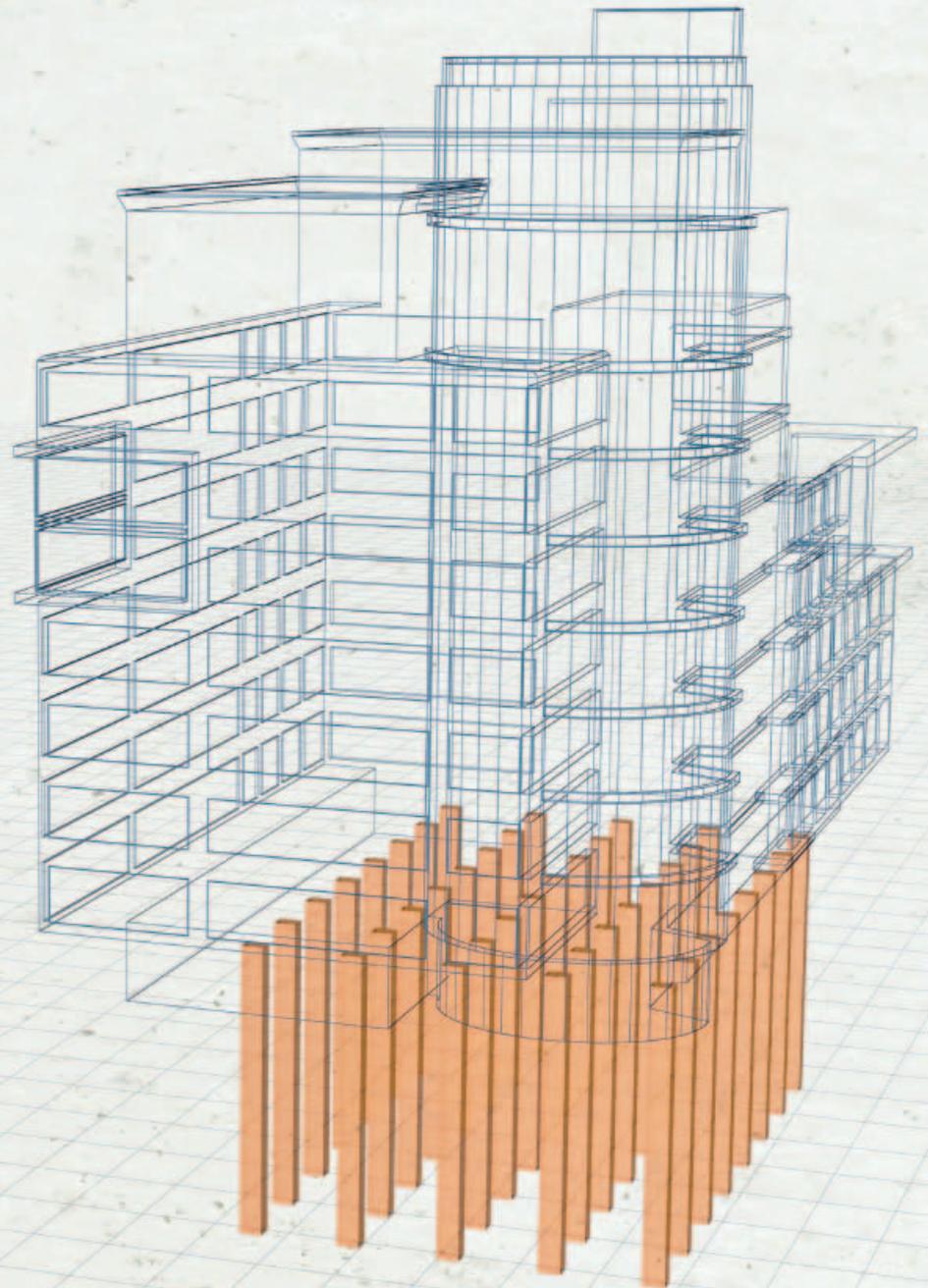


EasyPile[®]

Piling Concrete Solutions





EasyPile® CFA

CFA piling concrete solution

Hanson EasyPile® CFA has been specifically formulated for CFA piling concrete using the admixture system Sika® PilePak. Hanson designed and developed this ready-mixed CFA piling concrete specifically to help contractors overcome the issues related to sinking cages into bored concrete piles in difficult ground conditions.

