



## CoGri Successfully Built the FIRST Steel Fibre Reinforced Slab on Piles in China

In October 2010 CoGri Asia Ltd completed the first ever steel fibre only reinforced concrete (SFRC) slab on piles to be constructed inside China. The project was built for a major UK retailer at their new distribution centre in Jiashan, Zhejiang province, China.

Face Consultants carried out the structural analysis and the design of pile interfaces and jointing details starting in December 2008. CoGri Asia began construction 18 months later. This large 55,600m<sup>2</sup> building was the Client's first purpose built facility in the area, and CoGri were awarded this project due to their recent successes on other SFRC projects in Malaysia and Thailand.



Finished Floor

### Logistical Challenges

Previous experience demonstrated that major efforts of planning would be required to organise materials and construction management personnel. Concrete apart, all materials – reinforcement, jointing systems etc were imported. The multi-national project team was to come from Singapore, UK, Korea, Malaysia and China. A good proportion of these were fluent in Mandarin and English, a key element in working with local labour and suppliers.

The logistics of preparing for this project were difficult. Over 700 tonnes of Arcelor Mittal structural steel fibre and 3.5km of Isedio armour joints were shipped from Europe in a total of 54 containers. Specialist floor laying equipment, laser screed, topping spreader and power finishing tools were shipped in from Singapore.

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### CONTACT US:

CoGri Group,  
Dene House,  
North Road,  
Kirkburton,  
Huddersfield,  
HD8 0RW,  
United Kingdom.

Phone:  
+44 (0)1484 600080

Fax:

+44 (0)1484 600095

Website:

[www.cogrigroup.com](http://www.cogrigroup.com)

E-mail:

[cogrinews@cogrigroup.com](mailto:cogrinews@cogrigroup.com)

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## 3 Laser Grinders in Operation

Concrete Grinding successfully completed a Fast -Track floor solution program for The Oxford University Press's (OUP) new distribution centre in Kettering.

This was the first time in Concrete Grinding Ltd's history that not one, not two, but THREE of their Laser Grinders were used to provide speedy, precisioned floor grinding to 21 very narrow aisles (VNA).

Working for Crown Trucks on behalf of OUP, the Concrete Grinding Ltd team carried out 3 wheel track grinding totalling 1080 metres to meet with the required floor flatness specification.

Face Consultants Ltd were appointed to survey the floor before grinding.

This meant that areas out of specification could be identified so that Concrete Grinding Ltd could focus their grinding work to correct only the errors, rather than grinding the full aisle length. This minimised the amount and depth of grinding which resulted in a cost saving to OUP as well as meeting within the client's stringent work schedule.

After grinding, Face Consultants surveyed the floor and confirmed that within the VNA's the floor complied with The Concrete Society's TR 34 Appendix C DM2 floor flatness specification for defined movement floors.

Concrete Grinding Ltd also carried out Joint Arris Repairs to 132 metres of joints before grinding commenced. An anti-dust suppressant was applied after the Laser Grinding.

OUP is a department of the University of Oxford. It furthers the University's objective of excellence in research, scholarship, and education by publishing worldwide. Oxford University Press has a presence in more than 50 countries around the world.

OUP recently moved from their Corby's DC to their Kettering site where it is expected to be fully operational from January next year.



Stock Image: The Laser Grinder® in aisle

## Face Consultants News

**Face Consultants** continued their on-site supervision services and end of day testing for a UK flooring contractor working in Dubai. Two areas totalling 57,600 m<sup>2</sup> of FM2 (Special) flooring have been completed during the hottest part of the Middle East Summer where works were carried out at night to avoid high temperatures and to help with concrete deliveries. The end user is a well known logistics company with operations worldwide. Both warehouses were fully compliant with the required classification.

FACE also completed their on-site supervision and end of day testing for CoGri Asia in Shanghai, constructing a pile on slab floor for a major UK Retailer.

Working for the flooring contractor FACE, over a period of 16 days, completed compliance testing to 70,000M<sup>2</sup> of newly constructed floor in South Yorkshire and tested the floor to the older TR34 FM2 (1994 Edition) classification.

FACE continued the monitoring of levels at an existing warehouse in Bristol that deals with the packing and distribution of wines and ciders for a group of consultancy engineers. On another project, working for a flooring contractor FACE provided on-site supervision of remedial grinding works to bring into tolerance 13 aisles of newly laid DM1 flooring.

Working for a well known retailer FACE checked a 26,000m<sup>2</sup> DC for compliance with FM2(special). This floor was originally cast back in 2007 and had remained unused ever since. The new owners wanted to know how compliant the floor was four years after construction.

As an addition to its ever expanding list of services, FACE carried out 20 Relative Humidity tests in Sheffield for a well known Property Consultant. The tests were carried out over two visits set three days apart. FACE made the first visit to set up the test locations and the second visit was to monitor the readings as per British Standard guidelines.

