

The Lifetime Solution

EPOXY RESIN STRUCTURAL REPAIR SYSTEM

TECHNICAL GUIDE









TIMBABUILD REPAIR WITH PRIDE

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1.1 Introduction





What is Timbabuild?

Timbabuild is a comprehensive range of products designed to enable high quality, durable and cost-effective timber repairs to be carried out, with the minimum of effort and maximum efficiency.

Timbabuild was developed as a permanent, effective and practical alternative to replacing damaged or rot-affected In-situ timber joinery units. It is ideal for repairing windows, doors, frames and fascias. Timbabuild was developed in close consultation with local authorities, maintenance professionals and refurbishment contractors. We began by clearly identifying their needs and requirements and involved them in trials during product development.

Chemfix Products Limited UK manufacturer of Timbabuild.

Based in the North of England, Chemfix has its manufacturing base in a strategic position for major transport links. Mixing, cartridge filling, labelling and packing all take place at a single manufacturing facility in the UK.

Quality control monitors the production of each individual order from beginning to end and tight procedure and product testing is present throughout each process to ensure maximum traceability and total product satisfaction. The company is audited regularly for reaccreditation to both the **ISO 9001** management standard and **ISO 14001** environmental standard and our **CE** and **ETA European approvals**.

"Total Service" is the philosophy of Chemfix to deliver total customer service to its clients.

Chemfix is constantly committed to developing new and innovative products to keep our partners one step ahead of the competition.

Timbabuild Product Development

By combining our expertise in general wood repair compounds and specifically epoxy-based products, we were able to address all of the problems previously encountered in the repair of external timber principally dynamic movement and structural integrity. Furthermore, by producing a range of products that provides high quality repairs and addresses the environmental issues associated with the wastage of good timbers, we have produced a system that allows architects and contractors to preserve the appearance of buildings by conserving the original timbers both quickly and efficiently.

Having developed Timbabuild we remain committed to the improvement and expansion of the range. Following suggestions we have recently improved our formulation and we will continue to listen to our customers' needs, constantly striving to satisfy them and develop the product range still further.



1.2 Our Services



Services Available

In addition to the provision of the full range of Timbabuild products we also provide the following services:

- 1. Product advice, demonstrations and trials
- 2. Specification details
- 3. Contractor/operative training
- 4. Full and comprehensive technical literature and back-up
- 5. Before, during and after on-site technical service.
- 6. Training seminars.
- 7. 50 year guarantee.

Timbabuild on Prior to Paint Joinery Repairs

Despite the significant advances made in exterior timber coatings in the past few years, little if anything has changed in the methods by which timber repairs are carried out. Traditional methods involve splicing and filling using mechanical fixings, dowels, glue and stoppers. Whilst these repairs can appear satisfactory when first completed, they are time consuming, labour intensive, and experience shows that they will start to break down in a relatively short time, thus necessitating the need for either more repairs or complete replacement.

Use of the Timbabuild System, in conjunction with a comprehensive Prior-to-Paint and Repair Survey, can achieve a high quality, durable and cost effective repair, which could at best prevent the need for future repair altogether, and at worst, considerably reduce the cost of those repairs.

The Timbabuild System also enables repairs to be carried out which would otherwise be impossible to accomplish by traditional methods.

It also allows preventative maintenance to be carried out both quickly and cost effectively, stopping wood decay and eliminating the need to replace the windows in the future.



1.3.1 Product Range



EWS

A high quality, two-part, solvent free, brush applied Epoxy designed to be treated over the area to be repaired, once all of the damaged timber has been removed. EWS acts to strengthen the timber fibres and helps ensure maximum adhesion and durability of the repair compound.

Epoxy Wood Stabiliser

- Working time 30 minutes to 4 hours.
- 1.08 g/cm3 density (Low Viscosity).
- A pre-measured 2:1 system brush applied to the repair area.
- Essential "primer coat" to all EHB60 and EHB10 repairs.
- Penetrates the wood surface.
- Delivers the perfectly prepared base.
- Promotes adhesion and prevents further decay.
- Order code 69909 300ml packed 4pcs per unit.



1.3.2 Product Range



1.3.3 Product Range



EHB60

A two-part, solvent free, anti-slump, High Build Epoxy Filler that, once cured, displays all of the characteristics of timber, which means it can be sanded, planed, screwed, drilled, or painted with any surface coating.

