wilcoprecast.co.nz

Wilco PRECAST

Manufacturers of Precast Concrete

Thank you for visiting Wilco Precast

We hope your visit will be interesting and enlightening.
Please feel free to contact us if you have any questions regarding precast generally or our services and facility in particular.

Wilco Precast Mission Statement

To provide our employees with a safe, honest working environment where every employee individually and collectively can dedicate themselves to providing our customers with exceptional workmanship, extraordinary service and professional integrity.

ANDREW SINCLAIR,
MANAGING DIRECTOR

FRONT COVER PHOTO: Te Whare Wananga o Awanuiarangi (polytech) Whakatane, featuring McCullum's Chip red aggregate precast panels with exposed aggregate sections.

Wilco Precast – building the future in precast concrete

About Us

Wilco Precast Ltd is one of the largest manufacturers and suppliers of precast concrete in New Zealand and has been supplying the Auckland, Northland, Waikato and Bay of Plenty markets for over 50 years.

Wilco is a Precast NZ Certified Plant and offers a complete precast solution, from shop-drawing production, through manufacture to site delivery. Wilco also manufactures and markets the Litecrete® brand of lightweight precast concrete.

Wilco has worked with the Auckland region's most dynamic architects and structural engineers and its customer list reads like a Who's Who of building contractors.

Wilco is based at Papakura, South Auckland and employs around 70 personnel.

Product quality combined with first-class customer service

Wilco ensures first-class customer service and the highest quality of precast products available in the industry.

This is achieved by focusing on customer needs and through integrating and coordinating internal processes, a fully equipped and staffed manufacturing facility, skilled employees and a valued customer base.

The highly skilled personnel including engineers, draughtsmen, project managers and production personnel, coupled with a state-of-the-art production facility, ensures the production of precast concrete at its best.

Founded in 1963, Wilco continued to grow through acquiring and developing the crafts and skills of long-serving staff and moved to the current site in 2001. This led to the development of Litecrete® lightweight precast concrete in 2003 and further expansion of the manufacturing base.

Key Personnel

Key staff responsible for the day-to-day operations at Wilco Precast:

20 YEARS — ANDREW SINCLAIR
Managing Director & General Manager

1 YEAR — BRAD MCNAUGHTEN
Commercial Manager

40 YEARS — COLIN BEAVIS
Contracts Manager

14 YEARS — BILL PRETORIUS
Quality Assurance/HR Manager

2 YEARS — EJAZ SYED
Estimator

8 YEARS — JOHN WINGAR
Project Manager

12 YEARS — JOSHUA ESPIRITU
Project Manager

2 YEARS — JURE CURIN
Project Manager

20 YEARS — HARNEK SINGH
Operations Manager

20 YEARS — AJMER SINGH
Factory Manager

13 YEARS — PHILIP ARCHER
Marketing Manager

14 YEARS — JAMAL ALMULLA
Litecrete Engineer

9 YEARS — DEANNE MAULE
Financial Controller

15 YEARS — JUSTIN BUTCHER
Director/Draughtsman

12 YEARS — LYNTON IVINS
Draughtsman

2 YEARS — NICOLE SHIELDS
Receptionist

Partners

Bridgeman Concrete
REOCO — Industry Leaders in Reinforcing Steel
HR Cement Limited
Fletcher Reinforcing — Structured for strength
ramsetreid
Complete Reinforcing — Supply • Fabricate • Install
TimberWorld — Auckland's Leading Independent Timber Merchants
Machinery Movers Ltd

Factory Site

66 Boundary Road, Papakura

Wilco's production facility at Papakura covers 5600 m² of under-roof production space, 3200m² under-roof storage yard, 1600 m² of open yard and 1.1 hectares of long-term storage. There are also workshops and office facilities to handle projects from enquiry stage, tendering, shop drawing, state-of-the-art manufacturing and delivery to site.

