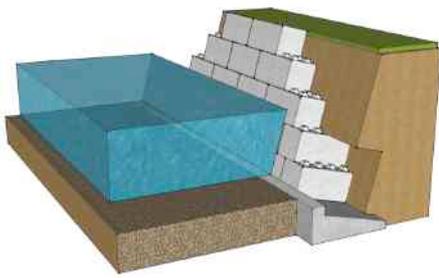


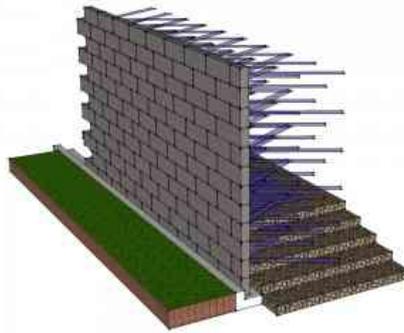


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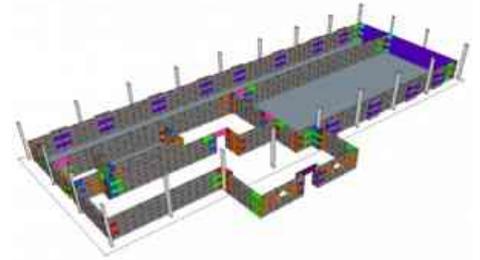
Interlocking Concrete Block Ideas



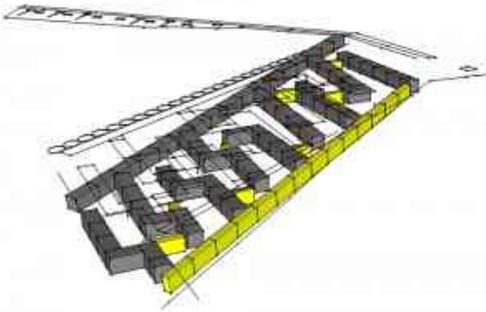
River Protection



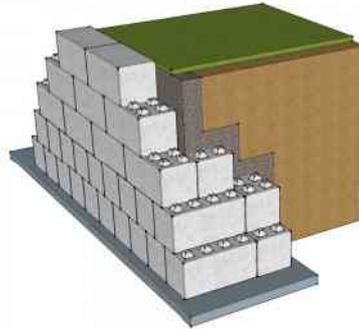
Reinforced Earth Walls



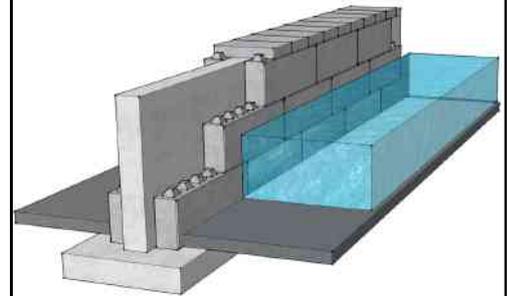
Shooting Range



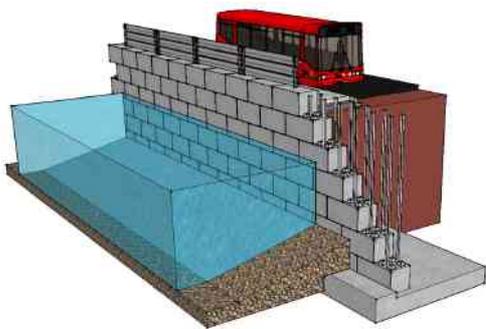
Fish Ladders



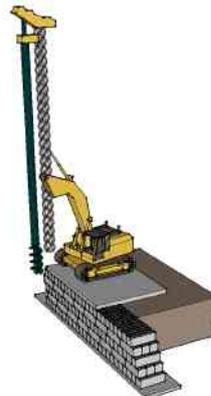
Gravity Retaining Walls



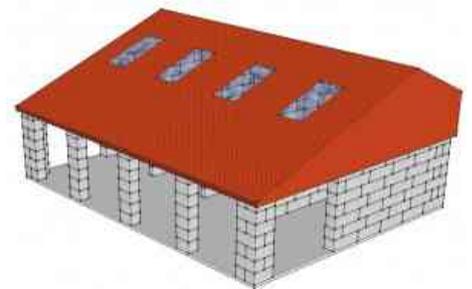
Flood Defence



Sea Walls



Piling Mats



Buildings

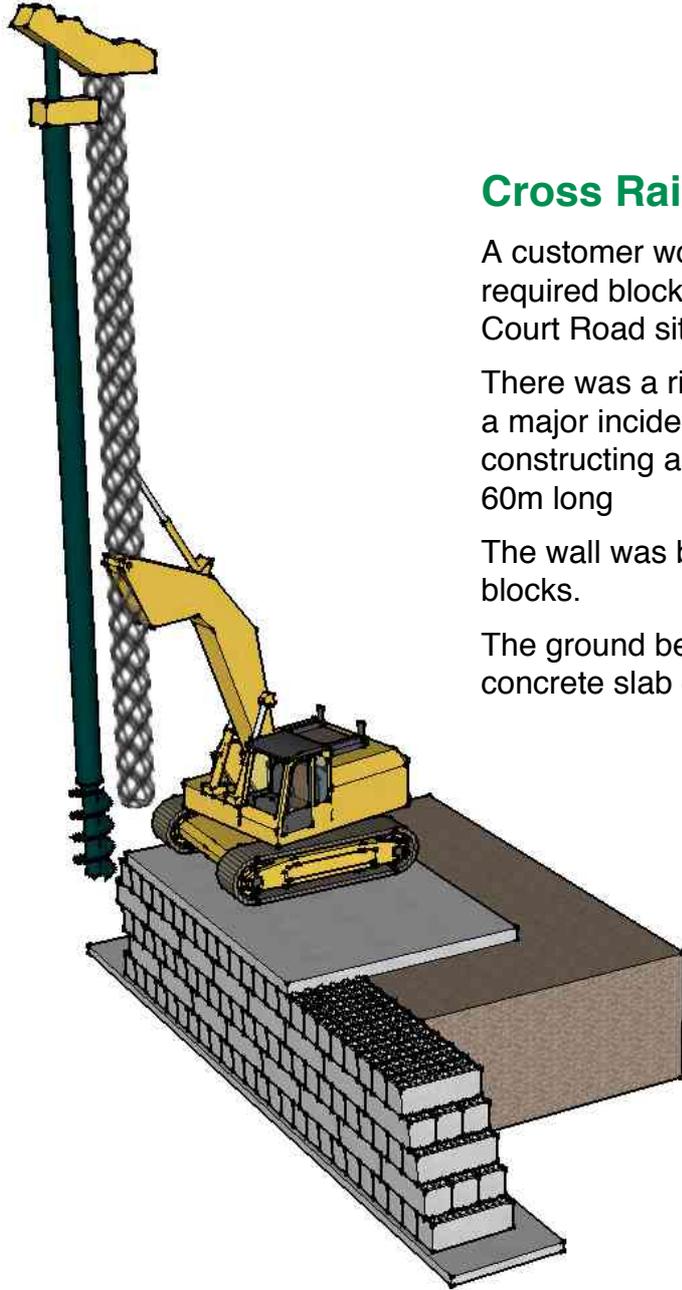
Innovative Engineering Solutions for Designers, Suppliers and Contractors

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Temporary Works



Cross Rail London

A customer working on the Crossrail project in London required blocks to construct a piling mat at the Tottenham Court Road site.