Epoxy High Build 60mm

- Up to 60mm depth repairs in a single application.
- 1.63 g/cm3 density (Thixotropic Consistency).
- Large scale repairs vertically or overhead, In-situ.
- For splicing of large sections of timber.
- Typcially gel's in 45 minutes and ready to paint after 4 hours.*
- Extruded using the 69841 Timbabuild Extrusioon Tool.
- Order code 65863 400ml single unit 'dual-action' cartridge packed 10pcs per box.



ERC10

A two part, solvent free, Rapid Curing Epoxy Filler, particularly useful for minor repairs, responsive repairs and in conjunction with splicing and cill replacement. Once cured it displays the same characteristics as Timbabuild EHB60.

Epoxy Rapid Cure 10mm

- Up to 10mm depth repairs in a single application.
- 1.28 g/cm3 density (Lower Viscocity than EHB60).
- For minor repairs, and splicing
- For horizontal repairs or use with shuttering.
- Typically gels in 5 minutes and ready for paint after 1 hour.*
- Extruded using the 69841 Timbabuild Extrusioon Tool.
- Order code 65864 400ml single unit 'dual-action' cartridge packed 10pcs per box.

^{*}Please note gel and cure times are affected greatly by temperature please refer to the indicative curing times in this guide.

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1.3.3 Product Range



1.3.4 Product Range



TIMBAGLAZE

Timbabuild® Timbaglaze Multi-Purpose Glazing Sealant by Chemfix, a single component hybrid polymer specifically designed for bedding in any type of glazing unit indoors or outdoors. This adhesive sealant has especially strong initial bonding. Suitable for most substrates, including wet substrates, does not cause corrosion on metals or double glazed units.





Multi-Purpose Glazing Sealant

- May be used on Wet or Damp surfaces.
- 1.55 g/cm3 density (Lower Viscocity than EHB60).
- For any type of glazing unit, single or double glazed.
- UV and weather resistant.
- Typically gels in 20 minutes and ready for paint after 1 hour.*
- Extruded using the 65463 Timbabuild Sealant Tool.
- Order code 66215 290ml single unit cartridge packed 12pcs per box c/w an application nozzle attached.



400ml Extrusion Tool

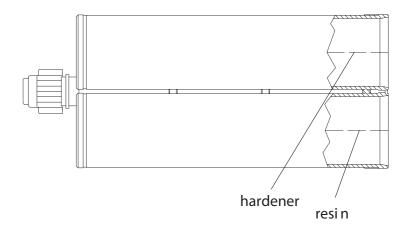
This lightweight extrusion tool is designed to work with either ERC10 or EHB60 equally as a fast and effective method to extrude the cartridges to the exact equal ration of resin and hardener, prior to mixing.

Available with Timbabuild

• Order code 69841 - Timbabuild Extrusion Tool 400ml -10pcs per box

All protected hi grade steel construction, lightweight 1.32kg. Anti-vibration pressure plate guards against breakage. Spring tension adjustment screw. 26:1 trigger ratio max. 4.5mm stroke.

400ml Side by Side Cartridge



^{*}Please note gel and cure times are affected greatly by temperature please refer to the indicative curing times in this guide.

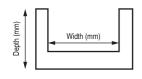


1.4 Working Procedures



1.4.1 Working Procedures

Indicative Gelling and Curing Times





Indicative ERC10

Base Material Temperature (°C)	45	35	25	15	5
Typical Gel Time (mins)	3.5	4	5.5	7	15
Typical Curing Time (mins)	30	30	35	55	70

Indicative EHB60

Curing Time (hrs)									
Sample size (cm)			Temperature (°C)						
Thickness	Width	Length	5	15	25	35			
6	3	10	25	2.5	1.5	-			
2	3	10	30	5	2	1			
1	3	10	32	10	2.5	1.5			
0.5	3	10	35	12	4.5	3.5			

Introduction

These procedures are designed to ensure that this product is used in the correct way to ensure its maximum effect on any given repair application. Careful and thorough observation of the product working procedures will provide total satisfaction and a durable and desirable finish.