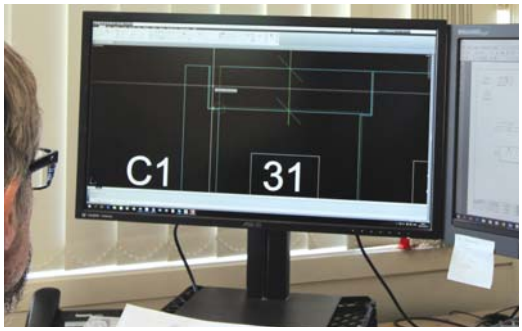
Key features

- Reinforcing fabrication area
- 40 steel fixed/tilting casting beds
- Woodwork fabrication area
- Maintenance workshop
- Enclosed precast storage area
- Outside precast storage area
- Enclosed wash-down area
- Wastewater/rainwater harvesting system

FACTORY AREA: 5600 M²

THE CURRENT PLANT CAPACITY IS 20,000 M³ OF PRECAST CONCRETE PER ANNUM

Production Process



Shop Drawings

The customer supplies us with set of “for construction” architectural and structural drawings and they are passed on to our draughtsmen to convert into workshop drawings for our production process. We check the drawings to ensure they are as we originally quoted as any ensuing changes may alter the contract price. When completed the drawings are checked and signed off by the customer (usually the builder, his engineer and architect) prior to start of the panel manufacture.

Reinforcing Cages

The reinforcing design for each panel varies depending upon panel thickness, size, shape and product application, therefore each project has unique steel requirements. We purchase the steel for each project and it is delivered to us cut and bent to the required lengths. Our factory personnel tie the individual lengths together to the configuration determined by the structural engineer. Some panels have two or more steel cages. The tie-wire gun shown enables quick fabrication of the cages.

Mould Preparation

Moulds are prepared on high-quality steel beds prior to installation of the reinforcing steel. Window openings and other cutouts (if required) are installed. Then a release agent is applied to the mould face and the reinforcing is positioned on plastic chairs which provide a predetermined distance from the mould face. Lifting eyes and other hardware (such as weld plates) are positioned and secured, and then the quality controllers check all specifications against the shop drawings prior to signing off the panel for casting.

Concrete Delivery

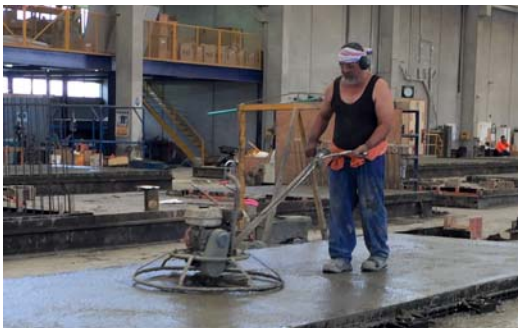
We have the luxury of a ready-mix concrete plant on our site which is operated by Bridgeman Concrete. It is positioned about 100 metres from the factory and within a relatively short period of time the trucks deliver the concrete, manufactured to our specifications, right alongside the casting beds.
This makes placement of the concrete relatively easy. Mix specifications vary by strength, colour, etc, and also include lightweight concrete mixes.

Casting

The concrete truck discharges the mix once the required slump of the concrete has been achieved. The moveable chute progressively disperses the mix over the mould face, it is then raked to achieve an even surface. Electric vibrators are placed into the mix to ensure that any excess air is removed, the concrete completely encapsulates the reinforcing steel and also fills any potential voids around cast-in items.

Surface Finishing

After the concrete has been manually screeded off to produce a relatively even surface the panel edges are trowelled and tidied up. After a period of time - depending upon the atmospheric conditions - and before the surface has started to harden, a powerfloat will be passed over the trowelled face several times to smooth out the surface. Despite this process, the trowelled surface will not reach the same level of finish as the concrete poured against the steel mould face.



Stripping (De-moulding) Panels

Usually the panels are cast one day and stripped the next. Heated beds provide accelerated initial curing to allow the concrete to attain sufficient early strength to allow stripping the next day. Occasionally, where a panel has large openings, we may decide to leave it to cure for two days before stripping. This photo shows the panel being lifted using face-lifters, with the formwork creating the window openings left on the casting bed. The gantries used for lifting are certified up to 20 tonnes. Litecrete lightweight precast panels are generally lifted using edge lifters only and in most instances the casting beds are tilted as well.