There was a risk of the piling machinery slippage and cause a major incident. The risk was designed out by constructing a piling mat foundation 1.8m wide x 3m high x 60m long

The wall was built using 1800 x 600 x 600 concrete blocks.

The ground behind the wall was then back filled and a concrete slab cast over the top.





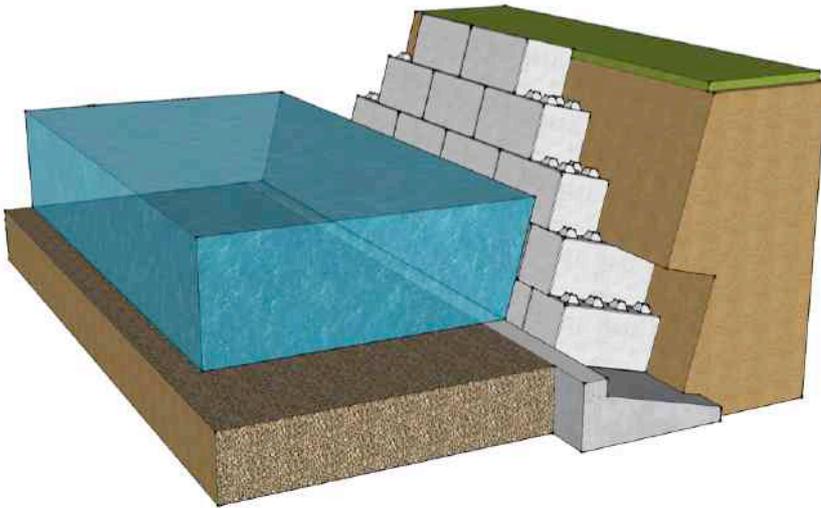
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Flood and River Defence

River Bank Erosion

Gravity, inclined and reinforced block retaining walls can all be used for river bank erosion and protection..

Concrete lego block construction is fast and simple.



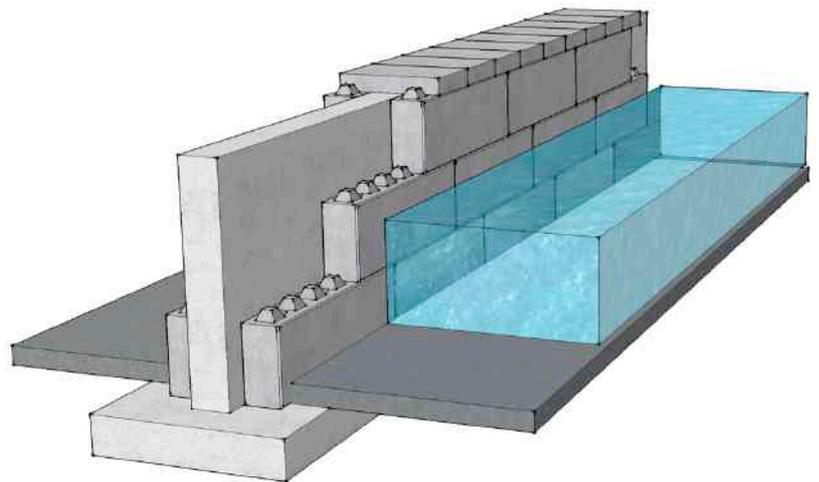
Flood Defence Wall

Flood defence walls built using concrete blocks are an economical solution for flood defence.

The flood defence wall in the sketch to the right is constructed from two, 300mm blocks with 300mm of cavity concrete.

This design delivers the mass to hold back the forces of the flood water and stops water flow through the block joints.

Formwork is not required for this type of construction and it's swift to erect in low lying areas.





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Gravity Retaining Walls

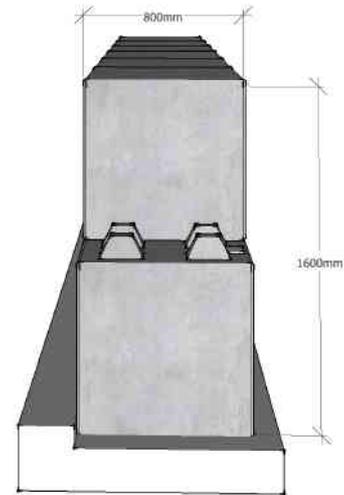
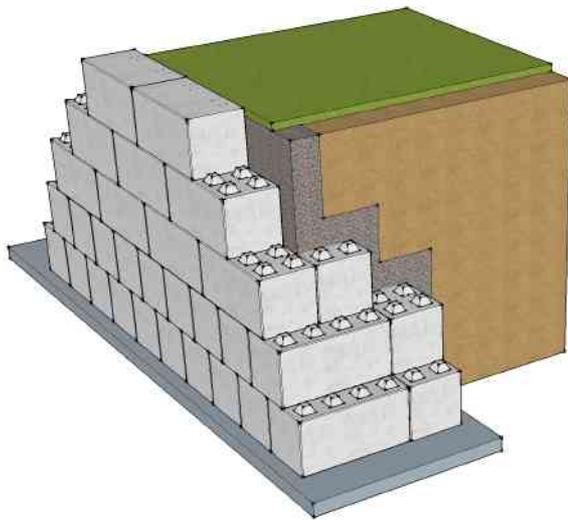
Gravity retaining walls are a basic design and rely on the mass of the wall to retain the earth behind.

A very simple method to design a gravity retaining wall is to use the base width x 2 to calculate the height.

The figure below is an example of a 4m high gravity retaining wall using 800mm wide blocks.

The wall has been designed to the characteristics in the table below.

The blocks interconnect to stop course slippage. The top course can be flat or sloping depending on the customers requirements.



As a general rule you can build economical gravity retaining walls from 600mm high to 4m high.

The foundation does not need to be reinforced, however providing a kicker at the front edge will restrain the wall from slippage.

In poor soils the foundation can be constructed deeper and wider to add more resistance. Inclusion of drainage material to the back of the wall together with drainage holes at the bottom of the wall is recommended to relieve hydrostatic pressure.

Retaining wall design guidelines only. Wall need to be designed by a structural engineer to check for stability and ground conditions. Call **07896 246 224** for retaining wall support.

