

RESOLTECH 1020 & 1020T

Hardener 1029XS

Fast Curing structural epoxy resin system

- 15mn Pot life
- Little sensitivity to humidity during application
- Available in thixotropic version (1020T)
- **New improved low toxicity hardener**



RESOLTECH 1020 (T) with the 1029XS hardener is an advanced epoxy laminating system for adverse weather application conditions.

It is widely used in civil engineering & marine applications on glass and carbon laminates where its little sensitivity to humidity during its application and good curing properties at low temperature are appreciated. It will cure at low temperatures.

This new 2015 version of the 1029XS hardener helps grant a safer work place thanks to the lower toxicity of this system, following the latest recommendations of the EU CLP Regulation eliminating any suspected CMR1 or CMR2 components.

Its **main characteristics** of low viscosity combined with a fast gel time at room temperatures makes of the 1020+1029XS a choice system for repair work on pipes & drains, civil engineering applications, wind blades as well as for marine applications for repairs while at sea but also for osmosis treatments.

Its exceptional wetting capability and its good adherence characteristics on porous materials also makes it possible to use the 1020+1029XS as an **adhesive** in some applications.

Once cured, parts manufactured may be released from the mould without a post-cure. Should a post cure be applied, 1020+1029XS becomes a fast system for the production of sporting goods and other composites laminates where high mould productivity is required.

A thixotropic version, the **1020T** is available for vertical or overhanging applications prone to dripping.

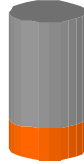
Resin 1020 (T)

Hardener 1029XS

MIXING RATIO

BY WEIGHT

Resin 1020	100
Hardener 1029XS	35



The mixing ratio must be respected neither excess nor default. The mixture should be homogeneous and intimate with the use.

APPLICATION

It is recommended to use products to a temperature close to 15-25 ° C in order to facilitate the mixing and the reinforcements impregnating.

Lower temperatures will increase the viscosity of the mixture and the gel time, but the resin will not crystallize at low temperatures. On the contrary, a higher temperature will reduce the viscosity of the mixture and well as the pot life.

PHYSICAL CHARACTERISTICS

Visual aspect

1020 (T) :	Opalescent neutral liquid
1029XS :	Neutral to transparent yellow liquid.
Mixture aspect :	Neutral to transparent yellow liquid.

Densities @ 23°C

1020:	1,17
1029XS:	1,02
Mix :	1,10

Viscosities (mPa.s) according to ISO 12058-2 @ 23°C

1020:	1500
1029XS:	800
Mix :	990

GEL TIME (according to ISO 2535)

Pot life on 100 gr or 2 cm high at 23°C:	12 min
Gel time on 2 mm laminate @ 23°C:	49 min

CURING & POST-CURING

90% of the thermo-mechanical properties are obtained after 24 to 36 days at room temperature (25 ° C). To obtain a material at its highest thermo-mechanical properties with a TG of up to 70 ° C, it is necessary to post-cure the laminate 15h @ 60 ° C.

It is important not to cure the system at a temperature above 50 ° C. Higher temperatures cross-linking during initial cure may create tensions in the laminate. Higher post-curing temperatures than 50 ° C are suitable once the initial cross-linking are established.

The following data is an indication of the curing time at room temperature (23 ° C) in order to release from moulds and obtain a hard and sandable laminate: 1020+1029XS : 4h

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MECHANICAL CHARACTERISTICS

Values on non reinforced resin after 7 days at 23°C

All mechanical values in validation due to recent hardener change

**1020/1029
XS**

TRACTION (ISO 527-2)

Modulus (MPa)	N/A
Max stress(MPa)	N/A
Failure stress (MPa)	N/A
Failure strain (%)	N/A

FLEXION (ISO 178)

Modulus (MPa)	N/A
Max stress(MPa)	N/A
Failure stress (MPa)	N/A
Failure strain (%)	N/A

COMPRESSION (ISO 604)

Modulus (MPa)	N/A
Max stress (MPa)	N/A

Values on E-glass/epoxy laminate after 7 days at 23°C *

1020/1029

FLEXION (ISO 178)

Modulus (MPa)	N/A
Max stress (MPa)	N/A

COMPRESSION (ISO 604)

Modulus (MPa)	N/A
Max stress (MPa)	N/A

* E-glass Laminate manufacturing

Values for the test were obtained on laminates of 16 layers of glass twill 2-2 of 285 g/m².

Average rate of impregnation of the laminate: 74% +/-2% of fiber by weight.

The laminate was manufactured under press.

Resin 1020 (T)

Hardener 1029XS

MECHANICAL CHARACTERISTICS (continued...)

Hardness according to NF T57-106

Barcol Hardness: —> 32 for 1020-1029 XS system

WATER ABSORPTION

Non reinforced resin:

Water absorption at 23°C during 24h according to ISO 62:

→ 0,4% for 1020-1029XS system

Reinforced resin:

Water absorption at 23°C during 24h according to ISO 62 :

→ 0,1% for 1020-1029XS system

Resin 1020 (T)

Hardener 1029XS

PACKAGING

- Plastic container kit of 1 kg + 0.35 kg
- Plastic container kit of 5 kg + 1,75 kg
- Plastic container kit of 25 kg + 8,75 kg
- Steem drum kit of 200 kg + 70 kg

TRANSPORT AND STORAGE

Keep containers sealed and away from heat and cold preferably between 10°C and 30°C in a well ventilated area. Shelf life is minimum one year in sealed containers as provided.

HEALTH AND SAFETY

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

Nota : The data provided in this document are provided good-faith and are based on the test in laboratory and our practical experience and is believed to be accurate. Considering the application of our products gets away from our control, 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.