PPE when working with Timbabuild

To prevent skin sensitisation, which can sometimes occur when working with epoxy based products, we recommend operatives wear nitrile rubber gloves and that hands are washed thoroughly with soap and water after working with Timbabuild products.

Safety goggles should be worn when routing out damaged timber, and for sanding down Timbabuild and joinery units in preparation for over-painting. Dust masks should be worn when sanding down using power tools.

Safety helmets should always be worn when working on ladders or with scaffolding.



Recommended Tools

- . Approved 110V Routing Tool to remove damaged timber / or hammer and chisel.
- Perspex mixing board to mix EHB60 or ERC10.
- 3. Set of three mixing knives or decorators scraper to mix and apply resin.
- 4. Plastic cup or similar to mix 2:1 ration EWS formulation.
- 5. Disposable brushes, for EWS application.
- Nitrile gloves hand protection.
- 7. Timbabuild extrusion tool
- 8. Solvent-free dry wipes for cleaning hand tools.
- 9. Electronic moisture meter.
- 10. Abrasive sanding paper various grades.
- 11. Hot air blower for drying out affected surfaces.
- Perspex pieces for shuttering on repairs when using ERC10 or certain repairs.
- 13. 2 Part polyester filler to cover imperfections before finishing.



1.4.2 Working Procedures



1.4.3 Working Procedures



EWS

Timbabuild E.W.S. is supplied pre-measured in two small plastic bottles at a ratio of 2:1. One bottle contains the base component the other contains the activator. Small amounts may be prepared using the bottle caps as measuring devices. Having first removed all of the decayed timber and establishing that the moisture content of the timber is less than 18%., the products should be mixed thoroughly and applied to the repair area liberally using a disposable brush.

General Preparation - Ambient temperature must be above 5°C

- Ensure the correct PPE is worn at all times.
- Remove paint at least 10mm from the area to be treated.
- Remove all decayed timber using a router or chisel. Clean and sand inside the routed areas to remove all loose fibres.
- Ensure the moisture content is no higher than 18% using a standard moisture meter.
- If the moisture content is too high, apply heat using a heat gun to the affected areas at 60-80°C, until below 18%.
- Mix the two components of EWS together in an accurate 2:1 ratio.
- The mix should be applied immediately & liberally to the repair area, using a disposable painting brush.
- Leave for minimum 20 minutes or until tacky to allow full penetration.
- ERC10 / EHB60 must be applied within 4 hours.



ERC10 & EHB60

Timbabuild is a specialist epoxy formulation, both variants are supplied in a 1:1 ratio of resin and hardener. The extrusion tool and cartridge are specially designed to ensure that a very accurate amount of resin and hardener are extruded, however subsequent mixing on a flat board is essential to the proper curing and ultimately the strength and longevity of the repair.

Extruding & Mixing

- Ensure the correct PPE is worn at all times.
- Insert the single unit ERC10 / EHB60 cartridge, label side up, into the Timbabuild extrusion tool.
- Extrude the 1st 5cm of resin to waste. Then extrude the required amount of material onto a flat perspex board. Release trigger back pressure after extrusion.
- Immediately commence mixing using a wide blade scraper or knife.
- It is imperative that the mixture is entirely lifted from the board at least once during mixing.
- Once an homogenous mix is achieved, use the filler within the working time, typically around 10 minutes. Avoid air pockets when applying the filler
- Tools and utensils can be cleaned using a solvent-free dry wipe within the gelling period. After the gelling time, the material can only be removed using mechanical means.



1.4.4 Working Procedures



1.4.5 Working Procedures

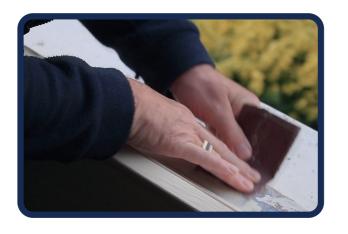


ERC10 & EHB60

Generally speaking Timbabuild is used to either build up and mould to shape, to fill gaps and voids, or for splicing in new wood sections. These specific work instructions are described later. Below is a general guide to applying Timbabuild to any repair.

Application

- Apply using a wide blade scraper.
- Take care to completely fill all open voids.
- Mould the filler to the approximate shape using the knife.
- Always leave the repair slightly proud of the surface.
- EHB60 can be easily moulded and shaped and used to depths of up to 60mm in a single layer, there is no restriction on length of repair.
- Ideally allow 24 hours to cure before finishing, where time allows.
 Otherwise consult the indicative cure time chart before proceeding to finishing and painting.