On separate projects FACE also completed floor flatness testing and abrasion resistance testing for an international supermarket chain whose new distribution centres in Thailand and Poland (totalling over 50,000m<sup>2</sup>) have had floors constructed by local flooring contractors.

FACE carried out Slip Testing at a number of well known Ferry ports in the UK where new passenger walkways had received an epoxy non slip coating. Slip Testing has also been carried out in numerous public buildings throughout the UK. This adds to the ever growing long list of clients benefitting from FACE Slip / Skid, Surface Roughness and Accident Investigation Service.

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### Construction Challenges

The three biggest challenges were sourcing a consistent supply of concrete, getting the concrete to the working face of the floor and training and encouraging the local workforce to take an interest in quality control.

The site was about 90 miles from Shanghai and local knowledge and resources for formulating and producing a high performance concrete for 45kg/m<sup>3</sup> dosages of metal fibre reinforced concrete were very limited.

Temperatures were in the high 30's and humidity was also very high. These conditions were difficult for working with concrete of any type, let alone steel fibre reinforced concrete. To cope with fibre integration, delivery and placing times, a working life of 5-6 hours with high workability was required. BASF's Shanghai laboratory and CoGri's own UK expert advised on the design mix needed to achieve the high workability and set characteristics required.

A customised PCE admixture was developed that was capable of dealing with the cements and aggregates peculiar to this area. These local materials were very difficult to work with and gave many problems throughout the project. Variable reaction between the cement and admixtures meant that concrete characteristics such as set time, workability and bleed would change dramatically on a regular basis. CoGri adopted a strict testing regime that allowed them to monitor the raw materials on a daily basis and adjust the mix design as required.

The site was almost impassable to truck mixers. Fortunately, a supply of 1.2 x 6 m steel plates was found and these were used by CoGri to pave the access for concrete truck mixers to and from the workface. Co-ordination of the plate movement with Laser Screed, Topping Spreader, Concrete trucks while maintaining the safety of the workforce was a major effort.

The biggest single risk factor was that of delamination which can be hugely costly to a flooring contractor. Unwanted air entrainment from admixture / cement interaction is one of the biggest contributors to air entrainment. To cope with the effects of the variable cement chemistry, it was found to be necessary to adjust defoamer and retarder contents on an almost daily basis so as to minimise the air entrainment to acceptable levels. CoGri found themselves leading the admixture testing and production process at the batching plant.

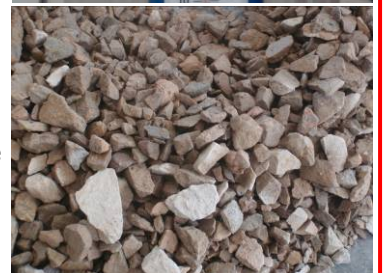
### Achievements

Despite all these difficulties, the site team pulled together and completed a floor to remember, managing to demobilise from site in October 2010.

People were the key resource in this project. Thanks to the herculean efforts of the project management team; who progressively developed solutions to supply chain problems and completed the project with no ultimate compromising on quality.

Along the way, local labour resources had to be trained and cajoled into taking care with the essential details of concrete floor construction. Maintaining a standard of workmanship proved a challenge due to the transient nature of the workforce, but CoGri's site team found a way to deliver. Concrete floors are everything about getting the details right: isolation of the slab, joint and load transfer mechanisms as well as interfaces with the client installed flush mount dock pods and delivering a flatness specification completed product.

Images from top: High temperature and humidity; Unusual aggregates; Pump mix with agglomerated entrained air; Auger in concrete; Morning Pour.



## CG Flooring Systems' NEW Due Diligence Floor Survey

The final quarter of 2010 has been a productive period for **CG Flooring Systems Ltd** which has seen us involved in projects where we have demonstrated our whole range of services. Joint and surface repair works have been prevalent, especially over weekend periods to suit our clients operational programmes. We have also been successful in completing some significant floor coating and Fastfloor IT Pump Screed jobs for high profile clients on prestigious projects.

The current economic climate has reinforced the need to deliver a high quality product and level of service, to ensure our customers get what they have ordered. It has also highlighted the need to embrace the challenges presented and to continue to be proactive in looking for ways to improve on the services we can offer that will be of benefit to our customers, old and new. In keeping with our ethos of striving for perfection in floor refurbishment, CG Flooring Systems Ltd are launching a new service of 'Due Diligence Surveys' aimed at providing a tailored package for the upkeep of industrial floors.

The floor is the part of the building that is guaranteed to be utilised from the day you move into the warehouse until the day you leave. It is the point where the warehouse and the Materials Handling Equipment (MHE) interact, it is the base on which the operation performs and therefore the floor will have a direct bearing on the successful performance of any warehouse operation.

