

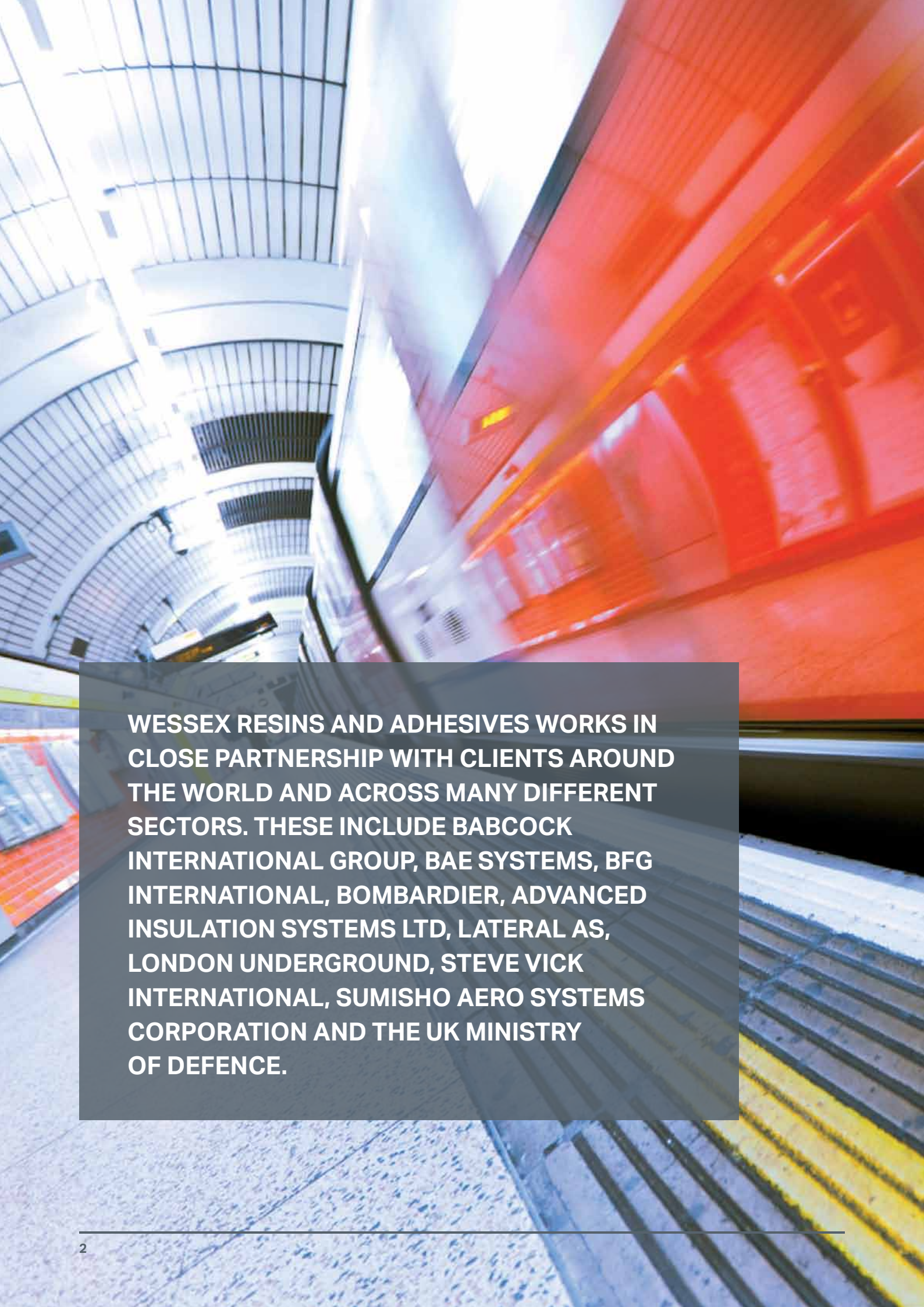
An underwater photograph showing a diver in silhouette on the left, swimming towards a large, vertical, cylindrical structure covered in dark green algae and black mussels. The water is a deep blue. A large white chevron graphic points from the top right towards the bottom left, framing the scene.