Benefits

- EasyPile® CFA not only reduces cage failures on site but also helps increase the speed of piling, reducing wastage and costs
- Improved Health and Safety
- Ease of cage placement in all ground conditions
- Reduced water loss from concrete
- Reduced occurrences of aggregate locking during cage placement
- Reduced segregation and bleeding
- Reduced downtime and associated costs
- Improved cohesion properties
- Improved pumpability
- Reduced pump blockages
- Easy to produce
- Assured quality
- Available nationally from all Hanson UK concrete plants
- Design incorporates use of Hanson Regen, leading to significantly lower levels of embodied CO₂ and greater BREEAM credentials.

Uses

EasyPile® CFA is suitable to use in all ground conditions including the following:

Ground condition	
Wet	✓
Dry	✓
Dense	✓
Sandy	✓
Gravel	✓
Normal	✓

Hanson has developed a unique concrete product range with Sika® using years of experience in concrete piling and ready-mix concrete technology. EasyPile® is a unique product range specifically formulated for piling concrete.

The range consists of two specialist mixes:

EasyPile® CFA

A mix specifically designed for CFA structural piling which can be used in all ground conditions but is particularly suitable in difficult areas where there is a high risk of damages to cages.

EasyPile® SP

A mix engineered for Secant Pile construction. A system used predominantly to stabilise surrounding ground conditions prior to installation of structural piles.

Hanson EasyPile® includes the use of Hanson Regen, which helps reduce emissions of carbon dioxide but also increases resistance to sulphates and chemicals making it more durable.

Hanson's EasyPile® concrete range offers the ideal solution to many of today's engineering challenges facing the piling and foundation specialist.

Concrete properties

Admixture	Dosage	W/C ratio	Cement content kg/m ³	Slump	Compressive strength	
					7 days N/mm ²	28 days N/mm ²
Control		0.48	370	70mm	39.0	56.5
Hanson EasyPile®	One bag	0.48	370	150mm	37.5	54.0

NOTE – Actual strengths and dosage may vary depending on design requirements, ground conditions and constituent materials used.

Slump retention			
Initial	1 Hour	2 Hour	3 Hour
200mm	190mm	170mm	150mm



EasyPile® SP

Secant Piling Concrete Solution

Hanson EasyPile® SP is a bespoke concrete solution used in secant piling for constructing retaining walls using interlocked bored piles. Secant piled walls are predominately constructed so that the primary piles contain lower strength concrete than the concrete in the secondary piles. Walls are installed as hard/firm or hard/soft depending upon the specified requirements for the secant wall.

EasyPile® SP has three mix designs to help the contractor construct the required secant wall.

Soft pile concrete: 'soft' primary pile concrete is generally formed with a bentonite cement mix. Ultimate strength is of lesser importance when forming primary or soft piles, what is important is the early strength achieved, (typically between 3 and 5 days). It is the early strength that determines how manageable the subsequent drilling operation through this material will be.

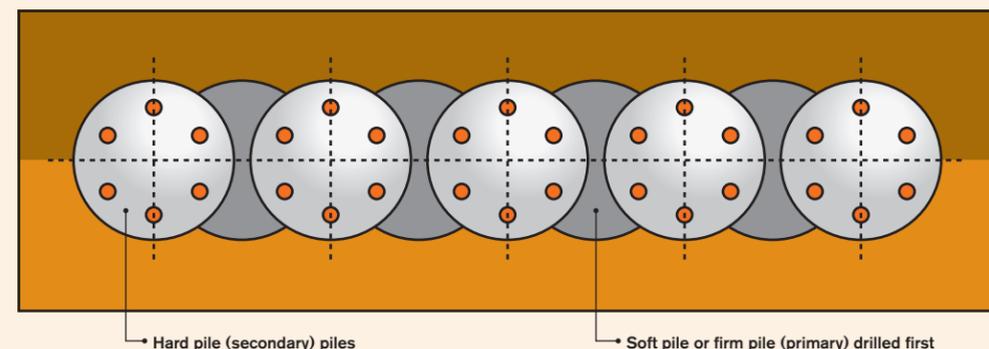
Firm pile concrete: 'firm' primary pile concrete is a lower strength concrete that fills the gap between the 'hard' secondary piles. The concrete mix is designed to be soft enough to allow the secondary pile to be cut into the adjacent piles

Hard pile concrete: 'hard' secondary pile concrete is a reinforced concrete mix that is installed in between the 'soft or firm' primary piles when forming a secant wall.