In essence, a floor that is poorly maintained, subject to poor workmanship or poor design will result in poor MHE performance and can have a negative effect on staff performance.

A Due Diligence Floor Survey will provide an assessment on the condition of the existing concrete floor, focusing on the four main aspects which can determine the success of any floor in an operational environment: Joints, Durability, Flatness and Loading. The initial visual conditional survey will identify the condition of the floor surface and joints, with flatness and loading requirements being subject to the current or intended use of the floor. As a well established member of the CoGri Group, CG Flooring Systems can offer a comprehensive range of professional services for further detailed floor testing and analysis to support the findings of the initial floor survey. The results taken from the survey will enable unparalleled advice for floor repair and maintenance strategies to be provided.

Treating the floor to a full service will enable the stage to be set to maximise the operational performance of the warehouse. Thereafter an annual survey to consider joints and durability would be highly recommended where we can offer an upfront schedule of rates for all aspects of industrial floor repairs and maintenance.

With the new survey service set to enhance the company focus, and a number of orders already secured for projects in the UK and Middle East for 2011, the New Year is already providing reasons to be excited and optimistic for a prosperous period ahead.



## French Fashion Firm Re-commissions Concrete Grinding Ltd

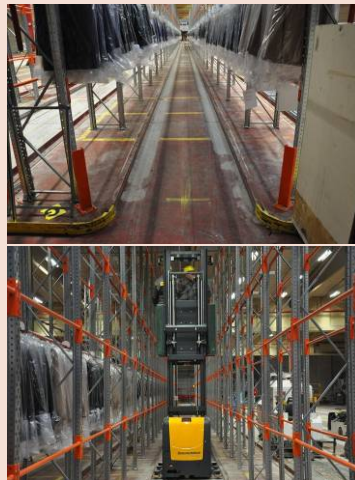
**Concrete Grinding Ltd** returned to France to provide a floor grinding solution for an existing client, 3 Suisses. Working in partnership with the main contractor, Promadis, an extension to the existing VNA facility in Villeneuve d'Ascq near Lille, North of Paris required the floor to be ground to tolerance ready for racking installation.

Concrete Grinding Ltd has previously worked for 3 Suisses in December 2008 through to January 2009 when they were first commissioned to provide Laser Grinding to two of the client's DC near Lille, one of which was in Villeneuve d'Ascq. At that time the client had an aging MHE system in a large portion of their facility. However, after seeing how beneficial the Laser Grinding system can be, the client then modernised with an extension area, resulting in the revisit completed this year.

Using the Laser Grinder®, Concrete Grinding Ltd carried out 2 wheel tracks grinding to 13 aisles totalling 702 metres to meet with TR34 CAT 2 floor flatness specification. A further 197 metres were laser ground in the centre of the narrow aisle where joints in the floor were out of specification.

The VNA Fork Lift Trucks (FLT) are guided within the aisle by high profile guide rails. At the client request, the Laser Grinding was set up in such a way that the FLT wheels and the guide rails both sit into the ground paths. As the Laser Grinding preceded the racking installation, the alignment of the grinding was critical, particularly as the guide rails and front wheels of VNA truck were required to be located in the cut path. By using a 380mm diameter cutting blade, designing tight tolerances and also maintaining straight cutting lines, this was successfully achieved with minimum clearance either side of the guide rails and the VNA front wheels. This is the best approach when considering ground clearances of VNA truck's out-rigger wheels.

After the designated aisles had been ground, the new racking was fitted and stocked. Concrete Grinding Ltd then proceeded with the remaining aisles, proving that the Laser Grinder® system is clean enough to work alongside fully stocked racks and does not affect the day to day warehouse operation – a factor that is vital for a busy client.



From top: Fully ground floor; Operational aisle with the Laser Grinder® working in the next aisle (see right), with no inconvenience to the warehouse operation.

## FACE at FerFA AGM

Face Consultants joined other members of the Resin Flooring Association (FerFA) for their Annual General Meeting/Exhibition Event this year at the Forest of Arden Hotel in Warwickshire, UK.

Duane Scarfe, Operations and Quality Manager for FACE was present at the event.

The exhibition opened from 10.00 with the meeting started at 11.00. Following formal business and lunch there was a seminar and presentations in the afternoon. The exhibition closed at 17.00.

The exhibition and seminar was followed by FerFA's 40th Anniversary black tie Dinner & 2010 Awards Ceremony in the evening, with live music and entertainment.

Over 200 delegates attended throughout the day.