GLOBAL EPOXY SOLUTIONS

Specialist epoxies demand a specialist partner

WESSEX

RESINS+ADHESIVES



WESSEX RESINS AND ADHESIVES WORKS IN CLOSE PARTNERSHIP WITH CLIENTS AROUND THE WORLD AND ACROSS MANY DIFFERENT SECTORS. THESE INCLUDE BABCOCK INTERNATIONAL GROUP, BAE SYSTEMS, BFG INTERNATIONAL, BOMBARDIER, ADVANCED INSULATION SYSTEMS LTD, LATERAL AS, LONDON UNDERGROUND, STEVE VICK INTERNATIONAL, SUMISHO AERO SYSTEMS CORPORATION AND THE UK MINISTRY OF DEFENCE.



INTRODUCTION

Wessex Resins and Adhesives has been developing and manufacturing high-quality epoxy products since 1981.

During this time we have worked with a large range of UK and global organisations that demand specialist formulations, including Babcock International Group, BAE Systems, BFG International, Bombardier, Advanced Insulation Systems Ltd, Lateral AS, London Underground, Steve Vick International, Sumisho Aero Systems Corporation and the UK Ministry of Defence.

Our products are trusted for a wide variety of specialist applications. These range from adhesives that can be mixed, applied and cured underwater, to our flooring adhesives, which include a specialist epoxy which has low smoke and low toxicity characteristics in the event of a fire.

We also provide the renowned WEST SYSTEM® and PRO-SET® products, through our West System International division. These durable, high-quality epoxies are the resin and adhesive systems of choice for naval engineers, boat manufacturers, chandlers and private boat owners throughout the world.

Thanks to our expert knowledge and skills, we are also one of the very few companies able to develop bespoke epoxies for niche and unique applications. Our technical team and chemists will work with organisations to formulate customised solutions that meet individual requirements.

Other organisations will partner with us as part of a 'toll manufacturing' arrangement, in which their own capabilities are augmented by our specialist equipment and over three decades of expertise in the field of resins and adhesives.

We also partner with many channel suppliers, who rely on the quality of our trusted products to meet the needs of their own customers.

In all cases, we go the extra mile to share our expertise and first-class technical support services. Wherever possible, this extends beyond our partners to the end user.

A QUESTION OF TRUST

Wessex Resins and Adhesives works in close partnership with clients around the world and across many different sectors.

EXPERT EPOXY MANUFACTURING

Wessex Resins and Adhesives is one of the few companies that formulates customised epoxies for clients and partners. We also take care of manufacturing, using our specialist equipment and drawing on thirty years of expertise.

All of these organisations know that our products and solutions lead the market in terms of technical excellence, versatility and reliability. Many – particularly those who use us for toll manufacturing or to develop customised formulations – treat us as an extension of their own team.

Here are some of the reasons why organisations place their trust in us:

- **Our consultative approach**
We begin by translating your business challenge into a technical specification. In this way, every solution we provide is custom designed to exactly meet the specific requirements.
- **We know our business must fit into yours**
We meet deadlines, getting epoxy products to our customers where they need it, and when they need it.
- **We offer an extremely broad product range**
These include our own label brand of specialist epoxies, as well as the world renowned WEST SYSTEM® and PRO-SET® marine epoxy brands.

- **We augment our product range with custom formulations**
Unlike most of our competitors, we will create a custom formulation to exactly meet a unique technical specification.
- **We maximise epoxy performance and cost-efficiency for our customers**
Whether providing toll manufacturing of our partners' products, or custom solutions, we refine formulations to include the optimum materials and processes. Leveraging our high-capacity manufacturing facility and our chemists' expertise provides unrivalled long-term value.
- **All products are tested under the intended conditions before delivery**
We care as much about quality as our customers do. Certified by BSI in accordance with the requirements of ISO 9001: 2008 Quality Management System, we tightly control our epoxies' properties and appearance for reassuringly predictable results every time.
- **Our customer and technical support is second to none**
As an extension of your team, we are flexible, proactive and dedicated to sharing our expertise to help improve your business.

Custom formulations

Following consultation with our client or partner, our experienced chemists develop custom formulation epoxies for specific niche applications.

We also conduct extra tests on our existing products to determine whether they are suitable for a particular application. For example, we might try one of our epoxies on an untested substrate, or in a new environment, to establish its suitability for our client.

We have developed epoxies for many organisations, including the Ministry of Defence, London Underground and Advanced Insulation PLC.

Manufacturing partnership

For some organisations, we manufacture our partners' own formulations as part of a 'toll manufacturing' arrangement. By taking on this responsibility, our partners can focus their efforts on their own areas of expertise.

For example, we manufacture specialist formulations for the Steve Vick International range of polyurethane products.

Organisations such as these place their trust in us to provide consistent quality and flexibility to become a critical component in their business operations.



