

PRECAST CONCRETE




Bevis Marks





- WALLS**
- Standard Twin Wall
 - KC Wall
 - Insulated Ground Beams
- Retaining Wall
 - Blast Wall
 - Beam Wall
- Basement Wall
 - Push Wall


- FLOORS**
- Voided Slab
 - Omnia (Filigree) Slab
 - Stairs & Landings


THE BENEFITS OF USING OFF SITE CONSTRUCTION


 The advantages of off-site construction with factory tolerances and high quality factory finishes


 The structural integrity equivalent to any in-situ designs


 The high levels of acoustic control and fire ratings that cannot be achieved by any other precast system

 Reduced staff on site - less operatives required for erecting walls

 The pre-installation of electrical conduits and outlets during production provides for faster construction of a building

 The speed of erection and certainty of programmed schedules

 The finished precast structure will have a monolithic quality that is unique to twin wall and will provide superior levels of air tightness

 Reduced drying out time required - walls can be decorated immediately.

WELCOME TO KEEGAN CONSTRUCTION

SERVICE

We are committed to providing the highest level of service to our Clients and Partners. Our people work hand in hand to ensure that we meet with all deadlines and always keep our Clients up to date on all aspects of their projects.

QUALITY

From the initial design, through in-house manufacturing to successful installation, quality is foremost in our minds and values. We only use the highest quality material and our team of professionals strive at every point to provide a quality product every time.

VALUES

We are committed to giving our Clients best value in every thing we do. As a client of Keegan Precast you can rest assured that you are getting the best value for your budget without any reduction in quality or turn around time.



John Keegan
Managing Director



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Combines the dimensional accuracy and quality control of precast walls with the flexibility of in-situ concrete



KC WALL 4, 5

Made using the "ThermoMass" or similar composite wall panel system



PUSH WALL 6

Used in waste recycling facilities or materials handling yards



INSULATED BEAM WALL 6

can replace the in-situ beam traditionally used



BEAM WALL 6

All required reinforcement is cast into the wall during manufacturing



RETAINING WALL 6

Follow the same design principles as in-situ reinforced concrete retaining wall



BLAST WALL 6

Ideal application for security and defence blast walls



BASEMENT WALL 6

Traditional foundation details are used



OMNIA FLOOR SLAB 7

reinforced precast concrete slab which incorporates a lattice girder to provide stiffness and facilitate the placement of the top mesh



VOIDED FLOOR SLAB 8

Helps reduce overall floor weight on deeper slabs to see savings in structure and foundation



STAIRS & LANDINGS 8

Designed and manufactured in reinforced concrete to suit the individual requirements of clients



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TWIN WALL

Keegan Precast Design, Manufacture and Erect paint-ready precast concrete Twin Walls.



Our Precast Concrete Twin Wall combines the dimensional accuracy and quality control of precast walls with the flexibility of in-situ concrete. The Twin Wall arrives on site as two leaves tied together with a steel lattice girder and is filled with in-situ concrete on site. The final wall is a solid concrete wall with a high quality paint-ready finish on both sides.

Keegan Precast Concrete Twin Walls are ideal for use in Cross-wall Construction, Hotels, Nursing Homes and Apartments, and when combined with our Filigree slabs they provide a complete monolithic "Paint-Ready" structure.

