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**SPECIALIST CONSTRUCTION  
ACCESSORY SUPPLIERS**

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# ENGINEERED SOLUTIONS FOR CONSTRUCTION

As one of the UK's leading specialist construction accessory suppliers, RFA-TECH Ltd has built up an enviable reputation for providing a wide product range together with a rapid and efficient service.

RFA-Tech is now recognised as a market leader, supplying major contractors and blue-chip companies; continual development maintains and enhances its prominent position.

Based at a manufacturing facility in Sheffield, the Company carries ISO 9001 and ISO 14001 accreditations and RFA-Tech are proud members of the 'Made in Sheffield' registered trademark group.

RFA-Tech holds Cares Technical Approval on many of its products and is also a member of CONSTRUCT, the concrete structures group.

The Company supplies an extensive range of engineered products and systems for RC frames to the biggest UK frame contractors, with a dedicated team of experienced personnel offering sales and technical support to assist in all types of projects.

As part of its continued growth and development, RFA-Tech enhanced its distribution network in May 2013 by the opening of a new depot based in Reading. This further enhances RFA-

Tech's ability to provide an efficient and reliable service into the Southern market.

It has resulted in a larger and improved warehouse facility, which will continue to make RFA-Tech more competitive.

From this facility, the Company can deliver products on the same day as they are ordered. Standard Startabox units, which are manufactured at the Sheffield facility, are stocked at Reading and are also available on a same day service.

Within RFA-Tech since its inception 30 years ago, Startabox provides a safe and cost effective method that is custom made to utilise an engineer's original reinforced detail.

Startabox consists of specially selected, high yield reinforcing steel, housed in a fully perforated and hot dip galvanised carrier unit.

Units are sealed to prevent concrete ingress, while reinforcement used is CARES Approved and cut to conform to BS8666.





The system is assembled in a BS EN ISO9001 factory environment and the full system carries a CARES Technical Approval.

Units can be used on site by nailing to formwork before a concrete pour, but alternatively they can be wire tied to the main reinforcement concrete so that after concrete is poured and formwork struck, the lid is removed to provide the connection or overlap bars.

Bars are bent out of the case to provide an overlap connection to the main reinforcing steel and next concrete pour.

Most joints in concrete, on many different types of construction site, have the potential to be formed using Startabox, which has been supplied to high rise commercial, water treatment, hospitals, prisons, Energy from Waste facilities, and many more types of site.

Typical joint applications include walls, floor slabs, corbels, stair landings, cantilever slabs, launder channels, brick support nibs, balconies, precast slab interfaces and stairway applications.

Formwork designs can be simplified and complicated construction joint designs reduced, and climbing formwork systems can be used such as Slipform and Jumpform. Formwork systems do not need to be drilled, damaged or

repaired when using the Startabox system, so can be used many times.

Simple formwork designs and larger concrete pours enable faster work and more site productivity.

Now officially compliant with the new EC2 specification, the Startabox system is aligned with the design code for RC frames.

With flat slab construction becoming increasingly popular in the construction of concrete buildings, the Sheartech product is also proving popular.

It increases speed of construction by simplifying the formwork system used and floor heights can be reduced, offering greater space within the building and leading to more floors for a given building height.

Flat slab design brings many benefits, however, localised high shear stresses around column heads can be seen in these designs and if additional measures are not taken, the weight of the slab can result in the column punching through the slab.

In the past, punching shear has been relieved by adding further concrete to the building, such as the use of downstand beams or localised thickening around column heads; however these

# For the benefit of all its members

Registered as a company in 1994, CONSTRUCT is a trade association for subcontractors working in the concrete frame industry. It consists of 29 contractors, 45 supplier members and 10 clients and engineers.

The supplier members are drawn from the concrete industry, the formwork industry, the material supply industry and the fixing industry. With a very significant percentage of all major concrete frame contractors working among its members, suppliers have opportunities not just to network with, but to work closely with those contractors who are clients.

Sitting alongside those clients means all suppliers are at the forefront in understanding the specific challenges and opportunities that exist for product and material development in line with changing regulations.

Operating from one office in Camberley, the four main areas on which the Association focuses are to help members in health, safety and environmental performance; to look at training needs and the provision of competent training; to work at the promotion and further use of concrete and concrete processes, and by looking at fair trading conditions. Its Council of elected members meets quarterly. Strategy meetings plan ahead and set out targets and objectives, while sub-committees work tirelessly in members' interests to turn that vision into a reality.

Companies applying for membership are required to provide a completed application form and all other supporting documents and information requested by the Membership Committee, according to the membership category being applied for. Specialist concrete frame contractors have to be active in concrete frame construction, be able to demonstrate that concrete frame construction is a core activity,

demonstrate that industry performance standards can be achieved and also have to prove they are financially stable.

