

resoltech



ADVANCED TECHNOLOGY RESINS

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WWA clear casting system



Specially designed for artistic or decorative uses, Resoltech WWA system is based on four versions, all perfectly clear but with different thickness, TG, hardness and UV resistance properties. Unlike many clear polymers, it is now possible to make parts highly resistant to yellowing. Solvent and CMR free, WWA formulations are compatible with so many materials, wood, glass, terracotta, metal... that creator's imagination is the only limit. Unlike polyester or thermoplastic resins, epoxy shows no shrinkage after cure, which helps to make copies very accurate to the original master. WWA can be tailored on demand between a fully hard and flexible state, depending on dosage, and specific degassing agents are used to get inlays without any visual defects.

Sébastien Roubinet & Resoltech, a long polar adventure.



Born in Cevennes region, South of France, Sébastien found his vocation at a young age, crossing Atlantic Ocean when he was 14 ! Until his thirties, he spent more than 300 days a year on water, as a professional conveyor first, then as an ocean racer on board a self-built Mini 6,50, Adrenaline. In 2004, he takes a second captain role on board a polar expedition vessel, Tara, which cruised up to the Greenland West coast. Ice navigation experience has been so powerful that Sébastien decided to go back there but with a much smaller and simpler boat,

light and powerless, a sort of iceboat and catamaran hybrid. Done the same year in partnership with Resoltech, Babouche will be the first one to follow the North-West passage, sailing successfully from Pacific to Atlantic ocean. In order to cross pack ice, her hulls have been designed to slide along the ice like a sled and to float on water as a sailing catamaran, with hulls made of a Kevlar and Resoltech 1020 epoxy laminate. Initially formulated for wood epoxy composite, 1020 shows good flexibility and elongation capacities which helped the hull to cope with high impacts.



Expedition success validated the concept, but Sébastien found the craft was too big (24'9" by 16'10"), too heavy and too stiff. A smaller, lighter and softer Babouche would certainly be more effective. A first 16' prototype will be tried in James Bay in order to evaluate its inflated floats and self standing balestron rig. It helped to design a second 18' prototype tested in Alaska for 45 days in 2011. Its pneumatic hulls have been laminated with a hybrid Innegra/glass fabric and Resoltech 1020, which gave a composite material with very high elastic elongation properties. A third 20' prototype, Babouchka, pushed composite a step beyond, joining Innegra, basalt fibers and a Resoltech flexible epoxy system R1600/1606, which brings back finished weight on water to 330 lbs only !



In 2013, a tough two month expedition in Arctic Ocean strained Sebastien to limits, but he gained a precious experience to survive in harsh environment and this helped to design Babouchka 2. Tailored for a three people crew, this craft is 22'11" long, 7'10" wide, with a 484 sqft sail area upwind and 914 sqft downwind. Babouchka 2 slides on a composite runner (carbon/Innegra/basalt/1020) and a HD1000 sole under each pneumatic hull. Innegra/basalt skins have been laminated with Resoltech 1600/1606 epoxy system.



Its customized flexibility, achieved without plasticizers sensitive to ageing and not reliable over time, allowed to make a composite withstanding inflation pressure and impacts on ice, exactly as a RIB inflatable tube. Mechanical properties have been achieved at room temperature in order to simplify laminating process. Elasticity was easy to control, in combination with 1050 system. Other structural parts, such as platform, cabin and mast, have been laminated with carbon prepreps and put together with 3350 adhesive, a mixture highly resistant to shear and peel strength. Its greasy texture and thixotropy made application easy, without sagging or sinking troubles. This year, Sébastien, Eric André, Vincent Colliard and Babouchka 2 will sail up to the North pole, a 1620 nautical miles trip from Alaska to Spitzberg without assistance. Bravo to the artists !

20 years of experience with water based systems



Invested in CMRless - Carcinogenic, Mutagenic, Reprotoxic - products, Resoltech has been working for two decades on « environmentally friendly » formulas such as water based epoxys. We forget too often the point, but water is a natural solvent, effective and safe, which can be used in many formulations, without compromising mechanical or chemical performances. The only constraint, shared by all water

based products, is a working temperature above 50°F. A powerful ventilation, especially in a closed volume, is also necessary in order to ease water molecules evaporation. Today, Resoltech has a range of four water based epoxy systems, 1010 multipurpose primary layer/finishing/bonding, 4030W topcoat and gelcoat (THIX version), 8010W sprayable fairing filler and 3010W, and a solventfree version of 3010T hi-build.