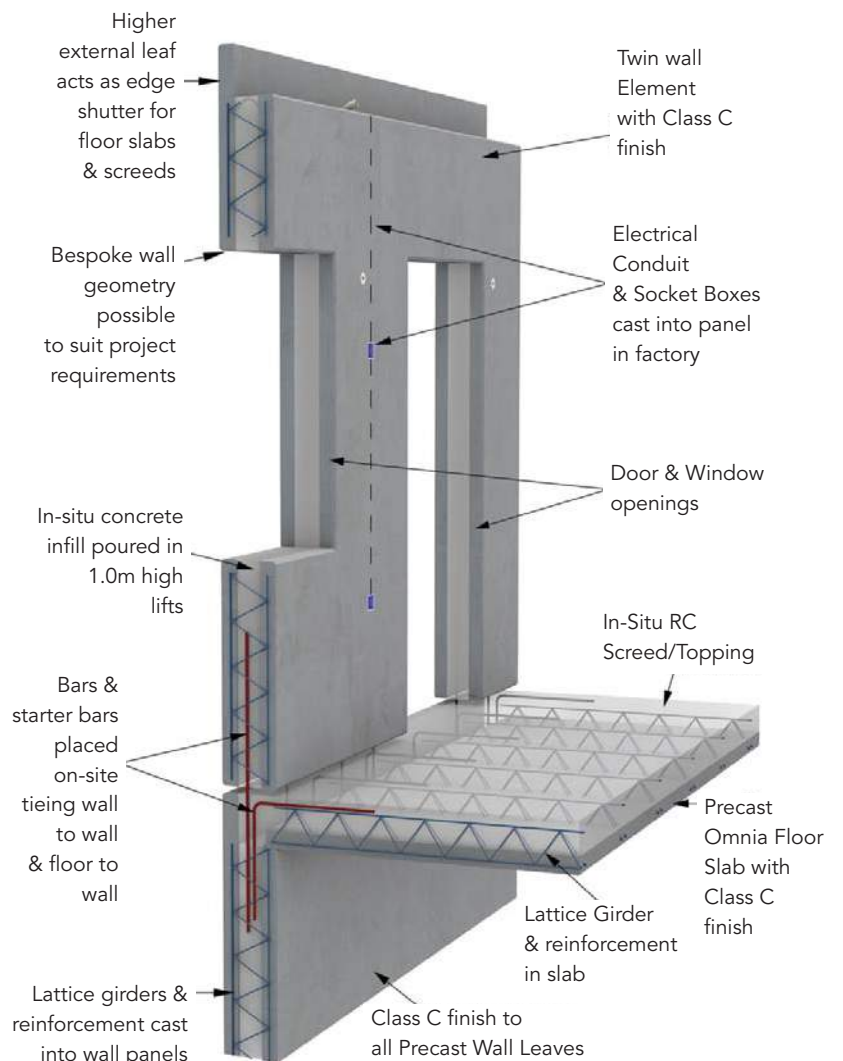
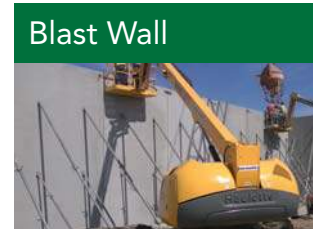
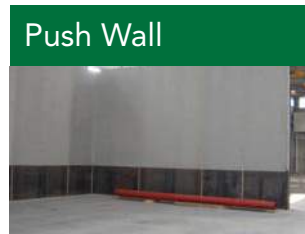
Advantages

- Considerable saving on main contractor program against traditional construction methods.
- Greatly reduced labour on site.
- Excellent acoustic characteristics.
- Excellent fire resistance to BSEN1992.
- Immediate cosmetic finish, décor can be applied as soon as the building is watertight.
- Easier to comply with health and safety regulations due to the above savings.
- Saving on prelims as complete external scaffolding can be done away with in some instances or started very late into the program once the pre-cast shell is nearing completion.
- Environmentally friendly as there is reduced waste on site, the wall and floor system has no waste by-products on site.



Swansea University

Applications Include:



Testimonial

Swansea Bay Campus was my first experience using a full pre cast system and as such we set off with a little trepidation, however Keegans approach from the off allayed any concerns I may have had, they worked with us prior to been in contract to develop a programme and crange strategy that allowed us to better our sectional completion dates by some 3 months and remove the Brickwork from the critical path on all buildings which was crucial in an exposed coastal location.

Keegans professional and fast track approach to design enabled us to use this element of the works to hasten the design process in general which stood us in good stead for the remainder of the scheme, any technical queries were dealt with quickly and professionally from their in house design team, all of which meant that when we got to site we had the best possible start, this approach then continued once on site with the site manager and construction team been a well-oiled machine, who again were both professional but also very cooperative making the interfaces with other trades on site a smooth process.