Benefits of using Hanson EasyPile® SP

- Improves internal cohesion of mix and prevents segregation
- Reduced occurrence of internal bleed channels
- Mixing water absorption into surrounding substrates is greatly reduced, in most cases totally eliminated, enabling workability levels to be maintained throughout construction
- High fines matrix to improve mix fluidity and reduce internal friction resulting in reduced wear on drill heads and lower drilling torques
- Reduced pumping pressure compared to conventional designs resulting in a reduced risk of 'blow back'/line failure and reduced wear on placing equipment
- Design incorporates up to 95% cement replacement using Hanson Regen, leading to significantly lower levels of embodied CO₂ and greater BREEAM credentials
- Design strength envelope for assessment of required strength at time of drilling/excavation
- Available nationally from all Hanson UK concrete plants

How hard pile and soft/firm pile concrete is used to create a secant wall



Case study: Hospital in Salford

Piling contractor **BBGE**

Concrete system **EasyPile® CFA**

Hanson EasyPile® CFA has been successfully utilised in the redevelopment of a hospital in Salford. The development included the design of a new link building incorporating continuous flight auger (CFA) cast piles for the foundations. This method was chosen as it causes minimal disturbance and thus reduces the risk of any damage to the adjacent buildings.

Challenges

A major problem for the piling contractor was the ground was very dry, draining water from the concrete mix as it was being placed. This made insertion of the reinforcing cages extremely difficult, with a high risk of damage to the cages.

In the case of a cage being damaged, the only solution is to remove the cage and concrete and re-drill the piles.

Hanson's solution

- Hanson EasyPile® CFA was successfully used on the project
- Specially formulated for CFA piling concrete to improve cage placement in dry and dense ground conditions
- Improved Health and Safety on site as mechanical assistance was significantly reduced
- Gave improved cohesion properties and pumpability, as well as reducing water loss, segregation and bleeding from the concrete

"By using Hanson EasyPile® CFA on the project, we found the cage installation time was cut in half and the need for mechanical assistance was significantly reduced. In some instances it was not required at all. Clearly this has benefits not only to the efficiency of the process but also in reducing the Health and Safety risk of excavator assisted cage installation. Consequently, it was more efficient and effective with Hanson EasyPile® than with the traditional mixes we have used. With no cage failures, we not only minimised wastage but also ensured our production schedule remained on time."

Nigel Brockman
CFA Operations Manager, UK
BBGE



The strength behind sustainable concrete



The Hanson EasyPile® range benefits from the use of using Hanson Regen (Ground Granulated Blast furnace Slag or 'GGBS'). This is a cement substitute manufactured from a by-product of the iron-making industry. Being able to replace up to 70% of Portland Cement (CEM1) in a concrete mix with Hanson Regen, we have developed a product that has a much lower level of embodied CO₂ than if ordinary cement was used. Hanson Regen, along with other environmental benefits, also improves the performance of the product, making it more durable and aesthetically lighter in colour.

Sustainable

- Low CO₂ concrete
- No mineral extraction
- Reduced landfill
- Post-industrial by-product
- More sustainable than other cement substitutes such as Fly Ash (PFA)*
- Meets criteria for sustainable construction

* The level of Regen in EasyPile® concrete can be as high as 95%, which is usually more than twice as much as other cement replacements such as PFA, which would typically be around 30%.

Durable

- Will last longer, even in aggressive environments
- Less cracking by minimising the heat of hydration in mass concrete pours

Attractive

- Lighter-coloured concrete
- Aesthetically pleasing
- Safer in dark areas

EcoPlus concrete mix with 70% Regen (GGBS) was used in the turbine bases at the Clyde Wind Farm adding sustainability and durability.

