

HOLLOWCORE SOLUTIONS



SPECIALISTS IN HOLLOWCORE PRODUCTION SYSTEMS



www.spiroll.co.uk

02/03

Our aim is simple:
to provide each and
every customer with
solutions tailored to
match their exact
requirements.



ABOUT SPIROLL

Spiroll specialise in tailored production systems for the manufacture of prestressed hollowcore slabs.

We deliver solutions for both hollowcore start-ups and existing manufacturers, providing machinery and support that achieves a quick payback.

Our solutions support a low-cost entry strategy and provision for growth in developing regions. In more mature markets we can provide competitive advantages that maximise efficiency and minimise running costs. Our aim is simple: to provide each and every customer with solutions tailored to match their exact requirements

Spiroll also offer a complete range of prestressing equipment, accessories and related services. We have a nationally accredited prestressing training scheme, and provide consultancy to support new and existing projects.

Our approach is founded on over 50 years of technical know-how and precast manufacturing experience. We have people on the ground supporting a global customer base, and an internationally proven hollowcore production system.

Spiroll hollowcore production plants are currently operating in over 20 countries throughout the world.

“The purchase of the intellectual property and manufacturing rights of Dynacore Equipment Canada Limited has allowed us to combine Spiroll and Dynacore technology. Since 1962, Spiroll have been at the forefront of hollowcore slab production machinery. The new Vortex extruder is the culmination of over 50 years of manufacturing experience, and ushers in a new generation of hollowcore extruder.”



04/05

OUR APPROACH

Our turnkey solutions cover factory start-ups of all sizes - from smaller site based and temporary projects, to comprehensive precast factories.



1. APPRAISAL

- Machinery requirements
- Project Planning
- Feasibility Study

2. DESIGN

- Hollowcore slab design
- Factory layout
- Civil works

4. PRODUCTION

- Staged delivery
- Local manufacturing support
- Local procurement support

3. SPECIFICATION

- Batching plant/mixer
- Curing system
- Concrete distribution/handling

5. INSTALLATION

- Abutment civil work
- Casting beds
- Plant and services

6. COMMISSIONING

- Concrete mix design
- Complete production cycle
- Product quality

8. SUPPORT

- Project management
- Quality control
- Maintenance and spares

7. TRAINING

- Machine operation
- Prestressing
- Safe systems of work

CASE STUDIES

Spiroll hollowcore production plants are currently operating in over 20 countries throughout the world.

Botswana Innovation Hub **BOTSWANA**

- 2 x 90m (295ft) production beds
- 40,000m² (430,556ft²) of slabs
- 250/300/340mm (10/12/13in) depths
- Local manufacturing support

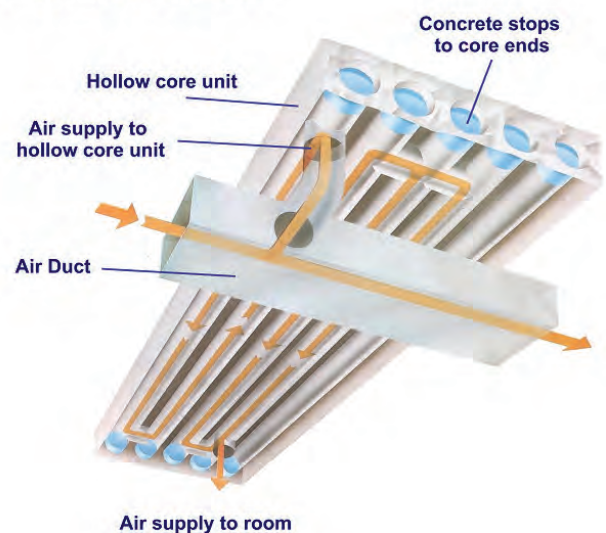
The TermoDeck construction system, pioneered using Spiroll hollowcore slabs, was used at Botswana's first science and technology park, the Botswana Innovation Hub. TermoDeck uses the voids in the slabs instead of steel ducts, to exchange air from the supply to the building's interior. This can produce savings in energy consumption of between 20 – 50% and a reduction in peak cooling loads of 70 – 90%.

Spiroll specified, designed and manufactured a production system to supply 40,000m² (430,556ft²) of hollowcore slabs at depths of 250mm (10in), 300mm (12in) and 340mm (13in) with a non-standard width of 1250mm (49in), from an outdoor, site-based factory.

The package of machinery included a universal extruder with cassettes for the 25cm (10in) and 30cm (12in) slabs and a special modification kit to manufacture the 34cm (13in) slabs. Spiroll also supplied a crosscut saw, complete with an adaptation to allow simple angle cuts, prestressing equipment and SlabLock lifting clamps for bot factory handling and site fixing. The steel casting beds were manufactured locally with design support and a drawing package provided from the UK. Support with commissioning and training was provided by Spiroll engineers throughout the duration of the project.

“Spiroll slabs are a proven means of implementing the TermoDeck system in a building. The Spiroll production system, in conjunction with engineering support, has ensured continuous and on time delivery of slabs for the project.”