Our formulating and manufacturing service is unique as we go the extra mile to make sure our partners get the solutions they need. Most companies will only formulate epoxies that they can sell in bulk quantities but we help our partners meet their requirements, even for very niche applications. Because our experience really is second to none, we have the capability to manufacture our clients' own solutions."

Dr Jackie Lane, CChem FRSC, Technical Director and Chief Chemist, Wessex Resins and Adhesives

ISO accreditation

Quality is everything in manufacturing, and it is built into our ISO 9001:2008 certified processes.

For example, we ensure that clients are given fully documented specifications for every custom formulation. Moreover, our quality control processes ensure that critical properties such as colour and viscosity are tightly controlled. The result is that our partners know they can rely on predictable performance and appearance from each and every delivery.



OUR EPOXY PRODUCTS

In addition to our own brand of specialist products, we also provide the world-renowned WEST SYSTEM® and PRO SET® formulations.

**WEST
SYSTEM®**

After nearly five decades of continuous innovation, WEST SYSTEM® epoxy continues to be recognised as one of the best general purpose marine grade epoxies in the world.

Superior strength and moisture resistance have made WEST SYSTEM epoxy the number one choice for marine repair and maintenance. The outstanding performance of WEST SYSTEM 105 Epoxy Resin when mixed with one of the WEST SYSTEM Hardeners is matched and enhanced by the breadth of the WEST SYSTEM product line, which includes:

- **Resin and hardeners**

Combine WEST SYSTEM 105 Epoxy Resin with one of four WEST SYSTEM Hardeners to easily create custom formulations for a wide range of conditions and applications.

- **Fillers**

Thicken WEST SYSTEM epoxies for specific applications such as bonding and fairing, with a range of fillers.

- **Additives and pigments**

Add additional physical properties to epoxies used for coating, and add a colour base to epoxies that will be overcoated with marine paint.

- **Application kits**

Complete solutions for a wide variety of common and specialist applications. Kits include epoxies and accessories at appropriate quantities.

- **Reinforcing fabrics**

Provide extra strength and durability before applying the final coat.

- **Vacuum bagging**

A clamping system used for laminating a wide range of fabrics, core materials and veneers.

- **Speciality epoxies**

Specialist adhesives suitable for small projects. Minimum fuss, maximum convenience.

WESSEX
RESINS+ADHESIVES

Our range of off-the-shelf epoxy products provides high quality, proven solutions for a huge number of specialist applications.

- **WESSEX underwater epoxies**

Prime and bond a wide variety of surfaces including GRP, metal, glass, coated surfaces, wood, concrete and more, even when fully immersed in sea or fresh water and at very low temperatures.

- **Emergency underwater repair pack WESSEX 110**

Everything required to make emergency repairs to fibreglass structures underwater.

- **WESSEX flooring adhesives**

Bond a variety of floor tiles and coverings, including rubber-based compounds, to metal, wood and concrete. WESSEX 325 offers low smoke and toxicity characteristics to maximise fire safety.

- **WESSEX Permakote**

Create a highly resistant and perfectly clear, glass-like finish on a huge range of surfaces including table tops, signs and photographs.

- **WESSEX 200 Solvented Epoxy**

A tough and flexible sealer and primer suitable for a huge variety of substrates and even including concrete. Air dries to a high-gloss finish and offers outstanding moisture protection.

- **One Shot Wood Glue**

A high-performance adhesive suitable for general joinery, cabinet work, laminates and dinghy building.

- **VN110 Cross-Linked PVA Glue**

A one-part PVA glue designed for veneering and working with high pressure laminates.

- **Shaft Protection System**

A three-part epoxy system which provides chemical-resistant protection and lamination for propeller shafts.

PRO-SET®

PRO-SET® composite products provide a specialist range of epoxy systems for building high-performance, lightweight composite structures that can withstand the harshest environments.

PRO-SET epoxies include specialist formulations for laminating, infusion, adhesive applications and tooling, complemented by a range of process equipment.

- **Laminating epoxies**

A versatile system of liquid resins and hardeners for a wide range of wet lay-up laminating applications. PRO-SET LAM-125 Laminating epoxy with LAM-224, LAM-226, LAM-229 and LAM-237 hardeners has received Lloyds approval MATS/4623/1

- **Infusion epoxies**

Super low viscosity systems with a range of hardeners to meet the demands of modern infusion processes.

- **Adhesive epoxies**

Pre-thickened two-part epoxy adhesives used for secondary bonding of laminated composites and many other surfaces.