ERC10 & EHB60

Once cured Timbabuild EHB60 & ERC10 display the same characteristics, in that it may be sanded, planed, screwed, drilled and overpainted. Also, due to its excellent adhesive qualities and flexibility it will "move" with the surrounding timber. Both formulations are effective with all known primers both solvent and water based and all-known paint and varnish finishes.

Finishing & Painting

- The repair must be fully cured.
- Sand the surface flat using a 40-60 grit abrasive paper, and finishing with
 120 grit.
- Electric sander must excercise caution, not to overheat the surface.
- Remove all dust and fine debris with a damp cloth and allow to dry.
- Surface voids or gaps may be perfected using a standard 2 part filler.
- Apply any paint primer / undercoat or gloss paint system.
- Please ensure all steps have been carefully adhered to, particularly sanding, before applying the primer and final paint finish.



1.5 Repair Guide



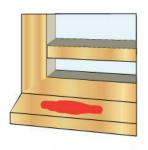


1.5.1 Repair Guide

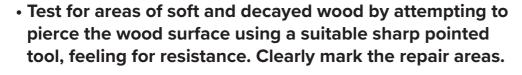


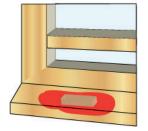


1. Repair of decayed timber, cracks and splits, imperfections, resin only.



• Remove paint for at least 10mm from the area to be treated.

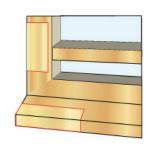




- Thoroughly remove all of the decayed timber, back to good wood.
- Sand in the areas to be repaired to remove all loose fibres.
- Prepare and apply EWS and EHB60 / EHB10 as appropriate, as per normal.
- Work the resin well into the repair and avoid air pockets. Shape and mould accordingly to a smooth finish. Wood sections, chippings, or similair may be inserted to "pack" a large repair.
- Allow 24 hours to cure, and finish.

1. Splicing in sections of new timber.

Splicing in of new timber may be desirable due to decay or vandalism. we recommend the use of Timbabuild ERC10 to enable the repair to be carried out and finished as quickly as possible. When using Timbabuild ERC10 as a filler, particularly on vertical surfaces, it is sometimes necessary to use Perspex shuttering in order to prevent slumping.



- Remove all damaged timber from the repair area. Sand in the area to remove loose fibres.
- Following normal proceedures up to application of EWS, prepare the splice section. (This does not have to be exact size or shape - should be at least 4mm smaller).
- Mix the amount of ERC10 and apply a bead of resin over the entire repair area at minimum 1mm deep.
- Force the splice into place and ensure that all voids are filled. Remove excess resin.
- When using ERC10 fix perspex shuttering in place if required.
- Allow 24 hours to cure, remove any shuttering, and finish.



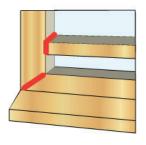
1.5.2 Repair Guide





1. Conservation Joints.

It is recommended that all joints on the bottom rails of windows be treated by this method when carrying out prepaint repairs, whether or not there is any visible rot at the time. These joints are known to be most liable to failure, and preventative action at this stage will remove the need for more costly repairs later.



- Open the joint to a minimum width of 5mm and minimum depth of 10mm using a router.
- Remove the existing paint from around the joint.
- Thoroughly sand inside the joint to remove any loose fibres. Following normal proceedures up to application of **EWS**
- Mix the required quantity of Timbabuild EHB60 and apply to the joint taking care to work it well in, in order to fill any voids.
- When using ERC10 fix perspex shuttering in place if required.
- Allow 24 hours to cure, remove any shuttering, and finish.



1.5.3 Repair Guide



1. Sill replacement

Before starting work ensure that you have the correct timber profile available for the replacement sill.



- Completely remove the rotten sill. Remove any rotten timber at the back of the sill, mechanically.
- Following normal proceedures up to application of EWS, prepare the new sill section. Apply EWS to the contact areas of the new sill section.
- Mix the amount of ERC10 and apply a bead of resin over the entire repair area and a bead over the replacement sill.
- Work the sill into place taking care to ensure all voids are filled.
- Countersink any fixings and apply ERC10 to the fixing holes.
- Allow 1 hour to cure, and finish*.