A TermoDeck slab



SKC Beton KAZAKHSTAN

- 3 x 100m (328ft) casting beds
- Provision to expand to 5 beds
- Mould and tables for other precast elements
- 50,000m² (538,195ft²) of precast housing

SKC Beton, the largest supplier of cement and building materials in the Akmola region of Kazakhstan, commissioned Spiroll to supply a complete package of equipment for prestressed hollowcore slab production in one of the region's first precast factories dedicated to producing elements for housing construction.

The contract included a universal extruder, a crosscut saw, bed cleaner and prestressing equipment. Three 100-metre (328ft) long casting beds were also installed along with extra abutment pockets to allow for the addition of two further beds in the future.

The first stage of the project involved the construction of a 2-bay plant, each bay 144 metres (477ft) long and 24 metres (78ft) wide. At full capacity the plant will produce 50,000m² (538,195ft²) of housing per year.

As well as the hollowcore machinery, the factory has a brand new batching plant, tilting table and a universal casting bed for the production of reinforced concrete structures.

“Since the first meeting Spiroll and Vikon were the clear choice to supply the machinery for this project. Delivery expectations were met and the machines were making a high quality product from day one.”



ITB Nigeria Ltd. NIGERIA

- 4 x 120m (394ft) production beds
- Universal Spiroll extruder
- 5 different depths of hollowcore slabs
- 200,000m² (2,152,782ft²) of slabs for Convention Centre

The first major project to be undertaken jointly by CCL and Spiroll was a hollowcore factory in Abuja, Nigeria for ITB Nigeria Limited, to produce Spiroll slabs for the construction of a new International Convention Centre in the Nigerian capital.

The Abuja factory produces over 500m² (5,382ft²) of high-quality hollowcore slabs per day on 4 x 120m (394ft) long casting beds, in 5 different depths from 150mm (6in) - 360mm (14in).

Spiroll and CCL supplied both machinery and project management. Machinery included a universal extruder, a multi-angle saw and a bed cleaner which allows beds to be prepared in less than 15 minutes by only one operative.

“The importance of Spiroll machines is that they are easy to operate and maintain, with minimum manpower. The extruder provides a high-quality hollowcore slab with the absence of cracks or weak spots (on it) ”



08/09

BENEFITS OF SPIROLL HOLLOWCORE

PROFITABLE

Few building materials available today offer the economy, flexibility and reliability of precast prestressed concrete. The Spiroll hollowcore slab can be utilised in many applications that present numerous sales opportunities in local markets.

FLEXIBLE

As well as a versatile flooring and roofing application, Spiroll hollowcore slabs can also be utilised for wall panels. A wall panel conversion kit for the extruder allows it to be easily converted to make 150mm (6in) and 200mm (8in) deep tongue and groove slabs.

FAST

Spiroll hollowcore provides producers with full control over all the variables which affect the durability, strength and appearance of the slab. The high quality and excellent finishes of the slabs reduce site work to an absolute minimum.

ECONOMICAL

Spiroll hollowcore slabs are up to 30% lighter than an equivalent in situ floor. Building foundations and supporting columns/beams can be significantly reduced. Longer spans and greater loads can also be achieved with Spiroll slabs.

DURABLE

Spiroll hollowcore slabs provide long-term performance in extremely harsh conditions that could destroy lesser materials. They are extremely resilient to deterioration from the weather and the denser the slab, the higher the fire rating.

GREEN

Spiroll slabs are also the best slab to be used by the hugely successful heating and ventilation system TermoDeck®. The system uses thermal masses to store energy in the slabs and is far more cost-effective than conventional air conditioning systems.

QUALITY

The Spiroll extrusion process produces the most consistent and best quality hollowcore slab. This provides the ultimate in structural design and flexibility being entirely compatible with steel, masonry, hollowcore, concrete block and precast concrete beam constructions.



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- High-quality surface finishes
 - Long spans
 - High load bearing
 - Sound insulating
 - Fire resistant
 - Quality soffit finishes
 - Good camber control
 - Soffits painted directly
 - Good shear capacity
 - Used for wall panels

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The Spiroll production system is an internationally proven method for manufacturing prestressed hollowcore slabs of the highest quality.