Height	1200	1600	1800	2400	3000	3200	4000
Block Type	600	800	600	800	600	800	800
Base Width	800	1000	1400	1800	2600	2600	2600
Base Depth	100	100	100	100	100	100	100
Surcharge	2.5kn/m ²						
Factor of Safety	M=1.5						
Cost Index	30	41	42	73	77	89	125
Sketch							



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Inclined Block Retaining Walls

An inclined block retaining wall is the most economical solution as it uses the inclined blocks and gravity to add resistance to the forces trying to push the wall over.

For example, in the cost index within the design table it can be noted that a 4m inclined block wall is 100 compared to 125 for a similar gravity block retaining wall. The reinforced wall is a similar cost but when earth works are then considered, the inclined wall will be more economical.

Building an Inclined Block Retaining Wall

To construct the wall a tapered foundation at the inclined angle is cast.

The foundation requires a single layer of reinforcement as indicated in the design table.

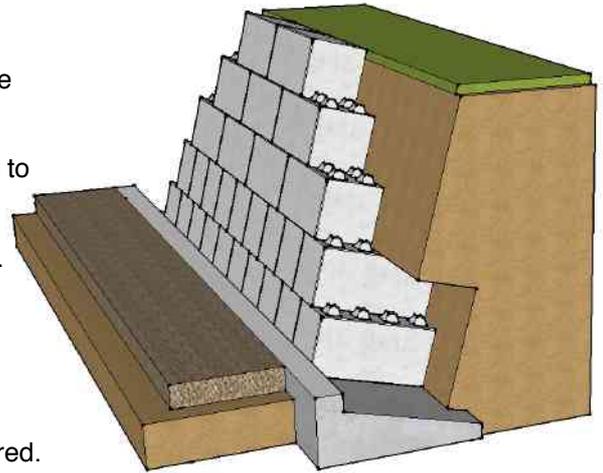
Single courses of blocks are laid and the retained material is then placed to support the block and compacted.

We can provide full installation method and risk assessments on request.

The kicker stops the block from slipping during compaction.

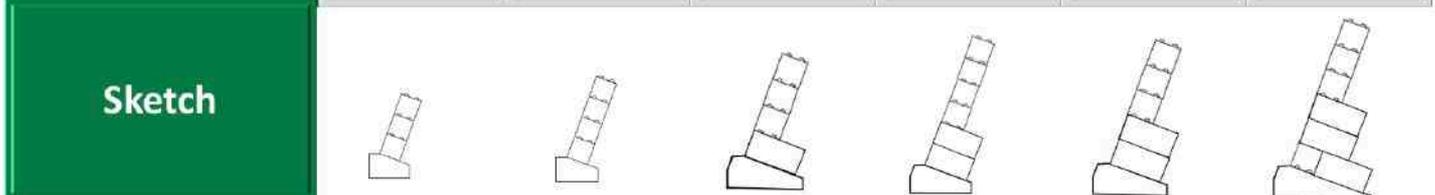
The interlocking buttons then stop slip as the wall is constructed and compacted at each course.

The top layer of blocks can be supplied with a flat or sloping top as required.



Retaining wall design guidelines only. Wall need to be designed by a structural engineer to check for stability and ground conditions. Call **07896 246 224** for retaining wall support.

Height	1800	2400	3200	3600	4000	4800
Block Type	600	600	800	600	800	800
Base Width	1000	1000	2000	1800	2000	2800
Base Depth	100-275	100-275	100-350	100-400	100-450	100-600
Base Rebar	A393	A393	A393	A393	A393	A393
Wall Incline	10°	10°	10°	10°	10°	10°
Surcharge	5kn/m ²					
Factor of Safety	M=1.5	M=1.5	M=1.5	M=1.5	M=1.5	M=1.5
Cost Index	28	35	74	78	100	146





Reinforced Earth Retaining Walls

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Retaining walls higher than 4.2m become more expensive using the gravity retaining wall solution. Our next solution is a reinforced earth wall.

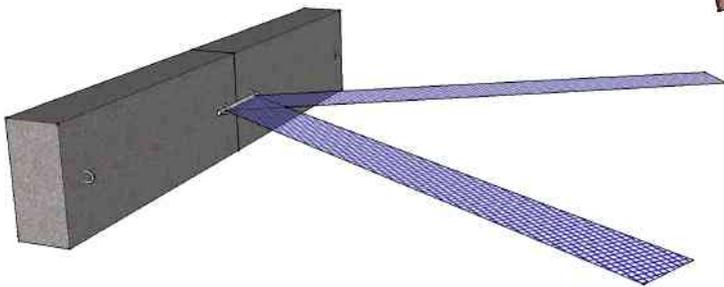
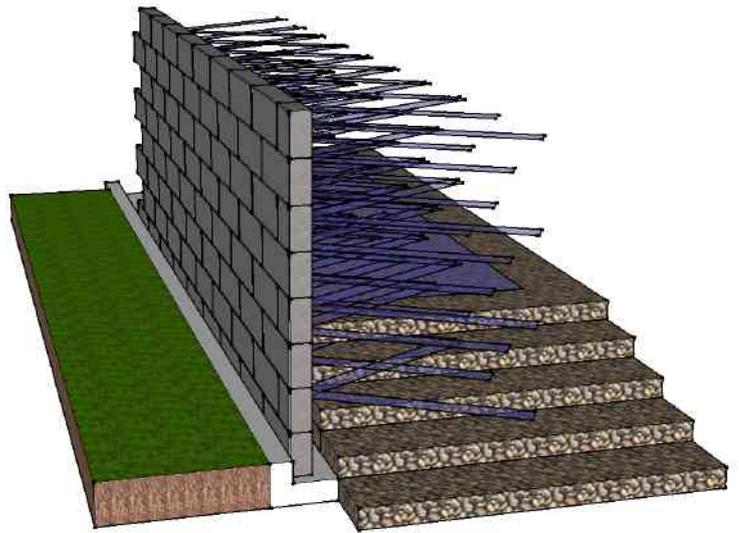
In figure below, the block of earth directly behind the wall is the reinforced earth wall. This is constructed by laying earth fill in layers with a geo mat between each layer. The reinforced earth wall then becomes the structural element that will retain the earth behind it.

The concrete lego block acts as the facing to the wall and protects it from the elements and erosion.

A kicker is created at the toe of the foundation to give greater resistance to slip.

This is a very economical solution for high walls.

Wall height can be as high as 12m



The geo mat is fixed to the block using galvanised steel hooks that are cast in.

A galvanised steel rod is then threaded behind the geo mat and through the hooks restraining the geo mat in place.

Geo Mat

Geo mat is a layer of plastic that has a tensile strength between 50 and 170 Kn/m depending on the grade required for the project.





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Fire Walls

A1 Fire Rated

Concrete has a very high ignition temperature and has an A1 fire rating to 4.3.4.4 of EN 13369. Concrete simply cannot be set on fire like some other materials in a building. It is resistant to smoldering materials, which can reach very high temperatures, igniting or even re-igniting a fire, and flames from burning contents. It will also not drip molten particles, which can cause ignition, unlike some plastics and metals.

