

Tianqu Aluminium Formwork



Description

The Aluminium Formwork System for concreting is probably the most versatile modern construction system. Unlike other systems it is equally suited to both high and low rise construction.

Specifically designed to allow the rapid construction of multiple unit projects at optimum productivity, the aluminium formwork can be used for a broad range of applications, from straightforward panels to more complicated structures involving bay windows, stairs and A/C hoods.

The degree of pre engineering and inherent simplicity of the aluminium formwork enables unskilled foreign labour to be used. Every component is light enough to be handled by one operative, minimising the need for heavy lifting equipment.

Advantages

The Formwork is specifically designed to allow rapid construction on all types of architectural layouts.

- Total system forms the complete concrete structure
- Custom designed to suit project requirements
- Unsurpassed construction speed
- High quality finish
- Cost effective for mass production
- Panels can be reused over 100 times
- Erected using unskilled labour
- Light weight, easy to handle
- Low waste

Formwork System Description

The basic element of the Formwork is the panel which is an extruded aluminium rail section, welded to an aluminium sheet. This produces a lightweight panel with an excellent stiffness to weight ratio, yielding minimal deflections under concrete loading. Panels are manufactured in the size and shape to suit the requirements of specific projects.

The panels are made from a high strength aluminium alloy with a 4mm thick skin plate and a 6mm thick ribbing behind to stiffen the panels. The panels are manufactured within factory environment. Once assembled they are subjected to a trial erection in order to eliminate any dimensional or on site problems.

Formwork Structure

Architectural details are incorporated during the design and manufacture of the aluminium panels and can be designed for any condition such as bay windows, stairs, balconies and special architectural features. The accurate regular dimensions achieved with the aluminium formwork system enable pre-fabrication of cast in items, door and window frames and electrical and mechanical components.

Assembly

The simplicity of Aluminium Formwork and the repetitive nature of the assembly process make it possible to accurately programme construction sequences and thus cycle times well in advance. In addition this enables unskilled labour to work with the Formwork therefore reducing the burden on skilled labour when this is in short supply.

On leaving the factory all panels are clearly labelled to ensure that they are easily identifiable on site and can be smoothly fitted together using the formwork modulation drawings.

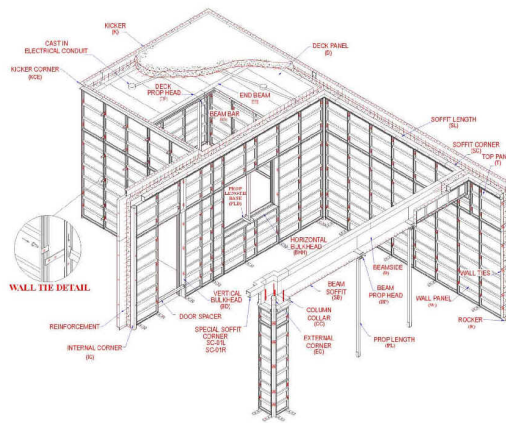
Pin and Wedge System

The panels are held in position by a simple pin and wedge system that passes through holes in the outside rib of each panel. The panels fit precisely, simply and securely and require no bracing. Buildings can be constructed quickly and easily by unskilled labour with a hammer being the only tool required. Once the panels have been numbered, measuring is not necessary. As the erection process is manual, tower cranes are freed up and can concentrate on other handling operations. The result is a typical 4 to 5 day cycle for floor to floor construction.

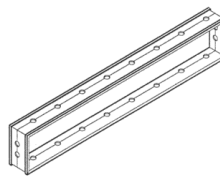


Quick Strip Prop Head

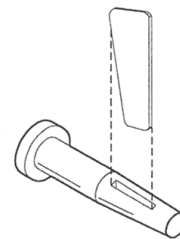
One of the principal technical features which enables this speed to be attained using a single set of formwork panels is the unique V shaped prop head which allows the 'quick strip' to take place whilst leaving the propping undisturbed. The



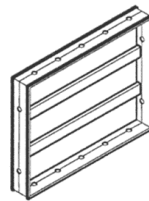
Wall Components



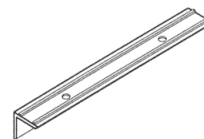
Kicker



Stub Pin

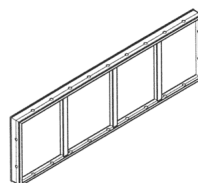


Wall Panel

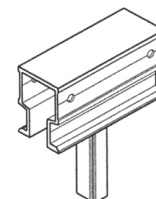


Rocker

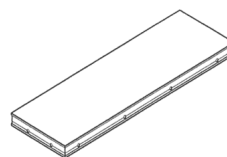
Beam Components



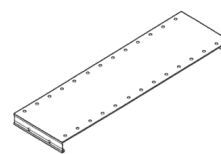
Side Panel



Prop Head



Soffit Panel



Soffit Bulkhead

Deck Components

deck panels can therefore be reused immediately.

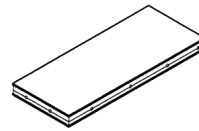


Speed and Quality

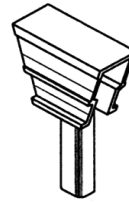
The in-situ construction of all walls and partitions reduces the requirement for follow-on wet trades. The concrete surface finish produced with the aluminium forms allows achievement of a high quality wall finish without the need for extensive plastering. Doors and windows are formed in position, with this high degree of precision items such as door and window frames can be directly installed on site with minimal re-sizing required.



High quality Aluminium Formwork panels ensure consistency of dimensions. On the removal of the Formwork mould, a high quality concrete finish is produced to accurate tolerances and verticality. The high tolerance of the finish means that no further plastering is required. Typically a 3mm to 4mm skim coat is applied internally prior to finishing and a 6 mm build up coat prior to laying tiles.



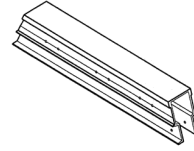
Panel



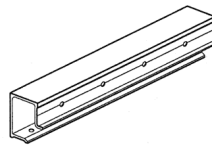
Prop



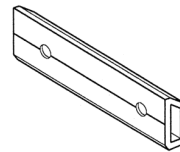
Prop Length



Mid Beam

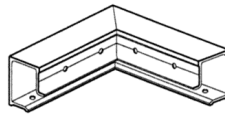


Soffit Length

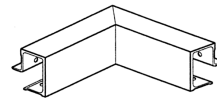


Beam Bar

Other Components



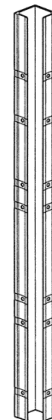
Internal Soffit Corner



External Soffit Corner



External Corner



Internal Corner