Clyde Wind Farm, Scotland



Other concrete solutions from Hanson

Like EasyPile®, our other ready-mixed concrete solutions have been specially developed for the civil engineering professional, each with its own unique qualities and characteristics.

Whether you're faced with difficult ground conditions, difficult applications or difficult access, Hanson concrete solutions have the answer. And all of these concrete solutions can have Regen mixed in.

Duracrete is a durable, high-performance concrete which can achieve strengths in excess of 100N/mm². The use of microsilica provides a dense structure and gives excellent chemical and abrasion resistance. Duracrete develops its strength very quickly and allows early use. High abrasion resistance means it can withstand heavy trafficking such as loading bays, while impact resistance and durability are also greater than conventional concrete. Duracrete is ideal for use in varied heavy industrial applications including warehouse floors, service yards, scrap yards, waste transfer stations and waste recycling centres.

EasyFill is a highly air-entrained concrete developed for trench reinstatement and void fill applications in various environments.

EasyFlow is a self-placing concrete that offers huge benefits and cost savings by allowing placement of concrete in difficult situations.

EasyFoam is a finely graded mortar, foamed to provide a low density material ideal for trench reinstatement, including void fill, insulation, cavity walls and non-structural applications.

EcoPlus is a range of high quality sustainable concretes designed to help you meet current and future environmental agendas. By replacing up to 70% of Portland cement in a concrete mix with Hanson Regen (GGBS), we have developed a product that generates a much lower level of embodied CO₂ than if ordinary cement was used. Hanson Regen, along with other environmental benefits, also improves the performance of the product, making it more durable and aesthetically lighter in colour.

FastTrack is a range of high early-strength concretes which speed up construction by allowing quick release of formwork. It can save time, energy and money by ensuring production deadlines can be met with confidence.

Fibrecrete is a polypropylene fibre-reinforced concrete.

Protect extends the life of structures and buildings by protecting the reinforcement within the concrete with a special corrosion inhibitor.

Watertight is a specially designed concrete which includes a pore blocking agent and a powerful new generation superplasticiser to provide extremely low permeability.

NOTE: All the products in the solutions range must be handled, placed and cured properly to maximise performance. For best results, only trained concrete placers should be used.

→ EASY TO ORDER

Hanson EasyPile® is available nationwide from all Hanson Concrete plants. For a free quote or more information please contact your regional customer service office.

☎	Scotland	0845 120 6300
	North	0845 120 6300
	Central	0845 845 6688
	South	0845 758 5646
	London	0845 120 5750
✉	Email:	concrete@hanson.com

Our companies and products

Hanson UK is the leading supplier of heavy building materials to the UK construction industry. We are split into three business lines – Hanson Cement, Hanson Building Products and Hanson Quarry Products. Hanson UK is owned by the HeidelbergCement Group, which employs over 53,000 people and operates worldwide. Hanson UK employs around 5,000 people across over 300 sites.

For detailed information on all areas of Hanson and our products visit: hanson.com/uk

Hanson UK products and services

Concrete

- Ready-mixed concrete
- Ready-mixed mortar
- Dry silo mortar
- Screed
- EcoPlus 

Aggregates

- Sand
- Gravel
- Crushed rock
- Recycled aggregates

Asphalt

- Hot rolled asphalt
- Stone mastic asphalt
- Asphalt macadams



Contracting

- Highway maintenance
- Road surfacing
- Civil engineering
- Wind farm construction
- Waste to energy facilities
- MOD works

Bulk cement products

- Grey
- White
- Blends
- Regen (GGBS) 

Packed products

- Cement
- Ready to use concrete, mortars, asphalt, aggregate and sand 

Bricks

- Clay bricks and brick specials
- Clay pavers
- Bespoke clay products







Blocks

- Aircrete
- Aggregate



Precast concrete

- Retaining walls
- Culverts
- Barriers
- Floors
- Stairs
- Structural walls
- Basements
- Off-site solutions



Cladding and render systems

- Cladding and render systems
- External Wall Insulation (EWI)
- Structural EWI
- Fastbrick







Other products and services

- SUDS
- Geothermal 
- Roofing
- Chimneys 
- Brick and block laying contractors











Hanson Concrete

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hanson.com/uk



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