Panel Storage/Curing

After stripping the panels are craned out into covered storage racks similar to toast racks. This enables us to access each panel easily when required and makes the storage area very efficient for loading the delivery trucks. In some cases where specialist surface finishes are specified (exposed aggregate, etc) the panels will be taken direct from the mould into the hose-down bay to hose off the surface retarder before placing in the racks.

Delivery

For smaller projects we will have all of the panels manufactured ready for delivery on a date agreed to with the customer. They are delivered in a sequence determined by the installers. For larger projects we may be still manufacturing panels well after the first shipments have begun. Precast panels are shipped sitting on their long edge and for standard panel delivery the height on the truck is 3.6 metres. Panels up to 4.2 metres high will require a low-loader truck.

Standard precast panels are usually shipped after 7 days curing whereas Litecrete panels are stored for 14 days prior to delivery.

Quality Assurance

Wilco's activities demand the best in experience, expertise, capability, reliability and quality. The prime objective of Wilco's Management Team is to provide products that meet the exact requirements and expectations of our clients.

Wilco is one of a select few precast manufacturers who are Precast NZ Certified. To achieve this, strict quality control measures are maintained along with the exacting standards of Telarc Quality Management, covering shop drawings and manufacture, thus ensuring a quality finish for the customer.

Wilco has developed a fully integrated management system that links all aspects of the business (Quality, Safety, Environment, Energy and Sustainability) through the entire project, from tender to manufacture to delivery on site.

Certification

Wilco has developed integrated management systems and is certified, according to international standards, as follows:

- Precast NZ – Certified Plant
- Cement & Concrete Association of New Zealand (CCANZ)
- ACC Workplace Safety Management
- TELARC Quality Management

Telarc
Q-Base Code

Members of

- Precast NZ (founding member)
- CCANZ
- NZ Concrete Society

Service Offering

What Customers Can Expect From Wilco Precast

A CLEAR EXPRESSION OF INTEREST

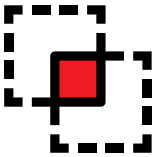
Wilco's estimating staff will tell you promptly whether we can assist you with your project or not. Usually the answer will be positive but if we are unable to assist for any reason we will let you know early.

HELP WITH FEASIBILITY

If your project is not yet designed, or is designed but you want to check buildability or other features, then you can expect Wilco to provide you with the input that you need. Involve us early on in the design process to ensure economical and workable designs. We are willing to provide information and assistance to designers and contractors at any stage of the design process. We see our role as providing solutions to your construction problems - solutions which Wilco, with its product capability, is uniquely placed to provide. We don't expect you to use precast everywhere, only where it is the best way of building, so expect frank advice on whether there is a good precast solution or not.

A CLEAR OFFER

When it comes time to price the precast component of your project you can expect Wilco to give you a clear and complete offer which spells out inclusions and exclusions and the commercial terms of the offer.



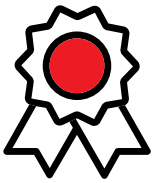
THOUGHTFUL DESIGN AND QUALITY SHOP DRAWINGS

Shop drawings often require accessing information prepared by different parties (engineers, architects, various service providers) and incomplete or inconsistent information can lead to delays. Preparation of shop drawings will often be the first time these issues arise and sufficient time needs to be allowed to resolve them. At Wilco we believe that our experience should be put to use in the interest of all parties and so you can expect us to propose alternatives to architectural and engineering detailing where possible to improve buildability, durability and aesthetics.

Our customers have the last say, but in working with Wilco you will be offered choices.

DESIGN RESPONSIBILITY

The structural capabilities of all precast components offered by Wilco should be verified by the project consulting engineers. Wilco does not, therefore, offer to provide structural certification.



QUALITY-ASSURED MANUFACTURE

One of Wilco's great strengths is its experienced manufacturing staff. In an environment where employee turnover is minimal, many key employees have between 10 and 20 years' experience. Over the last 50 years or so we have seen and solved just about every possible precast problem and this, combined with our modern quality assurance programme, ensures the best outcomes.

SHIPPING

Delivering the product in full and on time is a critical phase of our customer service programme and we ensure that our interface with the site, transport providers and crane operators is as seamless as possible.