Concrete has a high degree of fire resistance and, in the majority of applications, can be described as fireproof when designed using required standards. Concrete is a very effective fire shield. The mass of concrete confers a high heat storage capacity. Its porous structure provides a low rate of temperature rise across a section. These properties result in a low rate of temperature rise that enables concrete to act as an effective fire shield.

Concrete Lego Blocks designed to be stable make an excellent fire wall

**CLASS A1
FIRE RESISTANT**





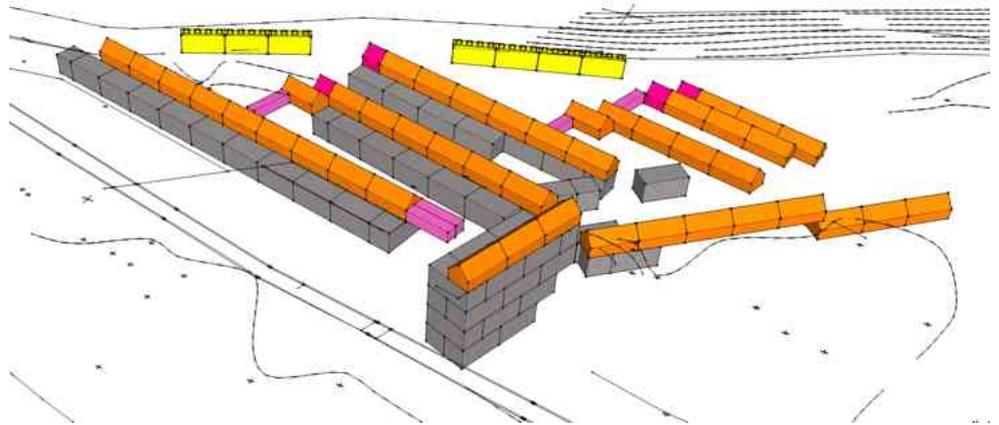
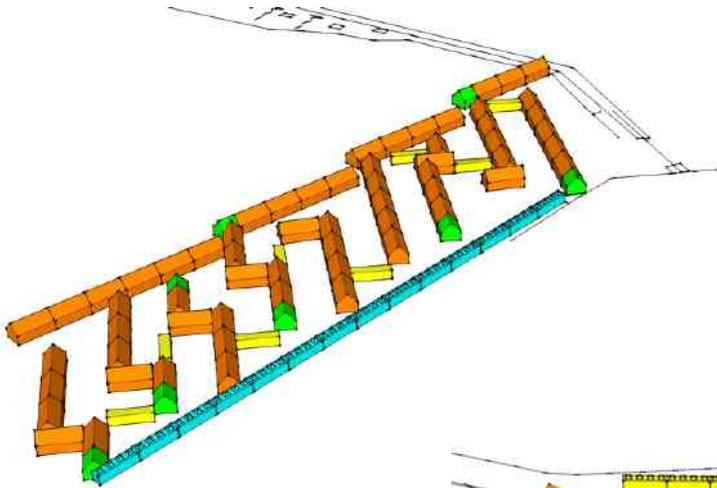
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Fish Ladder Walls

Fish Ladders

Engineering fish ladders in Scotland was a challenge but coloured concrete blocks did the job.

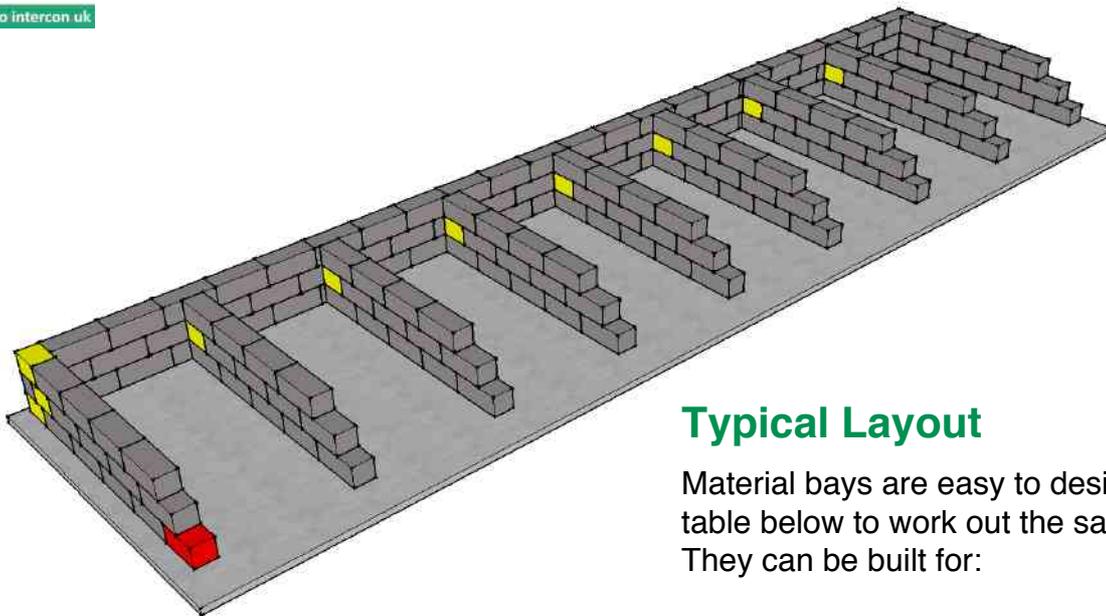
The diversity of use is determined on your imagination.