*Please note gel and cure times are affected greatly by temperature please refer to the indicative curing times in this guide.



1.5.4 Repair Guide







1. Other Repairs.

The Timbabuild system is extremely versatile and durable. It can be used on a vast array of repairs. In these are only highlighted a small number of the most popular types of repairs. Some other repair types are listed below.

· Sealing of end grain and unprotected sides

After the normal rot removal and preparation, EHB60 can be liberally applied to vertical surfaces, filling voids and cracks, then finished using an application knife with smooth edges.

Repairing and applying new weatherboards

Where the existing weatherboard is in a good sound condition open the joint between the weatherboard and the door using a mechanical router to a minimum width of 4mm and a minimum depth of 10mm. Apply Timbabuild liberally to the back of the new weatherboard, then locate on door, taking care to ensure that there is no visible gap between the new weatherboard and the door.

• Building up complex shapes

Timbabuild can be used to build up seeminlgy complex shapes, with the use of a low density polyethylene bag (such as a thin food/freezer bag), and moulded by hand (using the appropriate hand protection) the plastic film can be carefully peeled away after curing.



Our 50-Year pledge on the TIMBABUILD system

A long standing history in the chemical repair industry.

Combining the 25 year history of Timbabuild with the 50 years of history of Chemfix, and its forefather Nickerson Chemicals is a potent force in any industry. A brand and a system which has endured because of its customers. Providing both a product, and just as importantly a service, Timbabuild has listened to the needs of its customers and backed that up with all of the expertise a leading manufacturer needs to deliver a market leading chemical repair system.

• The 50 year guarantee.

The 50 year guarantee applies to any type of Timbabuild resin repair carried out by a Timbabuild trained contractor following the product guidelines as laid out by the repair guide. This includes correct preparation, process and finishing guidelines. Official 50 year guarantee certificates may be applied for against specific projects by contacting your local distributor.



REPAIR WITH PRIDE

TIMBABUILD®

1.8 ISO 14001 & Environment



ISO 14001 Environmental Management System

ISO 14001:2015 sets out the criteria for an environmental management system and can be certified to. It maps out a framework that a company or organization can follow. It essentially consists of a family of standards related to environmental management that exists to help organizations (a) minimize how their operations (processes, etc.) negatively affect the environment (i.e., cause adverse changes to air, water, or land); (b) comply with applicable laws, regulations, and other environmentally oriented requirements, and (c) continually improve in the above.

CLP Labelling Compliance

Mandatory from 2015, the CLP Regulation (for "Classification, Labelling and Packaging") is a European Union regulation which aligns the European Union system of classification, labelling and packaging chemical substances and mixtures to the Globally Harmonised System (GHS). It complements the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) Regulation (EC No 1907/2006)

The regulation requires companies to appropriately classify, label and package their substances and mixtures before placing them on the market. It aims to protect workers, consumers and the environment by means of labelling which reflects possible hazardous effects of a particular chemical. It also takes over provisions of the REACH Regulation regarding the notification of classifications, the establishment of a list of harmonised classifications and the creation of a classification and labelling inventory. Chemfix reacted early to the changes in labelling requirements and has been fully CLP compliant since 2014.

VOC Emissions A+

All Chemfix resins have, or shortly will be tested for Volatile Organic Content. Currently all testing has returned a positive result of A+ which is the lowest and most desirable result. In France since 2011 and many other European countries, VOC testing and label marking is mandatory for many constructional products and it is expected that the law will soon be introduced in the UK.

REACH Compliance

REACH (EC 1907/2006) aims to improve the protection of human health and the environment through the better and earlier identification of the intrinsic properties of chemical substances. This is done by the four processes of REACH, namely the registration, evaluation, authorisation and restriction of chemicals. REACH also aims to enhance innovation and competitiveness of the EU chemicals industry. REACH covers a whole spectrum of regulations including identifying potentially dangerous chemicals used in manufacture and restricting their use. Importantly, Chemfix remains fully informed of all current and future changes within the legislative landscape.



1.9 Case Studies

Cross Keys Hotel, Main Square, Kelso



Both ERC10 and EHB60 was used to great effect to splice in a section of new timber to these antique balustrades, in a Scottish hotel, subjected to the elements and requiring maximum durability with refined finishing.