The factory/quarry visit also squared the circle with even greater comfort for such an investment seeing the impressive and professional and totally self-sufficient set up. All in all genuinely for such a major part of the process which can so often and so easily go wrong. We found Keegans product and service excellent.

Peter Dodd - Vinci Construction



KC WALL

Our KC Wall Panels can achieve U-Values as low as 0.1.

KC Walls are made using the “ThermoMass” or similar composite wall panel system under the German D.I.N. Zulasung Certification Process. These wall panels are manufactured as “True Twin Walls” – i.e. both faces are cast on a fine polished steel pan and oscillated to achieve an exemplary finish. This differs to our competitors who use power-floats which provide an inconsistent finish.

Both leaves are tied together using pultruded glass reinforced fibre rods. The wall panel is then filled with in-situ concrete on-site to provide a robust monolithic concrete structure.





Dumbarton Academy, Scotland.

Applications include:



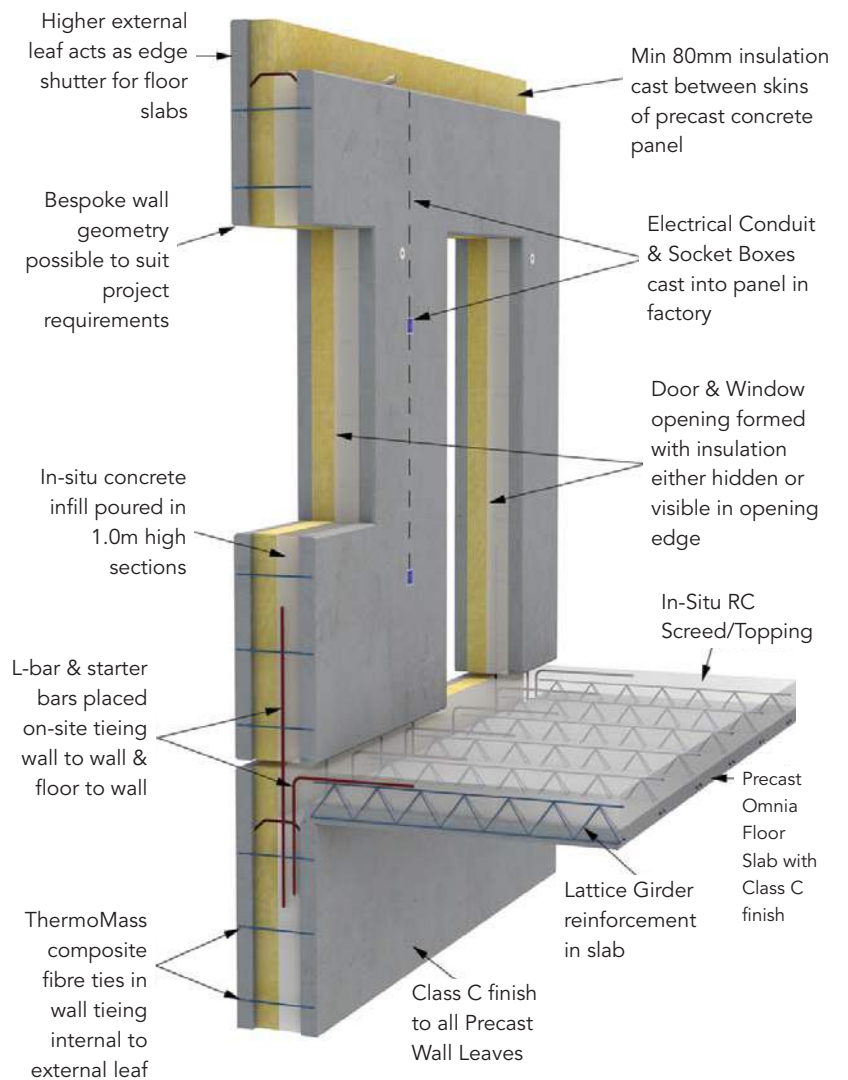
Testimonial

Dumbarton Academy was constructed to a very tight programme, and handed over after only thirteen months on site. This was our first education project at Keppie Design using twinwall panels and, for most involved, our first experience of using precast. We were extremely grateful for the technical input, support and advice offered by Keegan Precast on what was a very steep learning curve, and were delighted with the final finish achieved.