Resolcoat 1010/1014/1016

1010 multipurpose system is easy to prepare, with a 1/1 resin/hardener mixing ratio, and easy to thin with water. Two finishes are available, glossy, with 1014 hardener, or matte with 1016 hardener. Water dilution can be done between 0 to 2 parts in volume, depending on application. A large dilution will give an extremely low viscosity level, useful to lay a primary layer on a new wood, prior to a 1020 laminate for example, or on an aged wood, to harden material in depth. With a small dilution, 1010 can be used as a clear varnish, highly



resistant to wear and very well suited for wood, concrete or any porous substrate such as terracotta. 1010 may also be used as is (without water) in order to bond wooden or porous parts. Easy to tint, 1010 system has been developed in a more UV resistant version called 1010C. It can be used to protect a polished concrete floor for example. Tools cleaning is easily done with tap water but you will have to collect effluents and use some personal protective equipment (gloves, glasses and disposable clothing) Lastly, 1010 system can be used as a binding agent for aggregates in order to get self-leveling concrete.

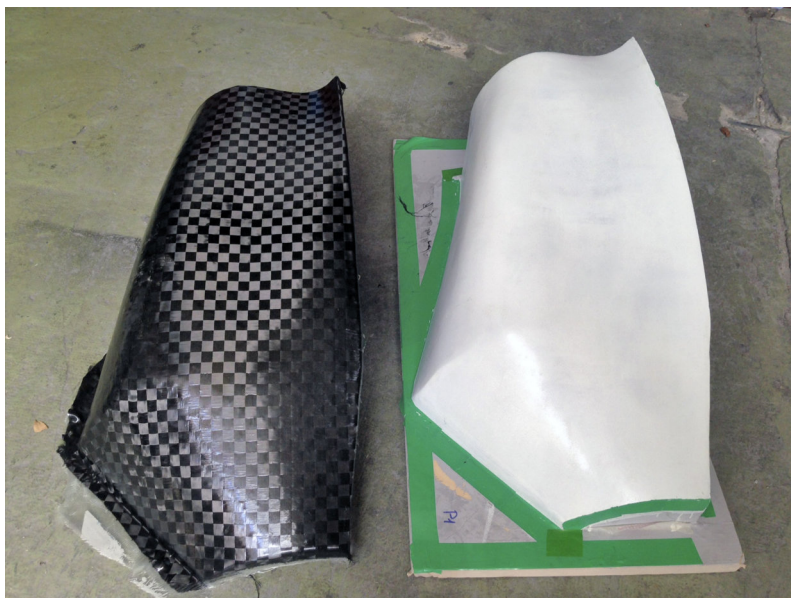
Resoltech 4030W & 4030W Thix

Miscible with water up to 50% in volume, this solvent free topcoat formula is used to achieve a painted finish, glossy (4034W hardener) or matte (4036W hardener), on numerous materials, steel, concrete or composites. Application is easily done with a brush, roller or spraygun. Because of its insensitivity to moisture, no cloudy layer may build up, even under high ambient humidity levels. Low surface tensions of the film raise degassing and help to get a smooth finish. Covering power is on the high side, as well as oil, acid and wear resistance. Those properties make 4030 W the preferred solution for bilges or industrial floors protection.

The THIX (for thixotropic) version has been developed as an alternative product to polyester gelcoats, highly resistant to sagging on vertical plane. After demoulding, surface is perfectly closed, without any pinhole defects which have a detrimental effect on finish. Once lightly deglazed, surface is ready for a lacquered finish, saving a huge number of coating and sanding hours.



Resoltech 8010W



Thinnable in water and sprayable, 8010W is an alternative for solvent-based fairing fillers. It helps to quickly prepare a mould or plug, one coat could be up to 5/64" thick. Because it is solvent free, 8010W can be used on sensitive materials such as polystyrene, commonly used for rapid prototyping. But with a porous surface, wood for example, we advise to apply first a 1010/1014 coat which will make a truly watertight barrier. This way, no water will ingress support and generate cracks during cure,

which is fast enough to be able to apply several coats per day, with brush, roller or spray gun. Once fully cured, 8010W is easy to sand, by hand or machine. Used with 4030W topcoat, 8010W make the proof that a hard and buffable gelcoat finish can be achieved with a 100% solventfree formula.