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Material Bays



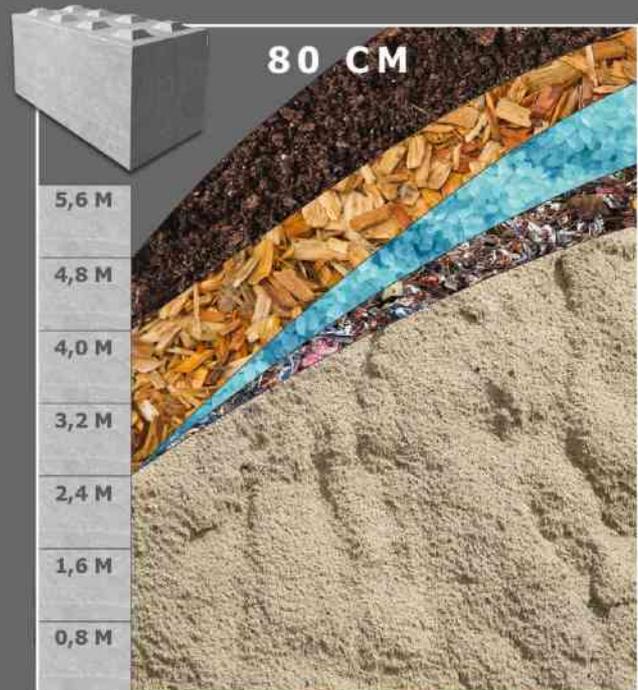
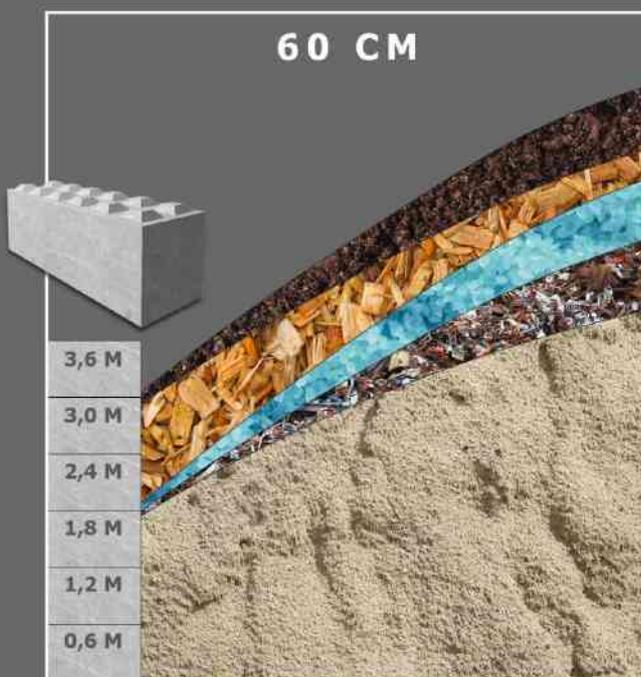
Typical Layout

Material bays are easy to design and build. Use the table below to work out the safe height of the wall. They can be built for:

- Recycling
- Building Materials
- Scrap bays

Wall Height Guide

SAMPLE SIZE TABLES (ON UNILATERAL COMPRESSIVE LOAD)



	SAND	WASTE	SALT	WOOD	SOIL
Density (kg/m ³)	1500	1500	1200	645	500
Inner compression angle	30°	35°	40°	35°	45°



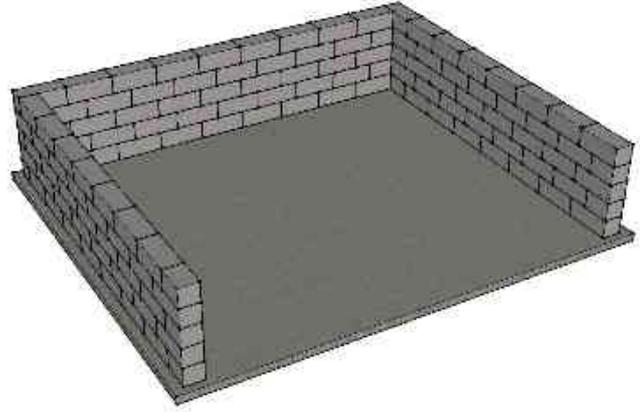
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Silage Bays

Agriculture

Concrete lego blocks are ideal to build a range of structures in the agricultural sector including:

- Plant buildings
- Retaining walls
- Silage bays
- Material bays

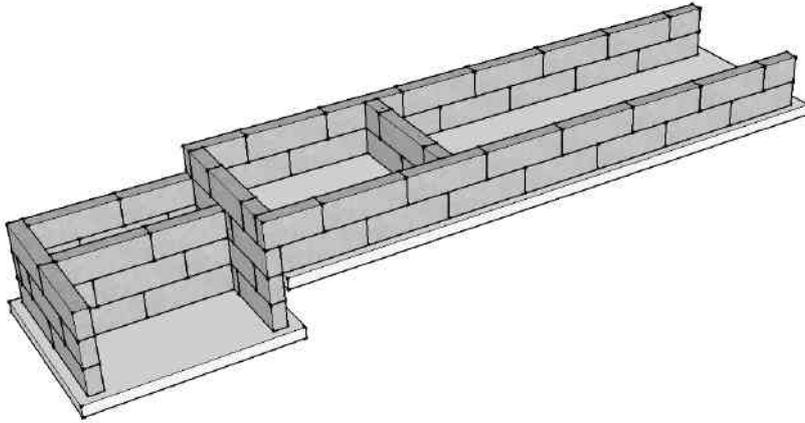


Silage Bays

Silage bays are fast and economical to build. They are also easy to disassemble and move if required.



Bund Walls



Concrete Wash Out

A Tarmac quarry manager wanted to build a concrete mixer wash out facility at the quarry to improve the environmental operations of the site.

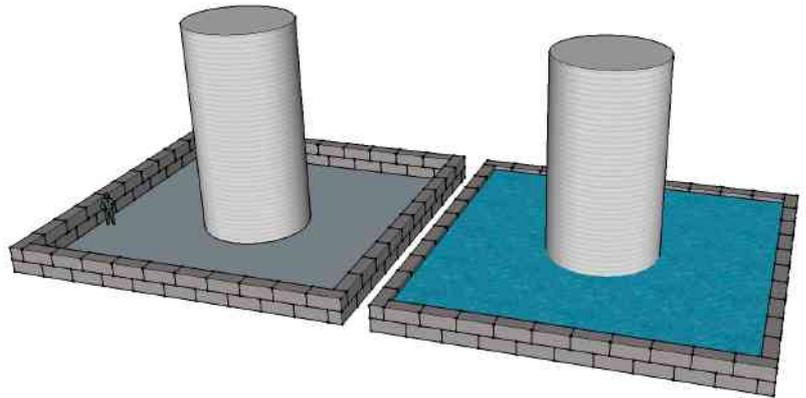
We were chosen to design a solution using our 300mm wide concrete blocks.

We build them with ducts for addition of rebar to improve durability.

Bunded Walls

Concrete lego blocks are ideal to build bunded walls.

Construction is swift and simple. The walls are lined to prevent leakage from the joints.





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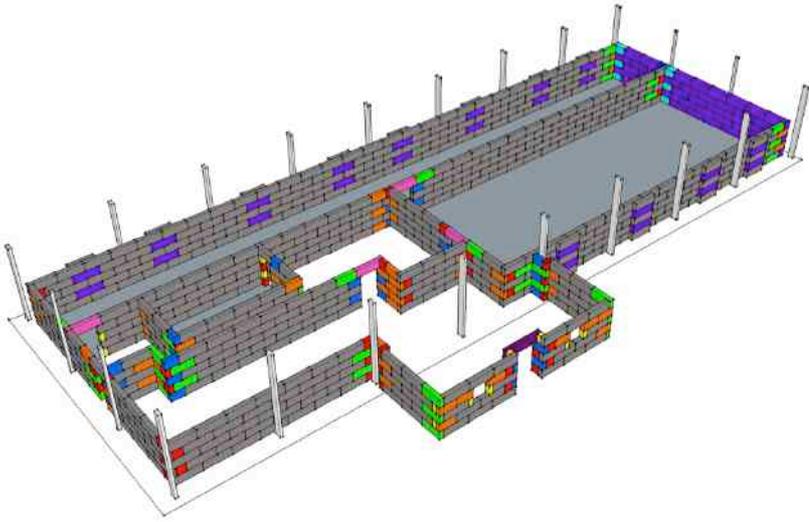
Buildings

Shooting Range

This is an example of a structure built using 300mm concrete blocks.