- **Tooling epoxies**

Easy to use two-part compound formulated for surface fairing saves on labour and yields high-quality results.

- **Adhesive dispensing guns**

A range of adhesive dispensing guns suitable for use with PRO-SET epoxy.

- **Impregnators**

Designed with the custom fabricator or production shop in mind. Easy to completely disassemble and clean. These machines can save a tremendous amount of labour during the laminating process.

- **Vacuum bagging**

A range of vacuum bagging hardware and consumables to complement PRO-SET epoxy products in the manufacture of composite components.

SPECIALIST APPLICATION AREAS

Wessex Resins and Adhesives provides epoxies for many different applications including underwater, automotive and wind turbines.

We understand that our customers have individual and distinct requirements for epoxies that call for custom formulations.

It may be that you need a solution that works with a particular substrate, or an epoxy that functions in extreme conditions. We will consult with you to determine the formulation you need – whether that is an epoxy from our extensive range, or a customised solution.

Underwater epoxies

Unlike many other epoxy manufacturers, Wessex Resins and Adhesives has formulated a range of quality adhesives to meet the demands of underwater environments.

We developed our underwater adhesives in partnership with the Ministry of Defence and the Department of Energy and Climate Change (DECC). Our underwater epoxies have since become valuable engineering tools for the marine industry, dock and harbour boards and the offshore oil industry.

Strength and durability

Our underwater epoxy resin compositions cure at very low temperatures and provide excellent, long-lasting adhesion in adverse conditions.

They are also very tolerant of contamination, although as with most epoxies, best results are obtained on pre-prepared surfaces. However, in emergency situations where there is not time for full surface preparation, our epoxies will provide a strong, temporary bond.

Our underwater epoxies range from a very low viscosity composition (WESSEX 4301) to a highly viscous thixotropic paste consistency (WESSEX 4303). For general purpose underwater bonding, our filled epoxy system of 'creamy' viscosity (WESSEX 4601).

- **WESSEX 4301 underwater epoxy**
Developed specially for laminating applications, this low viscosity epoxy has very good wetting out characteristics.
- **WESSEX 4302 underwater epoxy**
WESSEX 4302 forms strong bonds to mild steel, glass, GRP and other similar materials, even in cold water.
- **WESSEX 4303 underwater epoxy**
Create strong underwater bonds to GRP and other polymers, various paints and many other surface coatings. It is also suitable for leak sealing in conjunction with an open cell soft polyurethane foam carrier.
- **WESSEX 4401 damp tolerant epoxy**
Ideal for fairing, filleting and gap-filling, WESSEX 4401 bonds wood, metal, concrete and ceramic surfaces.

- **WESSEX 44P3**
Low density filler putty ideal for fairing, filleting and gap filling operations.
- **WESSEX 4601**
WESSEX 4601 (or UW 46 adhesive) cures at very low temperatures, and is highly tolerant to oil and water.
- **WESSEX 519**
WESSEX 519 is an epoxy primer, specially designed to be used with WESSEX 4601 adhesive in dry, controlled conditions. The system may also be used for underwater applications where a low viscosity is required.
- **Emergency underwater repair pack WESSEX 110**
The pack contains everything you will need, including the adhesive WESSEX 4303, to make emergency repairs to fibreglass structures underwater.



Flooring adhesives

Our flooring epoxies are specially developed to bond a variety of floor tiles and coverings, including rubber-based compounds, to metal, wood and concrete.

Significantly, some of our flooring epoxies have extremely low smoke and toxicity characteristics, designed to maximise safety in the event of a fire.

We provide our flooring epoxies to a wide range of clients. For example, train manufacturer Bombardier uses our epoxy to glue the flooring in its rail carriages. Both London Underground and the Vienna U-Bahn have used our formulations to glue tiles with rubber nodules to the floor, to assist blind and visually impaired passengers.

All our flooring epoxies are high viscosity, providing highly sag resistant adhesive.

- **WESSEX 310**
WESSEX 310 bonds a variety of floor tiles and coverings - including rubber-based compounds - to metal, wood and concrete.
- **WESSEX 325**
To maximise safety in the event of a fire, WESSEX 325 has low smoke and toxicity characteristics. It bonds a variety of floor tiles and coverings to metal, wood and concrete.

- **WESSEX 328**
Formulated to have a green colour once mixed. It bonds a variety of floor tiles and coverings to metal, wood and concrete.

Mould making systems

Wessex Resins and Adhesives provides innovative solutions for mould making. We consult with our partners to help them refine their technique, and offer a wide range of specialist, high quality formulations for making moulds.