Lesley Buntain, Associate, Keppie Design

Key Features

- Time saving – fast track construction method
- Reduced labour on site – less operatives required for erection process
- Insulated – wall panels with U Values as low as 0.1
- Use of ThermoMass wall ties to minimise cold bridging
- High strength reinforced concrete to EN206 used in all Twin Walls
- Reduced drying out time required – walls can be decorated immediately
- "Paint Ready" Precast Concrete Twin walls are cured in factory conditions



WALL APPLICATIONS

PUSH WALL

- Used in waste recycling facilities or materials handling yards
- Available in walls up to 11.5m high in one continuous lift
- Maximum wall thickness is 500mm
- Our precast concrete push walls follow the

- same design principles as in-situ reinforced concrete push walls
- Bespoke design producing very economic solution
- Steel plate can be precast at the base to protect from damage by mechanical plant



INSULATED BEAM WALL

- Concrete beam section can replace the in-situ beam traditionally used
- All required reinforcement is cast into the wall during manufacturing
- Ground beam element arrives to site as a single unit

- Beam thicknesses from 300mm to 500mm
- Maximum beam span 9m
- The insulated beam will handle and be erected the same as a normal twin wall with all tie details
- The insulation provides a minimum U value of 0.25 W/m²K

BEAM WALL

- Concrete beam section can replace the in-situ beam traditionally used
- All required reinforcement is cast into the wall during manufacturing
- Beam element arrives to site as a single unit

- Beam thicknesses from 180mm to 500mm
- Maximum beam span 9m



RETAINING WALL

- Available in walls up to 11.5m high in one continuous lift
- Maximum wall thickness is 500mm
- Our precast concrete retaining walls follow the same design principles as in-situ reinforced concrete retaining walls

- Bespoke design producing very economic solution
- Traditional foundation details are used

BLAST WALL

- Maximum wall thickness is 500mm
- Our precast concrete blast walls follow the same design principles as in-situ reinforced concrete blast walls
- Bespoke design producing very economic solution

- Traditional foundation details are used
- Reduced downtime during retrofit installation
- Ideal application for security and defence blast walls



BASEMENT WALL

- Maximum wall thickness is 500mm
- Our precast concrete basement retaining walls follow the same design principles as in-situ reinforced concrete basement retaining walls

- Bespoke design producing very economic solution
- Traditional foundation details are used
- Proprietary water bar in all horizontal and vertical joints
- All wall surfaces are paint ready



OMNIA FLOOR SLAB

The Keegan Precast Omnia Flooring System is suitable for concrete, steel and masonry building structures.

The Omnia slab is a reinforced precast concrete slab which incorporates a lattice girder to provide stiffness and facilitate the placement of the top mesh. The lattice girder provides rigidity to the slab when in-situ concrete is poured on-site by a local provider. All reinforcement used in manufacturing uses multicycled steel.

The manufacturing process provides a pre-finished Class C smooth concrete finish on the soffit of the Omnia Slab. The top surface is then finished according to the client's specification. All services can be cast into the structural topping of the Omnia Slab. Our design department and manufacturing plant operate using the Nemetschek software.

Testimonial

"We were very pleased with the system and the level of service given by Keegan's on the project. The constraints of working in a city centre environment on a tight timeframe meant that deliveries had to be rigorously planned and executed, and Keegan's worked with us all the way on this. I would have no hesitation in using this system with Keegan's again or recommending them for similar work."

Ken Lynch, Snr Contracts Manager, John Sisk & Sons

Key Features

- "Paint Ready" Class C soffit
- No need to skim ceilings
- No pre-camber
- No down stand beams required
- Progressive collapse ties can be easily accommodated
- Reduced structural height can equal savings in the foundations and superstructure.