To make construction easy on site the work was scheduled in layers.

Each layer was transported on a load as per the design to construct layer wise. Thus, achieving a build within a short deadline.

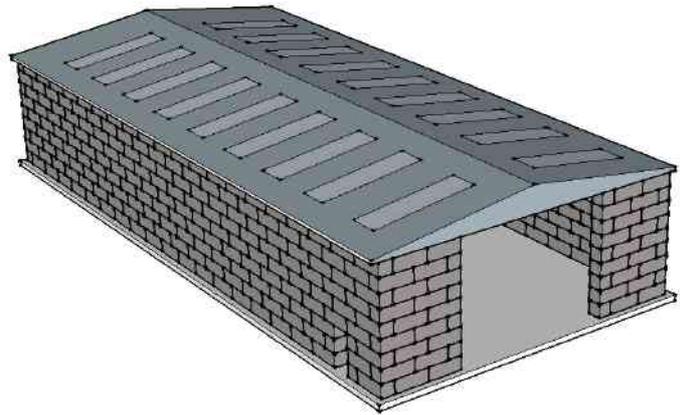


Storage Buildings

300/400mm wide concrete blocks are ideal for the construction of storage buildings. The walls can be restrained using the roof structure. The buildings are not suitable for habitat as they do not comply to heat loss within the building regulations.

They are ideal for a large range of storage applications such as:

- Salt barns
- Plant storage





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Concrete Batching Plant

C1200 Semi Mobile Concrete Batching Plant

Output – 10-16 M³/h.

Specification

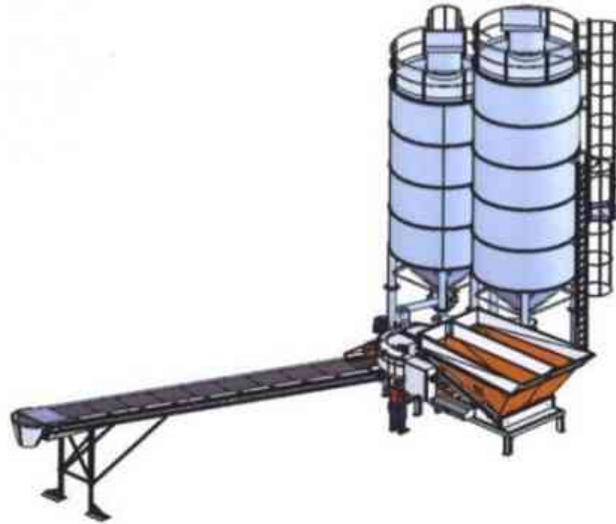
C1200 mixer

14m belt conveyor

25 m³ cement silo

30 m³ cement silo

219mm dia x 4.5m cement auger



Ideal for a small construction site or small pre-cast yard casting lego blocks and the like.

C1800 Semi Mobile Concrete Batching Plant

Output – 20/30 m³/hr

Specification

C1800 Mixer

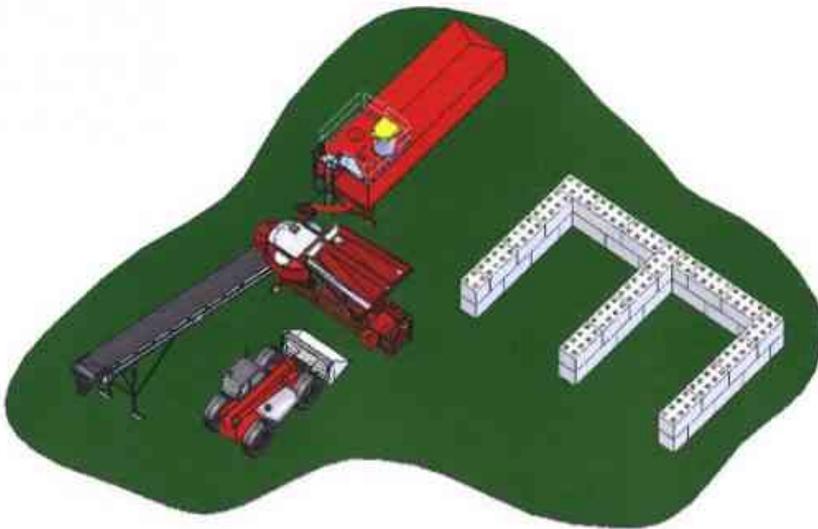
14m belt conveyor

38 m³ horizontal cement silo

219mm dia x 4.5m cement auger

The C1800 can deliver 240 m³ of concrete a day at full capacity.

The C1800 is ideal for medium sized construction projects and high volume precast concrete yards.e.





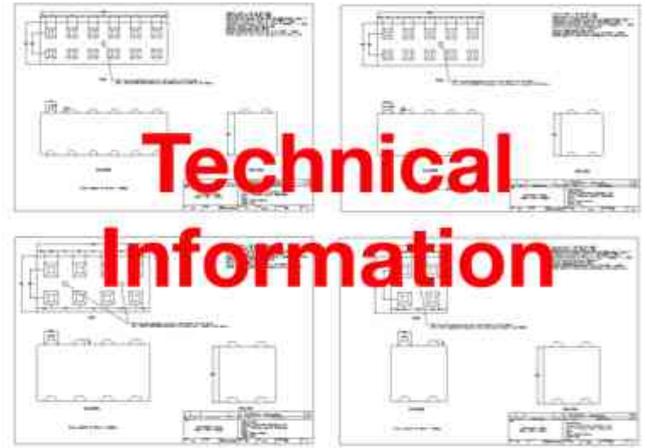
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Design and Build Consulting

At Fibo Intercon, we pride ourselves on a holistic approach to provide clients with solutions for their engineering problems. Our designing service allows clients the freedom to utilise concrete blocks efficiently with great value for money. In this brochure, some examples of our retaining wall design have been displayed. These are indicative and will require additional calculations depending upon the geotechnical and structural conditions.

We encourage clients to supply us with the basic details of the project and come up with swift and feasible designs to suit their needs.

Call **07896 246 224** today for a comprehensive design and build solution.





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Design Mix & Quality Testing



Strength Testing

In the U.K., the accepted design guidelines by the civil engineering industry are the British Standards.

Our products are tested for strength in compression according to BS EN 12390.

We test concrete on a regular basis to ensure our production of concrete meets the standards we are working to.

This is a crucial aspect to meet our clients needs for concrete blocks of different strengths. These are marked as Concrete Grades which range from C20 – C50, where 20 and 50 stand for compressive strengths of 20 N/mm² and 50 N/mm².