Product Lead Times: allow for adequate lead times

Adequate lead time is probably the most important single factor in ensuring problem-free execution of any precast contract. Lead time is required for:

1. programme determination and production scheduling
2. preparation of shop drawings and development of details
3. resolving issues with the contract documentation
4. approval of shop drawings and any revisions
5. sourcing of cast-in hardware and steel reinforcing
6. mould preparation
7. approval of prototypes or samples
8. manufacture and storage of units ahead of delivery

The amount of lead time will depend on:

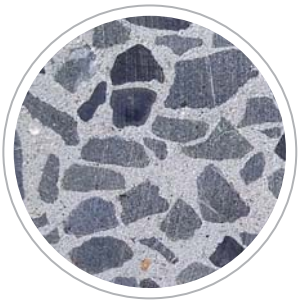
- project size
- complexity
- adequacy of details supplied
- choice of finishes, rebates, etc
- mould numbers, mould complexity
- workload and resources required

Surface Finishes

The range of precast surface finishes are many and varied. Smooth (F5) off-the-form finish is obviously the most popular as it has the lowest manufacturing cost.

Exposed aggregate

Exposed aggregate is available in a range of aggregate sizes/mixes and is achieved by applying a surface retarder to the steel mould face prior to casting. The retarded concrete surface (up to 3mm deep) is hosed off after the panel has been stripped from the mould.



Honed finish

Honed finish is a smooth (F5) finished panel with the surface mechanically ground. The aggregate is a standard grade with random sizes. The photo shows a specific aggregate type/size which has been honed. The addition of coloured oxides to the mix to colour the cement paste multiples the options and cost.

McCullum's Chip

This red aggregate has been quarried on Karamuramu Island, in the Hauraki Gulf, since 1908 and there are currently reserves in excess of several million cubic metres. This aggregate can be used as an exposed precast face mix or as a structural mix with a honed surface. A range of aggregate sizes can be specified.

Rough-sawn timber finish

Achieved by casting on to rough-sawn timber planks. The finish can be horizontally or vertically orientated.

Again, the use of oxides can broaden the options. The photo shows random plank widths.

Formliners

Used where intricate surface designs are required. They are manufactured from urethane rubber in a multitude of standard or customised designs. Being expensive to use for small panel quantities, when the formliner cost is amortised over a large panel area the cost per square metre can be relatively inexpensive. The top three photos below show (1) a pixelated formliner in the mould; (2) the finished panel and (3) the panel installed. In this case the panel thickness varied from 150 mm to 225 mm.






Custom-made steel moulds

Can be used for deeper linear surface effects as shown in the panel above-left, manufactured for the Merchant Quarter Project at New Lynn. Organic shapes are not able to be easily achieved in steel fabrication so custom-made fibreglass moulds could provide a solution.

Linear rebates

Shown in the two images above-right, linear rebates can be applied vertically, horizontally or in any perpendicular orientation in the panel surface, at minimal cost. The vertical rebates in the Litecrete cladding panels, far-right, were produced by using random-width strips of 12 mm thick polypropylene which was glued to the steel mould face.

Fibreglass moulds

Could be considered for replication of organic shapes and results in a high quality surface finish. A “plug” of the required design is produced on a CNC router, glass-reinforced fibre is sprayed on to produce the female mould and a male master is taken to be used as the precast mould. The spandrel panels on the carpark, right, featuring Maori “flowing water” symbols, were cast on fibreglass moulds.

Graphics

The KFC panels shown below are an example of rough-sawn timber finish and graphics combined. The lettering for the “eleven secret herbs and spices” and “11” roundel were reverse cut from 10 mm thick Perspex and glued to the timber planks prior to casting. The edges of the individual letters are tapered to facilitate easy demoulding.

Innovation

Wilco R&D ensures further improvements and cost savings

Wilco runs a continuous Research & Development programme so as to discover even better and more economical ways of producing our precast cladding components. The resulting savings and improvements are passed on to our customers. While paying particular attention to every single detail in each process, we continually improve the quality of our products.

Our technical ability makes us the preferred precast partner of many of the leading architectural and consulting engineering companies. We have invested considerably in product, process and system innovation, and progressively expanded the range and functionality of our precast products; in particular, the range of surface finishes and textures.

Wilco has invested in the newest technologies to improve our products' appearance, affordability and performance.