VOIDED FLOOR SLAB

The Voided Floor Slab is a reinforced precast concrete slab which incorporates the cobiax void former system.

All reinforcement used in manufacturing is multicycled steel. Once placed by the erection team the filigree plates are covered with in-situ concrete. This void forming system reduces the volume of concrete required in the floor without compromising the design of the slab. The reduced concrete volume then means the self-weight of the slab system is lowered with consequential savings made to the foundations or any secondary supports.

The draughting software is able to communicate directly with the

factory to eliminate the human interface and help produce zero defects. The slabs can be detailed to infinitely variable shapes to suit the clients design layout.

Our precast flooring system which gives a complete internal box when used in conjunction with our precast walls ready to accept direct decoration. When the screed is poured on top of the floor the concrete screed flows down into the walls making a strong robust connection between the walls and the floor. It also offers air tightness and acoustic levels which cannot be matched by any other precast system.

We hold ISO 9001:2015 certification for the design and manufacturing of the slabs.

STAIRS AND LANDINGS

All precast stairs and landings are designed and manufactured in reinforced concrete to suit the individual requirements of clients. In our precast manufacturing plant the stairs are cast on their side to ensure we maximise the steel plate finish obtained from the moulds we use.

Our precast stairs and landing system suits our own precast twin wall and filigree floor products to provide a complete precast shell solution with all hidden fixings. However our precast stairs and landing can also be used in traditional construction projects in isolation. Our erection crew will easily fit them to masonry, in-situ concrete or steel frames taking into account the different

requirements for disproportionate collapse and the fixings required for each.



DESIGN

Wall thicknesses can vary from a minimum of 180mm up to 500mm. All of the design work required is based on the traditional limit state design for ordinary reinforced concrete, (BSEN1992). Panels can be designed for either load-bearing or non-load-bearing situations.

Once designed, the building is drawn completely in 3D within the CAD system of the plant and fully detailed with respect to reinforcement, cast in items, and openings for windows, doors and services.

The steel pallets that the Panels are cast on are max 12m x 3.5m and any wall geometry can be accommodated within these limits.

Electrical services can be also be included in the pre-engineering of the panels at the design stage. Back boxes and conduit can be cast in if required.



QUALITY

Keegan Precast is fully committed to ensuring we provide quality certified products to our customers in the UK and Ireland. All our precast walls and floor products undergo rigorous quality checks carried out by our internal quality control technician and external industry recognised bodies. We recently received the CE Mark approval from the BSI.

Keegan Precast Ltd is proud to announce we received CE certification for our precast products from the BSI in April 2013.



Keegan Precast Ltd operates a certified ISO 9001:2015 quality management system for the design, manufacture and supply of precast twin walls, floors and structural beams.



The Keegan Group have also achieved the Kitemark™ which is a registered certification mark which symbolises quality and safety, and offers true value to consumers, businesses and procurement practices. The Kitemark is recognised worldwide as a symbol of trust, integrity and quality.



ENVIRONMENT

Keegan Group are very proud to be environmentally aware and conscious of protecting the environment. Concrete and cement products are regarded as being environmentally harsh/severe, to mitigate this perception Keegan Quarries endeavours to produce its concrete products in an environmentally friendly way.

Keegan Quarries manufacture a large portion of the concrete using environmentally friendly GGBS (ground granulated blast furnace slag) – a bi product of the steel industry and is sourced from Irish Cement Ltd and Ecocem.

We also buy the majority of our cement from Lagan Cement who produce cement using recycled waste as a fuel source for their cement kilns. Keegan Group has planted approx. 35 acres of trees over the last number of years on various pieces of land owned by the company. These woodlands have reduced the carbon footprint of the company dramatically providing cover for wildlife and



mitigating the visual impact of the quarry and workings of different sites. Keegan Group also recycle all waste products including steel, plastic and timber.

We run a fleet of up to date trucks which have reduced omissions using euro 6 category engines. Our quarry operations are run in a tight neat and clean fashion with modern equipment all with low emissions engines.



For further information contact our office on

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