

RESOLTECH 2010

Hardeners 2013 to 2019

Multipurpose Casting Epoxy System

- Adjustable pot life from 13h45min to 15min
- Room temperature cure & mould release
- Excellent air release properties



Thanks to its **low viscosity** and **low exothermy**, this system enables casting by gravity or under vacuum, with the incorporation of any kind of fillers.

All hardeners mix with a 100:35 ratio by weight and can be pre-blended together to precisely adjust the desired potlife. It is possible to release the parts from the mould without post-curing. Most of the thermo-mechanical properties of the laminate will be obtained after 7 days at room temperature.

Once cured, cast parts may be released from the moulds without post-cure. The greatest quality of the RESOLTECH 2010 / 2013 - 2019 system is its **exceptional wetting properties** and **air release**.

This resin formulated with specific wetting agents will enable to **add high amounts of all types of fillers**, while providing **good flowability** during the casting.

Hardeners 2013, 2014, 2015, 2016, 2018 & 2019

MIXING RATIO

System	2010 / 2013 - 2019
Mixing ratio by weight	100 / 35
Mixing ratio by volume	7 / 3

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 potlife. 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 2010 / 2013 - 2019 system can be applied casted, infused or injected. In case of casting 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 fillers incorporation. 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 potlife of the mix.

PHYSICAL CHARACTERISTICS

Visual aspect

2010 : Opalescent liquid
2013 - 2019 : Colourless to yellow transparent liquid
Mix : Colourless to yellow opalescent liquid

Density according to ISO 1675 (± 0.05)

References	2010	2013	2014	2015	2016	2018	2019
Density	1.15	0.95	0.96	0.97	0.98	0.99	1.01
Mix density	-	1.10			1.11		

Viscosity according to ISO 12058.2

References	2010	2013	2014	2015	2016	2018	2019
Viscosity	1350	15	20	31	42	70	162
Mix viscosity	-	275	330	385	492	561	718

($\pm 15\%$ tolerance)

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REACTIVITY

Systems	2010 / 2013	2010 / 2014	2010 / 2015	2010 / 2016	2010 / 2018	2010 / 2019
Potlife on 70mL at 23°C (4cm thickness)	13h45min	4h30min	1h30min	40min	20min	15min

Reactivity measurements made with Rheotech®

CURING & POST-CURING

It is important not to start the curing at temperatures above 50°C without previous advice. High initial curing temperature may generate stress in the laminate and their consequent deformations. Most of the thermo-mechanical properties are obtained after 7 days at room temperature. In order to obtain optimal thermo-mechanical properties with a T_G around 75°C, it is necessary to post-cure the laminate according to the following cycle: 24h at room temperature (20-25°C) + 16h at 60°C

For a curing temperature at 25°C on 100g without post-curing, the following times to demould and to sand may be used as guideline:

- 2010 / 2013 : 40h
- 2010 / 2014 : 30h
- 2010 / 2015 : 20h
- 2010 / 2016 : 16h
- 2010 / 2018 : 8h
- 2010 / 2019 : 3h

The polymerization of the 2010 system is exothermic, thus it is recommended prior to very large casting to conduct tests.

Temperature at exothermic peak decreases if:	Temperature at exothermic peak increases if:
Volume to be cast is small	Volume to be cast is important
Thickness is small and surface in contact with air is important	Thickness is important and surface exposed to air is not important
Resin is filled with mineral charge	Resin is un-filled or filled with an insulating filler such as hollow glass microspheres
Room temperature is low	Room temperature is high
Substrate onto the resin is cast is a good thermal conductor (metal)	Substrate onto the resin is cast is a good thermal insulant (EPS)
Hardener used is one of the slow ones (2013)	Hardener used is one of the fast ones (2019)

PACKAGING

Available kits :

- 1.35 kg : (1+0.35) kg
- 6.75 kg : (5+1.75) kg
- 37.8 kg : (28+9.8) kg
- 270 kg : (200+3x23.33) kg
- 1350 kg : (1000+2x175) kg

TRANSPORT & STORAGE

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 stated on the label).

HEALTH & SECURITY

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 or hardener 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.