All prospective contractors must have a health and safety policy, conform to acceptable industry employment practices, provide relevant references relating to concrete frame construction, and be capable of providing labour, materials and plant as a minimum.

Wherever appropriate, CONSTRUCT acts as the face of its membership, positively representing the industry with a united voice to the benefit of all. As a respected and recognised voice in the industry, it is represented on the board and committees of the National Specialist Contractors Council (NSCC), which assists the Association in lobbying both clients and government.

Within the Association there is an Executive Secretary, a Training Manager, a Health, Safety and Environmental Manager and a personal assistant.

The Chairman is Mark Wadsworth, who had many years of experience with Laing O'Rourke.

His connection to CONSTRUCT came when he took a seat on the Council of CONSTRUCT, representing Laing O'Rourke and Expanded Ltd and he found himself aligned with where Neil Mitchell wanted to take the Association.

It drove him to take on the role of Deputy Chairman to Neil and join the strategic steering group.

There are various committees made up of staff from member companies. These members employ somewhere around 7,000 workers with a turnover of £1Bn. (Neither figure includes the

non-contractor members). CONSTRUCT exists for the benefit of its members. As an organisation, it is positioned to directly and specifically improve the concrete frames and structures industry, to constantly evaluate and respond to industry needs, and to influence developments in speed and economy.

Initially the membership did not extend to suppliers or other stakeholders, but to be a true and representative voice to the industry, CONSTRUCT recognised that all players needed to collaborate. CONSTRUCT is keen to involve all stakeholders by working in partnership with designers, architects and other consultants who have an interest in the specialist field of concrete structures. By getting involved with CONSTRUCT and its committees, consultants get direct access to all leading contractors, suppliers and problem solvers. Developing close relationships with contractors can only help to ensure construction and logistic issues are resolved as early as possible and the expectations of clients are realised as painlessly as possible. Since the supplier members represent every part of the concrete frame supply chain, they are invited onto the CONSTRUCT council and into every committee.

The health and wellbeing of the workforce is the Association's number one priority. The vision is one of workplaces that are incident and injury-free, where everyone returns home safely. CONSTRUCT works with designers, clients and other stakeholders to achieve that goal.

CONSTRUCT'S health and safety committee meets quarterly to share best practice, to learn from incidents and to work together across the industry to produce publications and policies that are better for all. External organisations and other stakeholders within construction are also invited by the committee to present and share their views, and such an honest and open forum has resulted in substantial collaborative improvement.

During 2013, six interactive DVDs were produced focusing on Behavioural Safety. These are available with training packs and credit card sized checklists. In addition, CONSTRUCT has developed an extensive list of publications that are free of charge for all members, who are actively encouraged to share knowledge, experience and best practice.

Within CONSTRUCT, February saw a shake-up of the CSCS scheme, with more than 400,000 workers expected to change skills cards.

The new Labourers' Green Card will replace the current Construction Site Operative (CSP) cards from July.

CSCS chiefs said around 600,000 of the scheme's two million cardholders currently hold the CSO card.

But the real number of 'pure' labourers in the industry is believed to be between 150,000 – 200,000.

The new card contains a mandatory health and safety test and could take up to 40 hours of training to prepare for new entrants to the industry.

**Graham Wren, CSCS Chairman, said:** *"That level of training is only for people who are brand new to construction."*

*"Experienced labourers will be able to take the test without anywhere near that amount of training because they already have the knowledge to pass it."*

*"A lot of construction workers are currently carrying the wrong card so this is all about making sure people are using the scheme correctly."*

*"The old CSO card was too easy to get and we are addressing that."*

Elsewhere, the project to develop the EnviroWeb, which is now part of CONSTRUCT's website, has been completed. CITB has recognised the development and accomplishment made by awarding CONSTRUCT a certificate of achievement. The website provides a service enabling members to gain valuable knowledge and insight concerning environmental issues.

As one of the four strategic areas, training provision and setting out of best practice is extremely important. As the central hub of knowledge for the whole concrete structures industry, CONSTRUCT and its members are committed to leading the way in the provision of world-class training in construction at all levels. This commitment continually expands, with new courses being added, to transfer the knowledge that is critical to the ongoing development of the industry and the individuals operating within it. The priorities are to discuss and pursue good practice; to identify shortfalls in training and the provision of training; to understand and communicate the availability of grants and funding, and to promote apprenticeships and qualifications.

CONSTRUCT organises training schemes covering everything from NVQs to the latest UKCG requirements such as Site Management Safety Training Scheme (SMSTS). It is wide-ranging and it covers the operative level up to director level. The latest scheme (SEATS) requires environmental testing or environmental competency, which are both related to this particular industry. CONSTRUCT has written a bespoke one day course entitled *"Major Safety Incidents and You"* designed for site supervisors and managers.