C20/30 grade is ideally used in non-structural applications such as in waste segregation bays, separation walls, agricultural clients while C40/50 high strength concrete is typically strong enough for bridges, retaining walls and interestingly – shooting ranges.

Particle Testing

Concrete is a cocktail of several building materials such as aggregates, cement and sand. Our concrete blocks are made with constituents that have passed particle test analysis using methods directed by the British Standards, BSEN 123560

We test materials from different sources using sieve analysis and particle distribution analysis to gauge client needs and provide cost effective solutions in mix design.





fibo intercon uk

High Quality Concrete Batching Plants

We supply a large of high quality concrete batching plant with a dosing accuracy of +- 3% for standard machines and +- 1% for our pre-weighing machines. We manufacture and supply mobile, semil mobile and fixed installations to your requirements. Below you can see a small selection of our standard machines. The profit potential below is based on a £25 m3 margin.



Mini VIKING Semi-mobile Concrete Batching Plant

This compact, semi-mobile batching plant has a capacity of 4-5 M³/h.

30 -4 0m³ per day

Ideal for lego block production only



B1200

Compact, mobile batching plant assembled on a joint twin-axle bogie trailer. Capacity between 10-16 M³/h

100 - 120m³ per day

Ideal for lego blocks and other precast



M2200

Mobile batching plant assembled on a joint triple-axle bogie trailer with turn able front axle. Capacity between 25-45 M³/h.

300 - 350 m³ per day

Ideal for recycled concrete as it has four aggregate hoppers



Horizontal & Vertical Silos

Fibo intercon supplies big bag silos as well as vertical and horizontal cement silos. We can supply standard and customised solutions.



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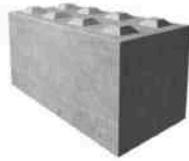
Interlocking Concrete Block Molds

We supply a large range of concrete block moulds and accessories. The mould range is 800 x 800, 600 x 600 and 300 x 300 cross section blocks with lengths from 1.6 for 800mm blocks and 1.8 for the 600mm and 300mm blocks.

