

“on the level”

grey and green



Stuarts have joined forces with Lafarge to pioneer new eco friendly technology in low shrinkage concrete for commercial and industrial flooring

A sustainable alternative to steel mesh and steel fibre floors, Extensia™ offers high compressive and flexural strength, reduced shrinkage and early age shrinkage cracking, and improved performance – without any steel in the body of the slab, and with the opportunity to design thinner section floors. It also enables increased design flexibility, easy placement using laser screed machines and potential for early loading.

Facilitating surface areas of up to 400m² without joints, it makes serious inroads into maintenance costs. Single slabs can be installed with reduced saw cut detailing, making it ideal for large industrial building and warehouse developments.

Extensia™ also brings big environmental benefits – as demonstrated by an independent life cycle assessment carried out by Ecobilian, part of PricewaterhouseCoopers Sustainable Business Solutions. According to their findings, Extensia™ can achieve up to

20% reduction in CO₂ emissions, up to 46% reduction in coal consumption, up to 16% reduction in oil consumption, and up to 85% reduction in waste production – all compared with traditional concrete using either steel mesh or steel fibre reinforcement.

“ **GLANVILLE NORMAN, LAFARGE'S PRODUCT DEVELOPMENT MANAGER FOR EXTENSIA™, SAID:** STUARTS WERE THE NATURAL CHOICE TO WORK WITH. BY COMBINING THEIR EXTENSIVE KNOWLEDGE AND EXPERIENCE WITH OUR OWN, INCLUDING DEVELOPMENT BOTH AT LAFARGE'S RESEARCH CENTRE IN LYON AND IN THE UK, WE'VE PRODUCED THE LATEST IN A LINE OF INNOVATIONS WHICH REWRITE THE CONCRETE RULEBOOK. STUARTS ALSO HELPED TO TRIAL EXTENSIA™ IN THE UK, AND THEY'RE THE ONLY APPROVED INSTALLER OF THE PRODUCT.

Stuarts stats

Looking back...

- Stuarts have been looking after customers since the 1840s
- The company won a contract to pave the city of London with “granite concrete” in 1880
- Early overseas contracts included the New City Hall in Philadelphia (then the highest tower in the world), and the Rue de Rivoli, Paris in 1883
- Stuarts opened NatWest's second ever commercial bank account in 1887
- The company's 160 years experience in industrial flooring is more than all its competitors combined

Today ...

- The largest independent UK contractor in the industrial flooring sector
- Two million square metres of precision concrete floor delivered every year
- A nationwide team of 165 operatives and 12 laser screed machines
- Annual turnover in excess of £40 million - nearly a quarter of the UK market
- Continual investment and innovation



Stuarts
Industrial Flooring Ltd.



RIGHT FIRST TIME

The 65,000 m² flooring project in Milton Keynes included an area specified to DM1 to accommodate high racking which represented approximately 15% of the total warehouse space. The pressure was on to get it right first time – and to minimise environmental impact.

Around 13,000 m³ of concrete was needed for the job and Hanson were employed to manufacture it on site, minimising the environmental impact by reducing transportation and lorry numbers. Varying techniques were used to achieve the required tolerances - part laser screed, and part traditional long strip. Diligent pouring delivered a high quality surface without any requirement for surface grinding.

Helping to create a new regional distribution centre for John Lewis was a prestigious assignment – and one of the largest industrial flooring jobs ever undertaken by Stuarts.

“ THE MAIN CONTRACTOR FOR THE PROJECT WAS SIMONS CONSTRUCTION. THEIR PROJECTS DIRECTOR, STEVE CULLEN, SAID: THE QUALITY OF THE FLOOR SLAB IS A KEY ISSUE, EVERY TIME. IF THE FLOOR'S GOOD, THE JOB'S GOOD. STUARTS DID A SUPERB JOB – HIGH QUALITY AND FULLY COMPLIANT WITH THE SPECIFICATION, INCLUDING A HIGH-SPEC DM1 AREA. ”

PASSING ON THE KNOWLEDGE

Mike is one of three generations who have been Stuarts people for life. Like his father and grandfather before him, he started young with the company and worked his way up. In recent years he's worked in project manager roles and as site supervisor – ensuring that stringent quality standards and specifications are fully met.

In his new additional role, Mike will be continuing the good work - encouraging and helping a new generation as a qualified trainer and assessor. This will include visits to sites to carry out formal assessments of candidates on behalf of the UK's leading vocational awarding body, City & Guilds.

FLOWING FASTER

Working closely with screed manufacturers including LaFarge, Bardon, Cemex and Tarmac, Stuarts are helping to increase productivity and deliver value for money. Innovative new products and techniques enabling Stuarts specialists to lay over 1000m² per day with a four man team, compared to the traditional 150m² per day using sand and cement screeds.

With no need for vibration or compaction, flowing screeds are quick to place and allow

Building on 160 years of experience and market trust, Stuarts' new division – Stuarts Screeding Ltd – is fast making a name for itself in the flowing screed market.

large areas to be poured at a time. Increased compressive and flexural strengths make them ideal for a wide range of projects of all sizes, and applications including schools, hospitals, apartments, offices and hotels.

Through a partnership with velta, the leading floor heating and cooling systems company, schools in particular are creating a high demand, as the Building

Schools for the Future programme continues to bring huge investment. Portree High School on the Isle of Skye is one of a series of projects in Scotland totalling over 100,000m². Challenging geographical and transportation issues were resolved utilising a site batching facility.



Like many others who work at Stuarts, Mike Gill is an expert in his field. Today, he's using his years of skill and experience to support Stuarts specialist training division, in NVQ training and assessment.