Litecrete

LITECRETE® LIGHTWEIGHT PRECAST CONCRETE

Wilco manufactures and markets Litecrete lightweight precast concrete. The concrete is four times more thermally efficient and 40% lighter than standard precast concrete.

Litecrete is used in commercial construction and is particularly useful as a clip-on cladding system to a steel framed structure as it can help to reduce the overall deadload and steel member sizes can be reduced to save costs.

Litecrete is generally specified for residential walls because of its in-built insulation properties. For Climate Zone 1 the 220 mm thick wall panels comply with the Building Code insulation requirements and once installed are virtually complete and do not require any supplementary insulation. Litecrete is sold at the same cubic metre rate as Wilco's standard precast concrete.

Visit: www.litecretesystems.co.nz

Sustainability

Why precast is a sustainable choice?

At Wilco we see our involvement in precast concrete as an opportunity to provide creative solutions for the built environment, without in any way jeopardizing the broader environment.

The inherent properties of precast concrete make it a natural choice for achieving sustainability in modern buildings. For example, precast concrete:

- Is locally manufactured, using local products, and thus minimizes transport costs
- Involves minimal waste, and most manufacturing waste is recycled
- Enables rapid construction, with fewer trades on site and thus less waste
- Has high thermal mass, which enables components to absorb, store and radiate heat
- Is durable, reusable and low-maintenance

New levels of sustainable performance

We promote sustainability in the processes used in our product manufacture.

We seek to achieve new levels of sustainable performance in our highly cost-effective precast building systems, including durability, thermal mass and insulation values. In all, our sustainable building products reduce energy consumption and reduce the user's carbon footprint.

Use of precast concrete cladding in a building contributes to its thermal mass; this helps to even out daily and seasonal temperature swings, and reduce the need for air conditioning. This saves both energy and money in the long term.

Wilco's sustainability policy

- Keep fully informed of all relevant legislation, standards and best practices within the industry and monitor our operations to ensure compliance
- Meet all regulatory and consent requirements pertaining to our business
- Work with subcontractors, suppliers and clients to encourage environmental awareness and sustainability and to identify and share best practice and ways of reducing negative environmental impacts
- Manage our building in an environmentally sensitive manner
- Reduce and strive to eliminate hazardous and nuisance releases to air, water and landfill, including CO2 emissions
- Re-use, recycle and recover resources in all company activities
- Operate a careful buying policy, giving preference to materials from sustainable sources and services which are less damaging to the environment

Our Environmental Management System supports this policy and provides the framework for setting and reviewing objectives and targets. If you have any questions about sustainability issues please get in touch.

Health & Safety

OUR STRATEGY

We believe that all accidents and incidents are avoidable through effective hazard identification and active risk management. We aim to achieve ‘zero’ accidents and incidents through sensible health and safety management. We will implement and maintain our health and safety management system to OHS.

OUR VALUES

We are committed to continuous improvement and development of our performance through implementation of our values, promoted across all levels and areas of our business.

CO-OPERATION AND CO-ORDINATION

We will consult with our workforce and encourage their suggestions, opinions and ideas before making changes to the working environment.

Everyone at Wilco has a role to bring about continuous improvements in health and safety performance. For this to become a reality each employee within the health and safety system has to understand their role and perform their responsibility.

RESPECT

We are dedicated to building relationships through respect of all people, their cultures, their understanding and beliefs. We are considerate to the needs and requirements of people who may be affected by our activities.

LEADERSHIP AND INTEGRITY

We lead by example and work together to leave a positive impact through our actions and behaviours.

COMMITMENT

We are committed to protecting the health and safety of our employees and that of others who may be affected by our business activities. We believe that every employee has the right to work in an environment where risks to health and safety are properly controlled.

Wilco PRECAST

Selection of Recent Projects


Westpac
Westpac


COUNTIES MANUKAU
EAST AREA HQ

PRE CAST CON CRETE

PARTNERS

BRIDGEMAN CONCRETE

REOCO
INDUSTRY LEADERS IN REINFORCING STEEL

HR CEMENT Limited

Fletcher Reinforcing
Structured for strength

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Complete Reinforcing
SUPPLY • FABRICATE • INSTALL

TimberWorld

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