

# resoltech 1600

## Hardener 1606

### Flexible epoxy system



- **Manufacture of flexible composites**
- **Room temperature curing**
- **High impact resistance**
- **Excellent fatigue properties**
- **New formula without CMR components**

## INTRODUCTION

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RESOLTECH 1600 / 1606 system is the results of the latest advances in epoxy chemistry formulation and enables to obtain a flexible epoxy retaining all the added values of epoxy resins: **high adhesion, high toughness**, but none of the aging issues in the older flexible formulations.

The latest system is a high performance epoxy laminating system that cures at room temperature. It is formulated for the realisation of flexible laminates that need a **high flexibility** and **improved impact resistance**.

The hardener has been reformulated in order **to guarantee the absence of CMR components**.

By blending this system with the rigid epoxy system 1050, **any flexibility can be achieved**, see the document 1050/1600 blends available on the 1600 system's webpage.

Its main **characteristics** are :

- Excellent wettability
- Excellent adhesion on all substrates
- Comfortable working time

Typical **applications** :

- Flexible carbon rods
- Flexible light RTM counter moulds when mixed with 1050 resin
- Decoration & upholstery items
- Rally car parts
- Sensors encapsulation
- Fibre reinforced membranes

## MIXING RATIO

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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.

System	1600/1606
Mixing ratio by weight	100/126
Mixing ratio by volume	100/144

## APPLICATION

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- It is recommended to have workshop temperature conditions **between 18-25°C** in order to facilitate the mixing and the fibers reinforcement impregnation.
- A lower temperature will increase the potlife and the viscosity.
- On the contrary, a higher temperature will reduce the viscosity and the pot life of the mix.

# PHYSICAL CHARACTERISTICS

## 1 Visual aspect

**1600 :**  
Clear colorless liquid

**1606 :**  
Orange clear liquid

**Mix :**  
Slightly orange clear liquid

## 2 Density

References	1600	1606
Density at 23°C	1.14	1.00
Mixed density at 23°C	1.06	

ISO 1675, ± 0.05 tolerance

## 3 Viscosity

References	1600	1606
Viscosity at 23°C (mPa.s)	600	350
Mixed viscosity at 23°C (mPa.s)	500	

ISO 12058.2, ± 15% tolerance

# REACTIVITIES

System	1600/1606
Gel time on 70mL at 23°C (4cm high mix)	3h40min
Time at exothermic peak on 70 mL at 23°C	1h47min
Temperature at exothermic peak on 70mL at 23°C	39.2°C
Gel time on 2mm thick film at 23°C	5h30min

Reactivity measurements realized on Trombotech\*

## CURING AND POST-CURING

In order to obtain the maximum thermo-mechanical properties, it is necessary to respect the recommended curing cycle. The table below shows the glass transition temperatures (DMA) according to different curing cycles.

System		1600/1606
14 days at 23°C	T <sub>g</sub>	-44°C
	Shore A Hardness	57
16h at 60°C	T <sub>g</sub>	-44°C
	Shore A Hardness	57

T<sub>g</sub> measured on DMA, T<sub>α</sub>  
Hardness : ISO 868, pressure applied during 15 sec

## MECHANICAL PROPERTIES

System		1600/1606
16h at 60°C	TRACTION	
	Modulus	2.6 MPa
	Maximum strength	1.2 MPa
	Elongation at break	72%

Measurements on pure resin according to the following standard : ISO 527

## PACKAGING

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- Plastic jerrycan kit of 0.4kg + 0.5kg
- Plastic jerrycan kit of 0.8kg + 1kg
- Plastic jerrycan kit of 4kg + 5kg
- Plastic jerrycan kit of 20kg + 25Kg
- Drum kit of 152kg + 190kg

## TRANSPORT & STORAGE

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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 on the label).

## HEALTH & SAFETY

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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, hardener, solvent or dust 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.



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