CITB recently confirmed that the CONSTRUCT Training Committee – Concrete Frame Training Forum (CFTF) will receive funding of £25,000 during 2014 to provide free training places to members.

This will be the second year the CFTF received this funding and in 2013, seven funded training events were provided which benefited 251 of its members' employees.

The funding assists CONSTRUCT in training where a small requirement exists in one company but collectively a course can be delivered and then tailored to the specialist sector needs.

measures require complex formwork and significantly reduce the benefits of the flat slab.

Adding further reinforcement in the form of loose shear links around column heads has been used as a measure to resist punching shear, but these links are time consuming and labour-intensive to install and design.

RFA's collaboration with a leading engineering software company has seen the creation of a web-based punching shear reinforcement design application that can be used by structural engineers to perform punching shear designs.

This software is the product of changes in the market where more mainstream contractors are seeing the benefits of using shear rail over traditional shear links.

Rather than an overly technical approach to calculations, RFA-Tech's approach is simple, consisting of a tick box and numbers entry design to give a much more user-friendly interface. This is accessible to anyone involved in a project.

It also means a registered user can access the software from any machine without worrying about installing software.

Sheartech offers a CARES Approved method of providing punching shear reinforcement, is fast to install with all component parts fabricated to allow simple and accurate placement.

The Company has recently secured a partnership with Erico to exclusively manufacture their friction welded Form Saver coupler system.

Being manufactured in Sheffield, this system links with Lenton's taper threads, for which RFA-Tech has manufacturing capability.

It means RFA-Tech can produce a full and cost effective CareS Approved coupler system in times of large demand, and bespoke to each engineer's requirement.

This is just a taster of the wide range of products supplied by RFA-Tech, which also encompasses Couplerbox, Sheartech Grid.

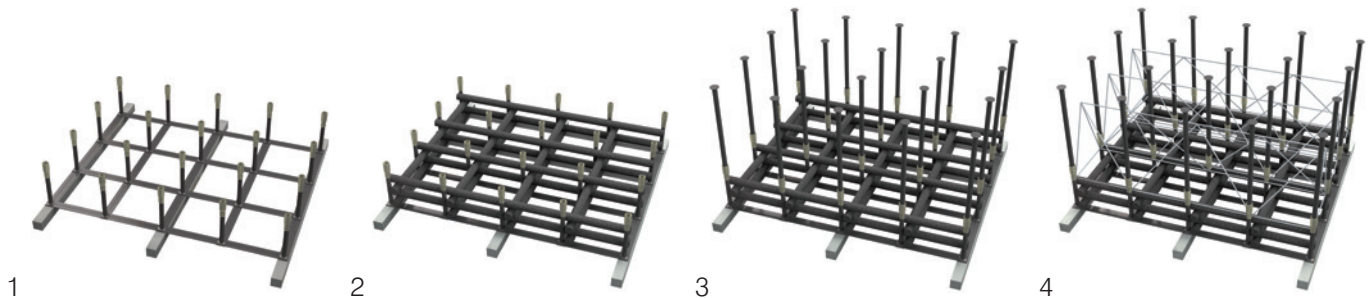
As well as these manufacturing products, RFA-Tech boasts a construction accessories division, which supplies the industry tailor-made and stock items directly from its well stocked regional depots across the UK.

This range includes concrete, plastic and wire spacers, construction chemicals, formwork accessories, geotextiles & gas membranes, couplers and continuity systems as well as many more commonly used accessories.

The Company's precast division is one of the UK's leading supplier of accessories to the precast concrete industry. The range includes Capstan Anchors, utility anchors, spread anchors, magnets, channelling, fixing and lifting inserts, chemicals, and other ancillary precast accessory products.

In addition, RFA-Tech is currently looking at a range of new products for 2015.

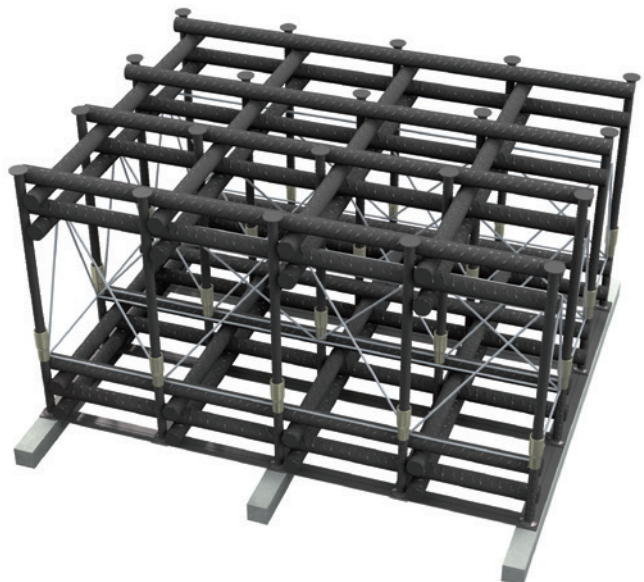
Specialising in waterproofing, concrete protection and repair, RFA-Tech offers many solutions in this field too, such as PVC Waterstops that are designed to provide an integral