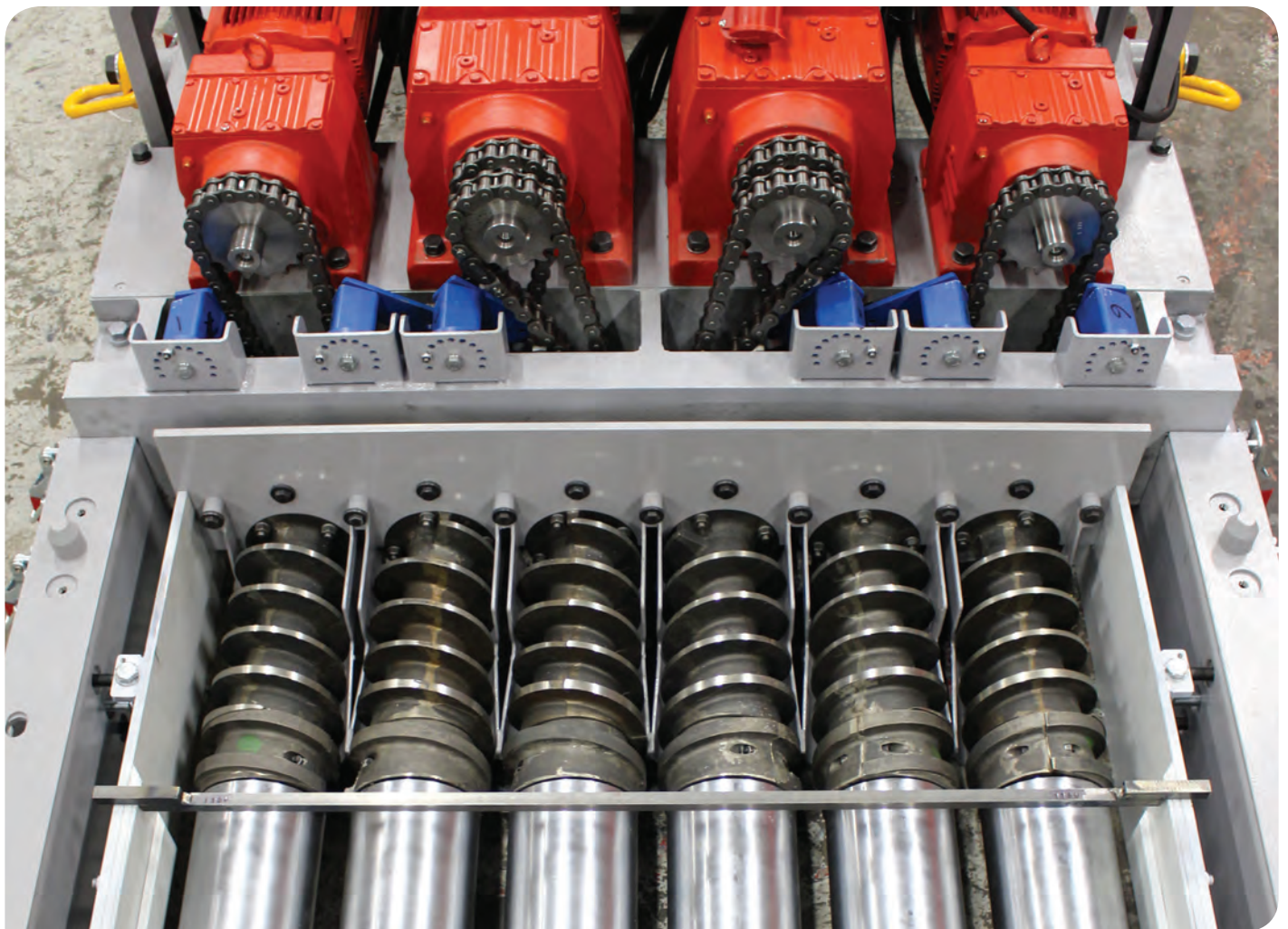
spiroll

WHY USE SPIROLL?

Our system is founded on a range of machinery that is reliable, easily maintained, and delivers a consistent product. This guarantees successful projects and a quick return on capital investment for our customers.

As well as ensuring a quality product, the high frequency vibration utilised in Spiroll extruders minimises production costs such as raw materials, labour and maintenance. We support our customers with training packages and documentation, a team of maintenance engineers, and off-the-shell spare parts availability.

- Product quality
- Less cement
- Double casting
- Low scrap rates
- Good bond retention
- Optimum bed utilisation
- Easy maintenance
- Off-the-shelf spare parts
- Universal extruder



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PRODUCTS

Alongside turnkey solutions for hollowcore production, we provide a wide range of supporting products:



HOLLOWCORE

- Hollowcore design/production software
- Universal extruder saws
- Bed cleaners
- Casting beds and heating systems
- Stressing abutments
- Hydraulic detensioning systems
- Concrete distribution skips
- Factory lifting clamps
- Slab insulation covers
- Wire/strand dispensers

PRESTRESSING

- Stressing pumps
- Stressing jacks
- Multi-stressing systems
- Stressing grips
- Stressing cleaning accessories
- Rapidcut
- Calibration units
- Strand pushers

SITE SAFETY

- SlabLock fixing clamps
- Fall arrest clamps
- Edge protection

SERVICES

We also provide a comprehensive range of tailored services to support hollowcore production and prestressing of precast concrete:

HOLLOWCORE PRODUCTION SUPPORT

Design, consultancy and manufacturing support is available through our engineering and technical department:

- Spare parts
- Commissioning, maintenance, servicing, reconditioning
- Prestressing training
- Prestressing safe systems of work and risk assessments
- Prestressing equipment maintenance, servicing, calibrations
- Management consultancy contracts
- Hollowcore factory design
- Hollowcore slab technical data
- Wall panel information
- Quality control
- Site fixing
- Bespoke machinery



CONTACT US

Find out more about the benefits of Spiroll hollowcore production systems - we can provide:

- Detailed appraisal for all aspects of production
- A payback model comparing the costs to your proposed output and selling prices

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