The stage for this ground-breaking innovation was a major development at Beckton - a venture between the London Development Agency and Goodman to construct units for businesses relocating from the 2012 Olympics site. It was triggered by the requirement to achieve 10% on-site renewables using ground source energy in order to help achieve a Very Good BREEAM rating.

Instead of using a traditional sandwich construction, with the pipework laid onto a base slab then covered with screed and an upper layer of concrete, the velta one system was installed at the same time as the steel fibre reinforced 275mm suspended ground floor single slab using one of Stuarts laser screed machines.

This technique achieved a significant saving in concrete

Hotstuff

Working with velta, the leading floor heating and cooling systems company, Stuarts helped to achieve a world first – the two-in-one installation of a heating and cooling system installed alongside a laser screed machine directly into a single structural slab.

covering a total floor area over two units of 13,500m². Working alongside the main contractor McLaren Construction, daily production of 1,500m² of completed concrete floor incorporating the velta one system was achieved. Dave Gavin, Projects Director of McLaren said: "The main attraction from our side was the reduced programme period which saved us a lot of

time. We also appreciated the single point of contact for the heating system and concrete floor."

With large spaces and high tolerances to FM2 special of TR34 now possible, coupled with the energy efficiency advantages of utilising a floor heating and cooling system installed directly within the slab, many new opportunities are now opening up for this innovative new approach.

“**DAVE GAVIN, PROJECTS DIRECTOR OF MCLAREN SAID:** THE MAIN ATTRACTION FROM OUR SIDE WAS THE REDUCED PROGRAMME PERIOD WHICH SAVED US A LOT OF TIME. WE ALSO APPRECIATED THE SINGLE POINT OF CONTACT FOR THE HEATING SYSTEM AND CONCRETE FLOOR

BEATING THE WEATHER

“Project Storm” was an apt name. The building of a new 61,000m² distribution centre for Asda in Doncaster began in mid winter. Despite bad weather and a cement crisis, Stuarts delivered on time.



“**JAMES PHILIPS, SITE MANAGER FOR SIMONS SAID:** THIS WAS A FAST TRACK JOB WHICH HAD TO GO WELL, AND IT DID. AS USUAL, STUARTS HELPED US TO KEEP TO THE CRITICAL DATES. A VERY SUCCESSFUL PROJECT – DESPITE THE WEATHER

Working with the main contractor Simons, the first challenge was to lay the floor area of the ground floor offices in an empty field, with no steel work or building structure.

Stuarts' own SXP laser screed machine was used for the main pours at a rate of 2000 m² per day. "Stuarts Steel Crete" Dry Shake Topping was applied to the surface and a floor tolerance of FM2 Special was specified and exceeded - coming within a hair's breadth of FM1. Careful programming

allowed Asda to move into the first phase to install racking and goods as work started on the second.

Lafarge were commissioned by Stuarts to set up an onsite batching plant to supply concrete and despite a cement manufacturing crisis during the construction period, they made the site a priority and no scheduled pour was missed. The project ran like clockwork and was completed in exactly the number of days specified.



New heights

Colin Shephard, Assistant Manager of Stuarts' northern office based in Boroughbridge, took part this summer in a team attempt at the notorious three peaks challenge – helping to raise over £2000 for charity.

Colin's group of twelve started at five pm on a Saturday evening with the climb up Ben Nevis – then onto Scafell Pike in the Lake District and finally Snowdon in north Wales. His finishing time: a very creditable twenty six hours thirty minutes, despite some miserable weather. The money raised went to a number of charities including York and District against motor neurone disease.

His latest challenge was the Lyke Wake Walk - a forty two mile overnight trek right across the Yorkshire Moors in seventeen hours, this time raising funds for Macmillan Cancer Support.

Meeting standards adding value

Building on the company's existing ISO9001 accreditation, the company worked with Quality Management Systems (QMS) to develop their management systems further in these two critical areas. They also involved a specialist organisation, Groundwork Environmental Business Services, in helping to raise environmental awareness and understanding at all levels of staff.

In September this year, Stuarts gained two important accreditations: the environmental standard ISO14001, and the health and safety standard ISO18001.



CHRIS HENDERSON, STUARTS DIRECTOR RESPONSIBLE FOR THIS PROCESS, SAID: WE'RE DELIGHTED TO HAVE SECURED THESE APPROVALS. AS WELL AS BEING A CREDIT TO OUR PEOPLE WHO HAVE WORKED HARD TO ACHIEVE SUCH HIGH STANDARDS, THEY'LL ALSO ADD GREAT VALUE TO FUTURE CUSTOMER PROJECTS AND BUSINESS OPPORTUNITIES



TOP TEN CAMPUS

Recently named one of the top ten modern universities by the Sunday Times Good University Guide, Queen Margaret University College in Edinburgh was a high prestige project for Stuarts.

Working under a partnering agreement with main contractor Miller Construction, Stuarts laid the flooring for 800 modern student residences with ensuite facilities in a brand new campus on the south-east side of Edinburgh, near Musselburgh.

With nine accommodation blocks, each with three or four metal deck upper floors, the total area of slabs cast was around 6,500m². The specification from URS Consulting Engineers was for a 175mm thick composite slab with one layer A193 mesh reinforcement, with supplementary steel at shear studs and around apertures.

Flexibility was necessary to meet the contractor's programme, with concrete pours to more than one level required on a daily basis. To meet the need for numerous service penetrations, the Stuarts team post-cored through completed slabs to provide accuracy in setting out.

A rigorous standard of health and safety was applied, including close consultation to meet an internal audit by Miller. Careful co-ordination was required between various trades to complete the works within programme - ahead of time and within budget.

GET IN TOUCH

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IF YOU'D LIKE TO KNOW MORE, OR IF YOU'D LIKE TO DISCUSS A PARTICULAR PROJECT, PLEASE CALL OR EMAIL.