## SHEARTECH GRID®

Manufactured by RFA-Tech, the Sheartech Grid is designed to replace the traditional shear link reinforcement in deep slabs. The Sheartech Grid is a formation of component shear studs made using B500c reinforcing steel. Formed by hot forging, the shear heads are in line with the requirements of CARES technical approval 5038. Connection of the components is made using one of RFA-Tech's many CARES approved coupler systems. The customer can choose from Parallel or taper threads, both offering a full strength connection. Assembly of the Sheartech Grid is done off site, leaving site to simply screw in the second half of the shear head. Each grid; manufactured to site specification is simply craned into place.

The product has proven itself at 62 Buckingham Gate, London where Getjar Ltd used the product in a 1.5 meter deep Raft slab. Donaldson Associates were also happy to design the Sheartech grid into the new storage tank at Fleetwood WWTW, where the product provided a time saving when compared with fixing standard shear links.



View from the top of the new Storage tank at Fleetwood WWTW. The grids are clearly visible in their linear formation

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sealing system for movement and construction joints in concrete cast in-situ.

They are extruded from a high grade PVC compound that has been formulated to give excellent flexibility and longevity characteristics.

Available internally and externally, these joints typically occur in structures such as reservoirs, water towers and sewage tanks, dams, culverts, canals, spillways, swimming pools, tunnels and subways, roof decks and podium decks.

The precast division was strengthened in August 2013 by the addition of Stuart Jones who joined the team bringing with him a wealth of experience in supplying lifting and fixing systems to the precast industry for over 10 years. Working with the Group's Quality department, RFA-Tech have a full in-house testing facility to ensure a robust system is in place to meet the new requirements of CE marking of all its lifting and fixing products.

All products and the customer base are covered in a new recently published manual and there is now a full technical backup and engineering service, covering anchor design and specification.

With a complete on site test service boasting a load capacity of 40 tonnes, clients can be sure of a first class service for a field in which RFA-Tech harbours great hopes of becoming market leaders in the future.

As well as the publication of a new manual, RFA-Tech has also rewritten its technical and waterproofing brochures so they offer more in-depth technical detail to the information offered.

It is useful to many within the industry, from engineers and designers to buyers and project managers so they can specify, compare and purchase correct products with ease. The accessories brochure is also being rewritten to keep in line with RFA-Tech's growth and rebranding.

This growth can be illustrated by the vast increase in website information.

What once started out as two pages now has more than 100 pages of information regarding products, services and business.

RFA has also brought Ecommerce technology to the industry, which offers a user friendly platform for passing trade and also an accounting system where customers can allow site personnel to purchase goods by setting up a user account with credit limits and budgets.

All work, products, and other systems are undertaken and supplied with health and safety in mind, whose policy it is to ensure the health, safety and welfare of its employees and others who may be affected by its activities.

The Company strives to minimise health and safety risks arising in the workplace through continual improvement in health and safety management and performance at all times.

RFA has supplied some of the highest profile and most prestigious contracts in the UK and worldwide. A selection of these includes the Shard, the Olympic Village, Terminal 2B at Heathrow Airport, and BBC Media City in Salford.

Mark Taylor, Technical Sales Manager at RFA-Tech, is understandably delighted with the progress, which he attributes to the relationships created with customers – something that will guarantee future success.

**He said:** "We continue to develop long-term relationships with the best suppliers and contractors both in the UK and overseas.

"This gives our business a great foundation for a strong future and helps push our goals and visions forward of becoming the industry leader."



Following a change to the pour sequence for the reinforced concrete base slab, from vertical full height 2500 mm sections to full plan area horizontal pours, a solution was required to enable the fixing of shear reinforcement around the slab perimeter as the initial detail did not allow for horizontal pours. Due to the timing of the change, a quick solution was required. As designers, I engaged RFA-Tech to discuss their Shear Tech Grid and its application to this project. From an early stage, I could see that the product was going to offer a good solution and one that ensured the design was not affected by the change. The RFA team were very helpful producing and delivering the grids to site on time. The Sheartech Grid exceeded our expectations and provided a time saving when compared with fixing standard shear links. We will be happy to use the product in the future.



Testimonial from Gerard Quigg,  
Donaldson Associates



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