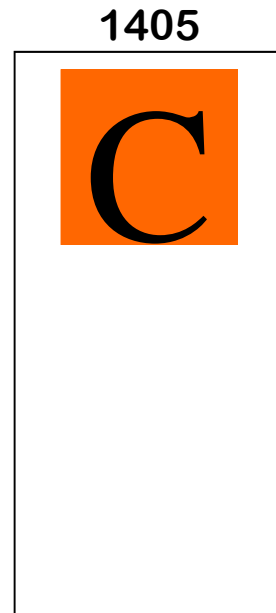
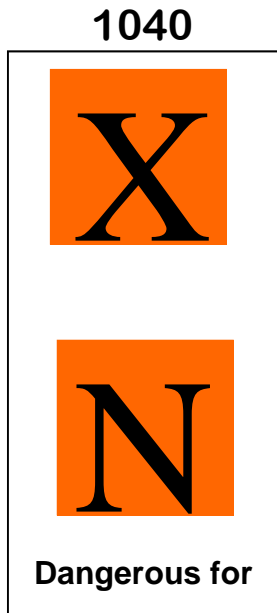
FLEXION

Module :	3400 MPa
Resistance :	108 MPa
% elongation :	5 %

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LABELLING



PACKAGING

- 1,165 kg. kit in plastic containers (1 kg + 0.165 kg.)
- 5,825 kg. kit in plastic containers (5 kg + 0.825 kg.)
- 34,95 kg. kit in plastic containers (30 kg + 4.95 kg.)
- 233 kg. kit in metal drum (200 kg + 33 kg.)

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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Page 5/5