800mm Wide Block Moulds



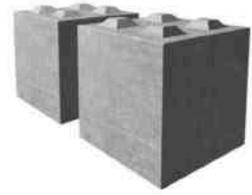
160,80,80



1600 x 800 x 800



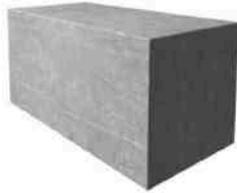
160,80,80-2



800 x 800 x 800



160,80,80



1600 x 800 x 800 Top



160,80,80-45



800 x 800 x 800 End



160,80,80 R



1600 x 800 x 800 Corner



160,80,80-T



1600 x 800 x 800 Capping



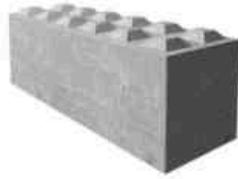


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600mm Wide Block Moulds



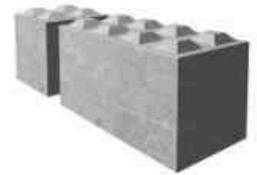
180,60,60



1800 x 600 x 600



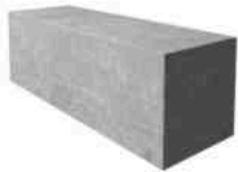
180,60,60-2



1800 x 600 x 600 Div



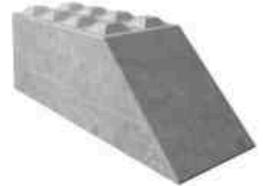
180,60,60,00



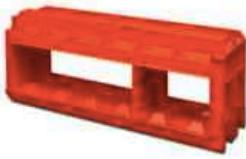
1800 x 600 x 600 Top



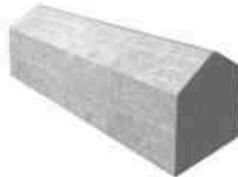
180,60,60-45



1800 x 600 x 600 End



180,60,60,T



1800 x 600 x 600 Capping



180,60,60-R



1800 x 600 x 600 Corner





400mm Wide Block Moulds



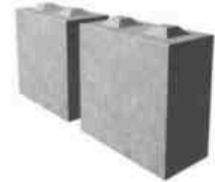
160,40,80



1600 x 400 x 800



160,40,80-2



1600 x 400 x 800



160,40,80,00



1600 x 400 x 800 Top



160,40,80-2



1600 x 400 x 800 End



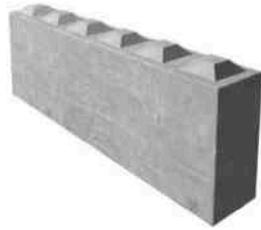


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300mm Wide Block Moulds



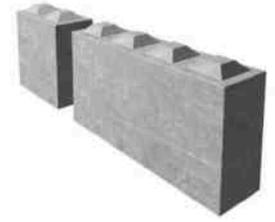
180,30,60



1800 x 300 x 60



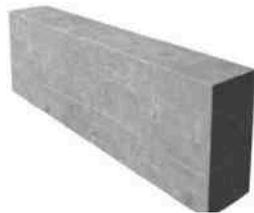
180,30,60-2



1800 x 300 x 60 Div



180,30,60,00



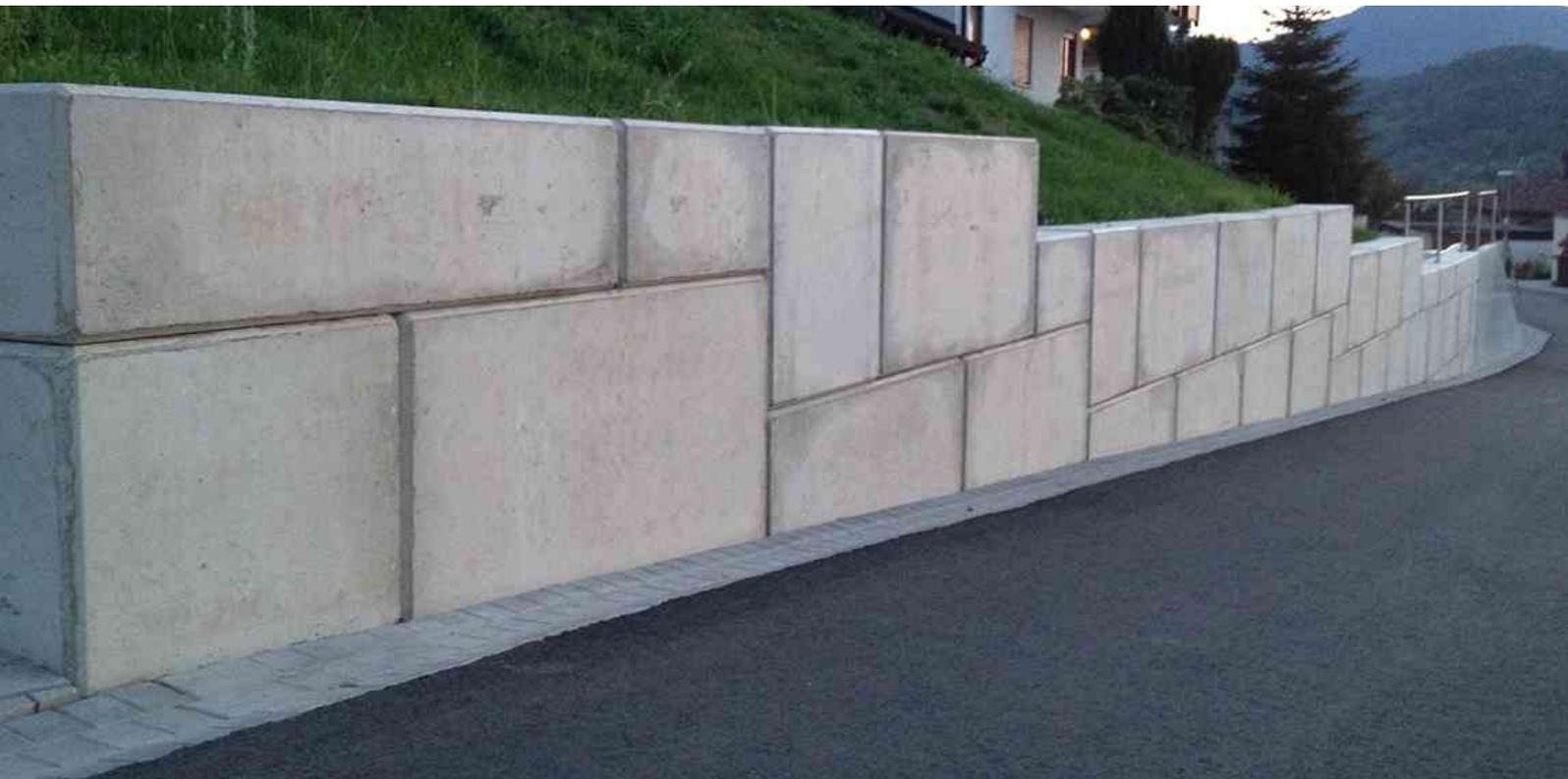
1800 x 300 x 60 Top



180,30,60-45



1800 x 300 x 60 End





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Tetrapod Moulds



Tetrapod 1.5 T



Tetrapod 3.0 T



Tetrapod 5 T



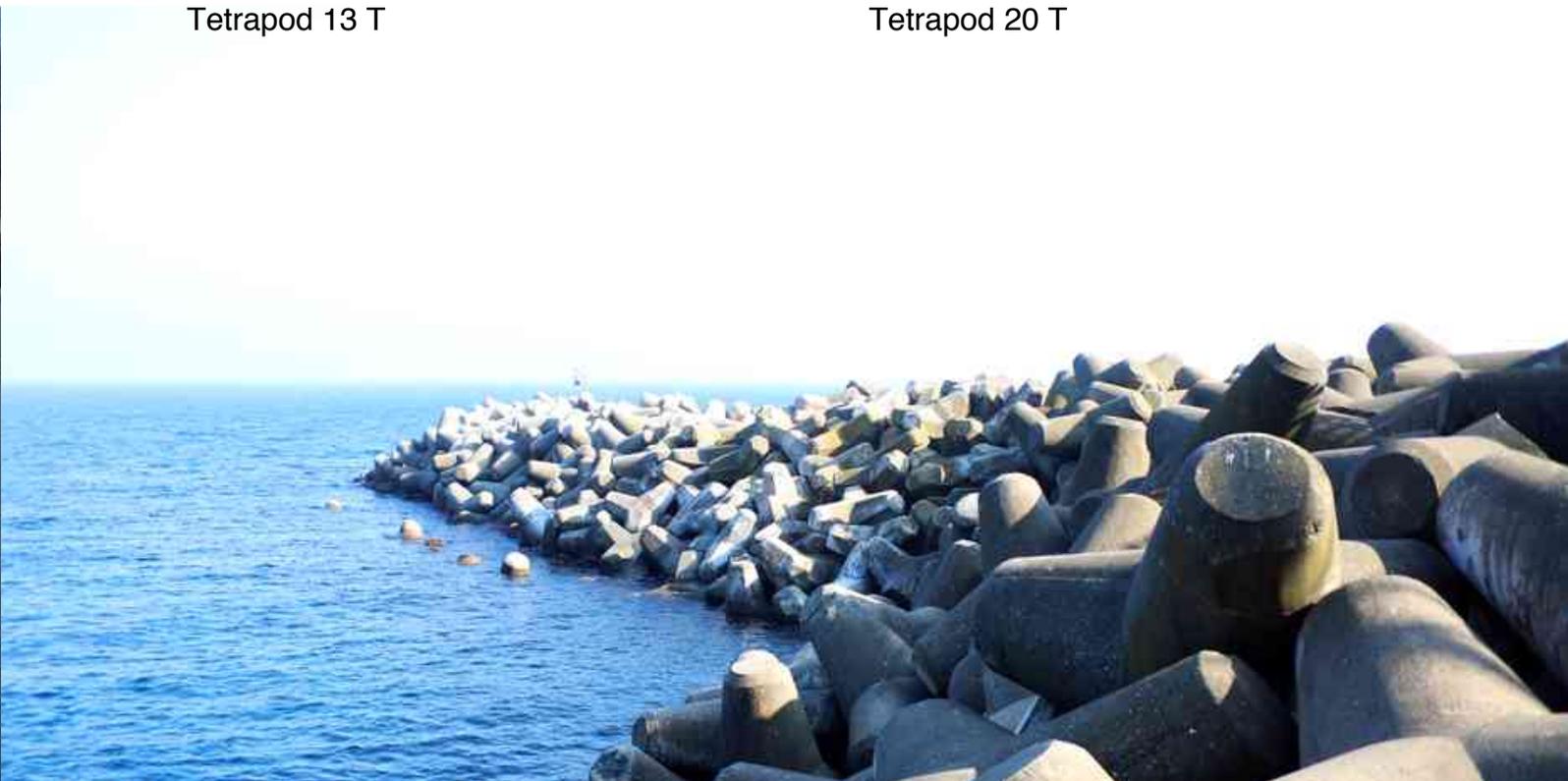
Tetrapod 8 T



Tetrapod 13 T



Tetrapod 20 T





Highway Concrete Barriers



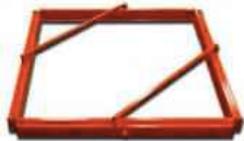
200,5490 JB



200,5490 JBC



Concrete Slabs



200,200,16



200,200 LTM



Lifting Equipment



CL80



CL60



R1900



BT2500



BBMAG02



BBGRO02



Bolt



Lifting Clutch





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