Moulds are used today in a wide variety of engineering industries, for increasingly demanding applications. For example, the aerodynamic properties and overall efficiency of wind turbines depend entirely on ensuring that the foil shape is not compromised in any way. Given that these structures are large but very lightweight, this is a big engineering challenge which requires the best mould making expertise, techniques and formulations.

In general, manufacturers need to produce larger and larger moulds which do not distort. Finding epoxies which are stable at higher temperatures is of paramount importance.

Our consultative approach means we work with clients to refine both their technique in the mould making process, as well as ensure they have exactly the right epoxy formulation to meet their precise needs. We typically select from our own extensive range of WESSEX formulations augmented by the world-renowned PRO-SET range. If necessary, we can develop bespoke formulations.



INDUSTRIES

Wessex Resins and Adhesives can develop and supply epoxy products for almost any application, in any field. However, we have developed clear specialisms in defence, civil engineering and construction, transport, oil and gas, and green energy sectors.

Defence

Defence applications often demand the highest performance in the most difficult and time-sensitive conditions. These include repairing vessels submerged in cold, dark seawater and bonding acoustic materials to submarine hulls. That is why defence contractors across the globe put their trust in Wessex Resins and Adhesives' specialist epoxies, particularly in the construction and repair of ships and submarines.

Developed and tested over three decades, our specialist underwater epoxy product range is used by BAE Systems and Babcock International among many others. We also partner with defence companies to refine and develop new epoxies that serve a wide range of niche defence applications.

CASE STUDY

MoD approved underwater epoxies

Wessex Resins and Adhesives has been a development and manufacturing partner of the UK's Ministry of Defence for over thirty years. During this period we have continually developed and refined our underwater epoxy. This product range is now trusted by defence agencies across the globe.



CASE STUDY

Withstanding the weight of a billion footsteps

More than one billion people pass through London Underground's 270 stations each year – including millions of sight-impaired people. When selecting an adhesive for new rubberised floor tiles that would help guide the blind to station platforms, Transport for London required an epoxy that was incredibly durable and met the strictest safety standards. The solution provided by Wessex Resins and Adhesives includes a low-toxicity, low-smoke flooring epoxy that meets Class 1 fire safety requirements and has the strength to withstand all that traffic.



Civil engineering, construction and transport

As civil engineering projects advance society through use of new materials and technologies, specialist epoxies have an essential role to play in bonding them together and increasing their longevity.

We provide epoxy adhesive and coating solutions for a huge range of construction and civil engineering projects from bridge construction to the preservation of the historic and somewhat water-challenged buildings of Venice.

We also provide safe and durable flooring adhesives for major transport networks. For example, our flooring adhesives are used by the Vienna U-Bahn and by London Underground. We even help companies such as Bombardier manufacture train carriages themselves.

In all cases, our consultative process is critical. It leads to the development of an efficient solution that meets the unique needs of every project, including the technical, health, safety and durability requirements.

CASE STUDY

Evolved for underwater visibility

When a customer asked us for a coating they could apply to the insulated equipment that is deployed on the sea bed in dark, cold ocean environments, we evolved our underwater epoxy systems to provide a solution.

After much consultation and experimentation by our chemists, we developed a bright yellow epoxy coating system that is highly visible to those operating ROVs.

The product was exactly the solution the customer required.

Oil, gas and green energy

Today's growing energy demands can only be met by highly innovative, dependable new technologies. The manufacture of wind turbines that exhibit optimum aerodynamic properties, for example, requires an exceptionally precise mould-making process. Similarly, the oil and gas industries have to overcome extremely cold underwater environments in order to maintain their offshore structures. In the most demanding application areas such as these, Wessex Resins and Adhesives has proven its ability to develop the critical, unique technologies that our customers need.

For the renewable energy sector, for example, we provide complete mould making epoxy systems, including laminating systems, adhesives and gel coating, as well as consultation on effective moulding techniques. On the other hand, for offshore contractors repairing corroded joints, we provide epoxies that cure and are highly visible under the sea.



If your organisation is looking for a specialist epoxy,
you probably need a specialist partner.

Contact us to find out more about why so many
organisations put their trust in us.

Cupernham House, Cupernham Lane, Romsey, Hampshire SO51 7LF
T + 44 (0)1794 521111 F + 44 (0)1794 521271
E info@wessex-resins.com W www.wessex-resins.com

© Wessex Resins and Adhesives March 2015

WESSEX
RESINS+ADHESIVES