# RESOLTECH 6410

20/12/2011

## Hardeners 6418 & 6419

## Fast Curing Structural Epoxy Laminating System

- **Versatile laminating system for all-weather working conditions**
- **Room temperature curing**
- **Low viscosity for easy impregnation even at low temperatures.**




The 6410 System is a high performance **epoxy laminating system that will work in adverse conditions** of high humidity and low temperatures.

Its **main characteristics** of low viscosity combined with a fast gel time at room temperatures makes the 6410 system a prime choice for renovation of pipes and drains as well as for marine applications or any winter application.

Even in low applications temperatures such as 10ºC, the resin & hardener stays workable unlike other epoxies that would have a honey-like consistency at such low temperatures.

Its exceptional wetting capability and its good adherence characteristics on porous materials also makes it possible to use the 6410 as an **adhesive** in some applications.

For applications were a shorter pot-life is needed, the use of the 6419 is recommended to obtain a reactivity of 15 minutes on 100 grams at 25 degrees Celsius.

The **mixing ratio** of the 6410 with both hardeners is 100:20 by weight.

Once cured, parts manufactured may be released from the mould without a post-cure. The optimum thermo-mechanical properties of parts manufactured with the 6410 will be obtained after 7 days at 25° C to obtain a 50℃ TG - or a post-curing cycle of 15 hours at 60℃ to obtain a TG of 68℃.

# Resin 6410

## Hardeners 6418 & 6419

## MIXING RATIO

| | | By weight |
|---|---|---|
| Resin | 6410 | 100 |
| Hardeners | 6418 & 6419 | 20 |

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 to the RESOLTECH 6410. Mixing the resin and hardener should be done above 10 ℃ The 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.
For more information, please refer to the applications technical bulletins (TechNotes), available on request.
As with all epoxies, a lower application temperature will result in a higher viscosity and a longer pot life. On the contrary a higher application temperature will reduce the viscosity and as well as the pot life of the mix.

## PHYSICAL PROPERTIES @ 25°C

### Visual Aspect

6410 : Transparent to slightly yellow liquid
6418 & 6419 : Transparent to slightly orange liquid
Mix : Transparent to slightly yellow liquid

### Density @ 23℃

| | 6410 | 6418 | 6419 |
|---|---|---|---|
| **Density** | 1.10 | 0.99 | 0.98 |
| **Mixed density** | - | 1.05 | 1.04 |

## GEL TIME

| RESIN / HARDENER SYSTEM | 100g @ 25 ℃ |
|---|---|
| **6410 / 6418** | 20 to 25 min |
| **6410 / 6419** | 10 to 15 min |

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## TG

***Fully cured mix after 8 days at room temperature:***

| Resin/Hardeners system | TGm 7 days @ 25℃ | TGm 24h @ 25℃ + 15h @60℃ |
|---|---|---|
| **6410 / 6418** | 50℃ | 68℃ |
| **6410 / 6419** | 51℃ | 70℃ |

## VISCOSITY (mPa.s) ISO 12058-2 @ 23℃

| | 6410 | 6418 | 6419 |
|---|---|---|---|
| **Viscosité** | 400 | 300 | 300 |
| **Viscosité du mélange** | - | 350 | 350 |

## MECHANICAL PROPERTIES

| | Service Temperature | |
|---|---|---|
| | @ 20℃ | @ 50℃ |
| **TRACTION (ASTM D 638-98)** | | |
| Tensile Strength (MPa) | 70 | 46 |
| Elongation until break (%) | 5 | 5 |
| **FLEXION (ASTM D 790 M 93)** | | |
| Module (MPa) | 3000 | 1900 |
| Flexural strength (MPa) | 110 | 72 |
| **Others** | | |
| Charpy Resilience (KJ/m²) - ISO 179 | 25 | 25 |
| Shore D Hardness - ASTM D 2240-97 | 85 | 75 |

** All values measured after 8 days cure at room temperature of 25℃.*

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## CHEMICAL RESISTANCE

++ = Good  + = Acceptable  0 = Low

| | |
|---|---|
| Acetic Acid 20 % | 0 |
| Acetic Acid 3 % | 0 |
| Citric Acid 10 % | ++ |
| Citric Acid 3 % | ++ |
| Chlorhydric Acid 20 % | ++ |
| Formic Acid 3 % | 0 |
| Formic Acid 10 % | 0 |
| Lactic Acid 10 % | ++ |
| Lactic Acid 3 % | ++ |
| Fluorhydric Acid 3 % | 0 |
| Linoleic Acid | ++ |
| Nitric Acid 20 % | 0 |
| Nitric Acid 3 % | 0 |
| Sulfuric Acid 30 % | + |
| Sulfuric Acid 10 % | ++ |

| | |
|---|---|
| Ammoniac 10% | ++ |
| Caustic Souder 30% | ++ |
| Caustic Souder 10% | ++ |

| | |
|---|---|
| Distilled water at 50℃ | + |
| Distilled water at 10℃ | ++ |
| NaCi solution 10% | ++ |
| Sea Water | ++ |
| Chlorine water 25 mg/l | ++ |

| | |
|---|---|
| Acetone | 0 |
| Methyl ethyl cetone | 0 |
| Methylene Chlorine | 0 |
| Benzene | 0 |
| Toluene | ++ |
| Xylene | 0 |
| White Spirit | ++ |
| Gasoline | ++ |
| Unleaded gasoline | ++ |
| Diesel | ++ |
| Skydrol | 0 |

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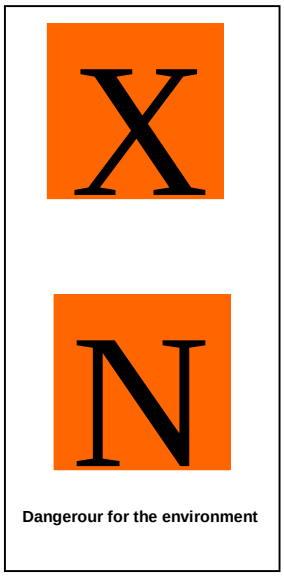
## LABELLING

**6410**




**6418 & 6419**


## PACKING & STORAGE

**1.2 kg kit**: Resin 1kg in plastic container + hardener 0,2 kg in plastic container
**2,4 kg kit**: Resin 2kg in plastic container + hardener 0,4 kg in plastic container
**6 kg kit** : Resin 5 kg in plastic container + Hardener 1 kg in plastic container
**30 kg kit** : Resin 25 kg in plastic container + Hardener 5 kg in plastic container
**240 kg kit** : Resin 200 kg in Metal drum + Hardener 2x20 kg in plastic container

Shelf life is one year in sealed containers as provided.

Keep containers sealed and away from heat and cold preferably between 10℃ and 30℃ in a well ventilated area.

## HEALTH & SAFETY

It is advised to follow basic rules such as avoiding skin contact, wear masks & eye protection. Please read our standard health and safety sheet for more information. In case of eye contamination, wash with water and seek medical advice.



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