Duane Scarfe (left) with other members of FerFA

## IMHX 2010

The CoGri Group exhibited at the International Materials Handling Exhibition (IMHX) 2010, the UK's largest logistics and materials handling event. Held every three years, the event took place at the National Exhibition Centre (NEC) in Birmingham between 16th - 19th November in Halls 18, 19 & 20 of the NEC. There were over 350 exhibitors present and the event received over 13,500 visitors.

Overall, the Group had a successful show, though it was less busy in terms of foot traffic compared to 2007. However, despite the current economic climate, the Group reported strong levels of enquiries and good business networking during the event.

Middle image from left: Malcolm Godbold (General Manager, FACE Middle East Fzc), Kevin Dare (Managing Director, CoGri Group), Ryan Griffiths (Design Engineer, Face Consultants Ltd), Alan Yuill (Director, CG Flooring Systems Ltd), Duane Scarfe (Operations & Quality Manager, Face Consultants Ltd) and Paul Altham (Technical Surveyor, Concrete Grinding Ltd).



**IMHX 2010**



## CoGri in Australia



As the CoGri Group continues to expand in China and the Middle East, we are also making our mark in Australia. Two companies have been set up down under as [CoGri Australia Pty Ltd](#) and [Face Consultants Pty Ltd](#). Both companies will have a permanent office in Australia, located in Sydney City Centre.

Glenn Powell will head the business development of Face Consultants in Australia. Glenn was a Director of Layton Technology Pty Ltd which developed and distributed software around South East Asia.

Glenn originally worked for CoGri Group back in 1997 when he worked for Concrete Grinding Asia Pacific in Singapore. He has previous building industry experience and extensive experience with Concrete Grinding. Combining this with his IT and business development skills, he will be a valuable addition to FACE and CoGri Group business in Australia.

Glenn originally came from England, has worked around Europe and Asia with Concrete Grinding. He emigrated to Australia 12 years ago and is now an Australian Citizen.

Pictured right: Glenn Powell, General Manager.

## Face Consultants China



After first completing work in China in 1998, the CoGri Group is finally setting up operations in China with the incorporation of Face Floor Consultants (Shanghai) Co.,Ltd, which will be completed very soon.

Face Consultants Shanghai will be managed on a day to day basis by Macy Yang, who has been employed as Technical Manager, in fact Macy has been busy supporting CoGri Asia at the Jiashan project since she joined us in March 2010.

Macy has a Masters degree in Structural Engineering and more than 4 years of experience in a technical role at an Industrial Concrete Flooring Contractor in China.

[Face Consultants Shanghai](#) will play a critical role in the promotion of high quality concrete flooring and performance based specifications with Compliance Testing in China, as it does throughout the world.

CoGri China will be setting up operation in 2011 headed by Jason Blackmore.

Pictured right: Macy Yang of Face Consultants (Shanghai) on-site at the Jiashan Project.



## Middle East Developments



The CoGri Group has come a long way since it's first project in the Middle East in 1998.

As Face Consultants was already a recognised brand, [FACE Middle East Fzc](#) was set up in 2007 in Dubai, UAE, to manage the business in the Gulf region and act as a direct liaison office between the client and the UK head office. FACE M.E. has been successful in taking the Group's services to the Middle Eastern market and now, to accommodate the ever increasing demand for CoGri Group's construction services, [CoGri Middle East LLC](#) is formed.

FACE M.E. will continue to operate as a specialist flooring consultants with Malcolm Godbold as the General Manager whilst CoGri M.E. will develop as a specialist flooring contractor and carry out all works outside of the Free Zone, this means any work within Dubai or its surrounding Emirates will be performed under the guise of the new company. Heading the new company will be Thomas Hanks who has gained extensive experience and knowledge working for the Group on a permanent basis for over 7 years, and on a temporary one for over 15 years. Tom has been progressing in his career since he was first introduced to the industrial concrete flooring sector 15 years ago. Tom started his work experience for the Group at their old office in Meltham, Huddersfield. He also worked for the Group during College and University holidays. After graduating with a Bachelor of Engineering honours degree from the University of Huddersfield in May 2003, Tom joined Face Consultants in September 2003. Four months after joining the company, Tom got involved with on-site supervision work, predominantly in the Middle East region.

In September 2006 and after 3 years with FACE, Tom moved over to Concrete Grinding Ltd to assist CG's Contracts Manager as CG workload was increasing. He was given responsibility for the Laser Grinding and Joint Repair quotations. At the same time, his overseas supervision work continued.

"My role is to develop and grow the company as a specialist flooring contractor, offering all of the Group services to clients throughout the Middle East. CoGri M.E. will operate as a regional brand and representing the Group brand in the Middle East, emulating the success of CoGri Asia Ltd (the regional brand for the Asia Pacific). All on-shore work will be undertaken by CoGri M.E."

Tom is due to permanently relocate to Dubai with his family in April 2011.

Pictured from left: Malcolm Godbold and Thomas Hanks.

