Concrete technology for a CONCRETE future

PLANTS & MACHINERY

for the production of CONCRETE ELEMENTS

Benefits of Precast Concrete

Precast concrete, a highly efficient, practical method of concrete construction makes beautiful buildings possible at a cost that rivals with the most functional industrial building.

Design-Build Efficiency:
Precast concrete provides an efficient model for your project.

Environmentally Friendly:
An intrinsic feature of precast concrete is its natural resistance to mold, greatly reducing health problems.
With these environmentally friendly advantages, precast concrete satisfies a growing demand for sustainable design and construction. Additionally, precast concrete structures are completely recyclable, making their impact on the environment minimal.

Energy Efficiency:
The thermal mass of precast concrete lends energy efficiency to buildings and reduces the heating and cooling peaks and loads.

Element Resistant:
Precast concrete structures provide superior resistance to fire, natural disasters, insects, and mold. Like no other building material, its high resistance to wind damages, fire, earthquakes, termites, decay, mold and rust provides lower maintenance and insurance costs.

Maintenance:
The facade of a precast concrete structures can be left unpainted without danger of damages by external elements. If painting is desired, repainting is needed only every five to ten years.
Precast concrete interiors are less subject to damage, and easier to wash.

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Precast Concrete Products

WiTech Concrete Technology over the years has increased the range of products that can be realized with its equipment, to meet the growing needs of its clients. Products include:

Hollow Core Slab

A hollow core slab, also known as a voided slab or hollow core plank, is a precast slab of pre-stressed concrete typically used in the construction of floors in multi-storey apartment buildings. This kind of slab is used especially in countries where the emphasis of home construction has been on precast concrete, including Northern Europe, UAE countries and Eastern Europe. Precast concrete popularity is strictly connected with economical constructions because of fast building assembly, lower self weight (less material), etc.

The precast concrete slab has holes extending on its entire length, typically with a diameter equal to the 2/3-3/4 of the slab's height. This makes the slab much lighter than a massive solid concrete floor slab of equal thickness or strength. The reduced weight is important because it reduces transportation costs as well as material (concrete) costs. The slabs are typically 120 cm wide with standard thicknesses between 15 cm and 50 cm. The precast concrete stems between the holes contain the steel wire rope that provides load resistance to bending moment.

Pre-stressed concrete slabs are usually produced on casting beds around 120 mt long.
The casting machine, moving on the casting bed, realizes the element extruding dry concrete with the steel strands already placed along the bed.
The continuous slab is then cut by a saw equipped with big circular diamond blade according to the lengths (and width) required by the project.
Factory production grants the obvious advantages of reduced time, labor and training.

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Advantages of Pre-stressed HOLLOW CORE SLABS

CONCRETE SAVING
Thanks to the voids, the concrete consumption decreases. It is not necessary to increase the structural thickness, since the hollow-core slabs stiffness is very high.

STEEL SAVING
By the pre-stressing process and using strands or harmonic steel wires as reinforcement, the steel consumption decreases.
From a span of 3.5 MT. you will have a steel saving of more than 50% in comparison with the steel quantity necessary for massive slabs or a slack reinforcement.

LABOUR SAVING
The process for the hollow-core slabs production is now so modern and automated, that it requires less than 40% of labour in comparison with the labour necessary for the production of massive slabs.

LOWER WEIGHT
Construction and foundation elements saving.

HIGHER SPAN
It reduces the number of supports and allows a free planning.

SAME PRODUCT WITH DIFFERENT SPANS
Despite the possibility of using longer spans, the hollow-core slabs can be used with shorter spans.

DIMENSIONAL PRECISION
It allows to save time during assembling and the production process turns out to be easier and more rapid.

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Examples of Hollow Core Slabs use

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Different types of precast solutions

Wall Panels

Wall panels are available in a variety of widths and thicknesses to meet any project's requirements.
Panels are engineered for both structural integrity and aesthetics, whether they are used as shear walls, load bearing, non-load bearing, interior, or exterior walls.

Double T

Witech equipment enables to produce double-T slabs for building as well as parking applications. The double-T is primarily used in areas that require exceptionally long spans, such as parking decks, swimming pools, gymnasiums, and industrial building walls.

Beams, Columns and Poles

Witech equipment offers a variety of standard beams, columns and poles that are integral components for a total precast structure.

Stadium hollow-core

Single risers provide the building blocks for seating in stadiums, arenas, school auditoriums, or other similar complexes.

Stairs

Witech equipment produces prefabricated stairs for offices, multi-family housing units,
sports arenas, parking ramps and any other structure requiring stairs.
Precast stairs are extremely cost effective when used through project construction.

And….

Concrete railway sleepers
Concrete electrical substations
Concrete drains for water
Concrete New Jersey

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Examples of precast solutions

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Our company is sure that it is really possible to meet any requirement; for this reason our staff is always seeking for some new valid solutions, in order to favor its research for a better productivity.

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Thank You for Your attention