To achieve both, a low density polyethylene film was actually used as shuttering to build up and mould the EHB60 to perfect formation. After the resin has fully cured the film was simply peeled away.



REPAIR WITH PRIDE



2.0 Marketing & Further Information

REPAIR WITH PRIDE





- Product Features
- Single unit 'dual-action' cartridge
- May be moulded to shape or used as a high power epoxy adhesive
- Will not slump or drag
- Fast curing (ERC10)
- Cures to a lifelong hardened finish
- Easy to sand down, drill, acts just like wood
- Works with all paint & varnish systems
- Long storage life, can be re-used
- 50 year repair guarantee*

- Product Benefits
- An economic solution to replacing windows, doors and other structures
- Very easy to use Single unit cartridge allows a 2-part epoxy to be used without fuss - no need to measure or use complicated fillers.
 - Versatile for almost any repair situation - splice, build-up, fill, shape, corners and edges, in-situ, horizontal, vertical or overhead.

2.0 Marketing & Further Information



REMOVE



Remove and prepare the area to be filled. The most important factor of the longevity of the repair is the preparation stage. Rotten wood must be cut out and removed back to bare, good wood. The moisture level should be no greater than 18%. The area must be sanded and cleaned of any debris or dust. EWS is brushed liberally to the repair surfaces (both sides in the case of splicing or new wood sections, for example cill replacement.) After the minimum 30 minute curing (time may be extended in lower temperatures) the area is ready to be resined, working within a 4 hour window.

REPAIR



Repair and Fill using either ERC10 or EHB60 depending on the application. Ensure ambient temperature is above 5°C. Repair depths of up to 60mm can be achieved using EHB60, shallow minor repairs can be carried out with ERC10 and this often makes it the favourite for fast same day repairs, or for splicing where only a bead of resin is required to bed in. Take care of the curing information depending on ambient temperature and size of the repair. Only after full curing can the repair be sanded and prepared for painting. Fine imperfections in the repair surface may be filled with our 2 Part wood fillers after sanding. The resin surface MUST be sanded prior to paint. Use electric sanders with caution, as the surface must not overheat.

PAINT



Prime and Paint using any known paint or varnish system, ideally within 48 hours. Remove any surface dust and shuttering as normal. The final repair is invisible and acts just like real wood, moving and shaping with changing temperatures and elements. Tools and hands may be wiped clean using a solvent free dry wipe, before the product has cured. EWS Brushes may be re-used provided they are soaked clean in white spirit.

Further information, MSDS, Product Tech and FAQ's can be found at our website **www.timbabuild.co.uk** or contact your distributor.

^{*} Please refer to the Timbabuild 10 year guarantee terms and conditions.



2.1 Distributors

2.2 Other Products



REPAIR WITH PRIDE



- The benefits of becoming a Timbabuild distributor
- Partnership with a leading long established UK wood repair brand.
- Product and training support.
- Literature and marketing support.
- Used in a range of industry sectors.
- Next day delivery service.
- Total service sales support.
- Advice and technical support.

Contact us:

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WF12 9BQ, United Kingdom.
Tel (01924) 453886

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MANUFACTURED BY CHEMFIX

Chemfix is a market leading manufacturer of Chemical Anchor Resins supplying many major UK and multinational brands under private label, and exported around the world. Chemfix holds several product patents, and European
approvals and blends, fills, labels and processes product from beginning to
end.



- High performance chemical anchoring products
- Numerous product approvals including ETA
- Manufactured in the UK to ISO 9001, 14001
- Own label supplier to major brands
- Multi-lingual with wide export experience.
- 10 Working day lead time.
- Chemfix also sells a wide range of fillers and adhesives under their Metolux brand, including BBA approved brick adhesive, one and two part fillers, for wood, concrete and metal. Metolux celebrates it's 60 year jubilee in 2016 as one of the countries best loved and well known brands.



- Market leading BBA approved epoxy brick adhesives.
- One and two part polyester and epoxy fillers for a range of applications.
- 5 working day lead time.
- Sales and marketing support.
- Distributor opportunities

Please enquire to receive a full product catalogue or visit our website

www.chemfix.co.uk





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