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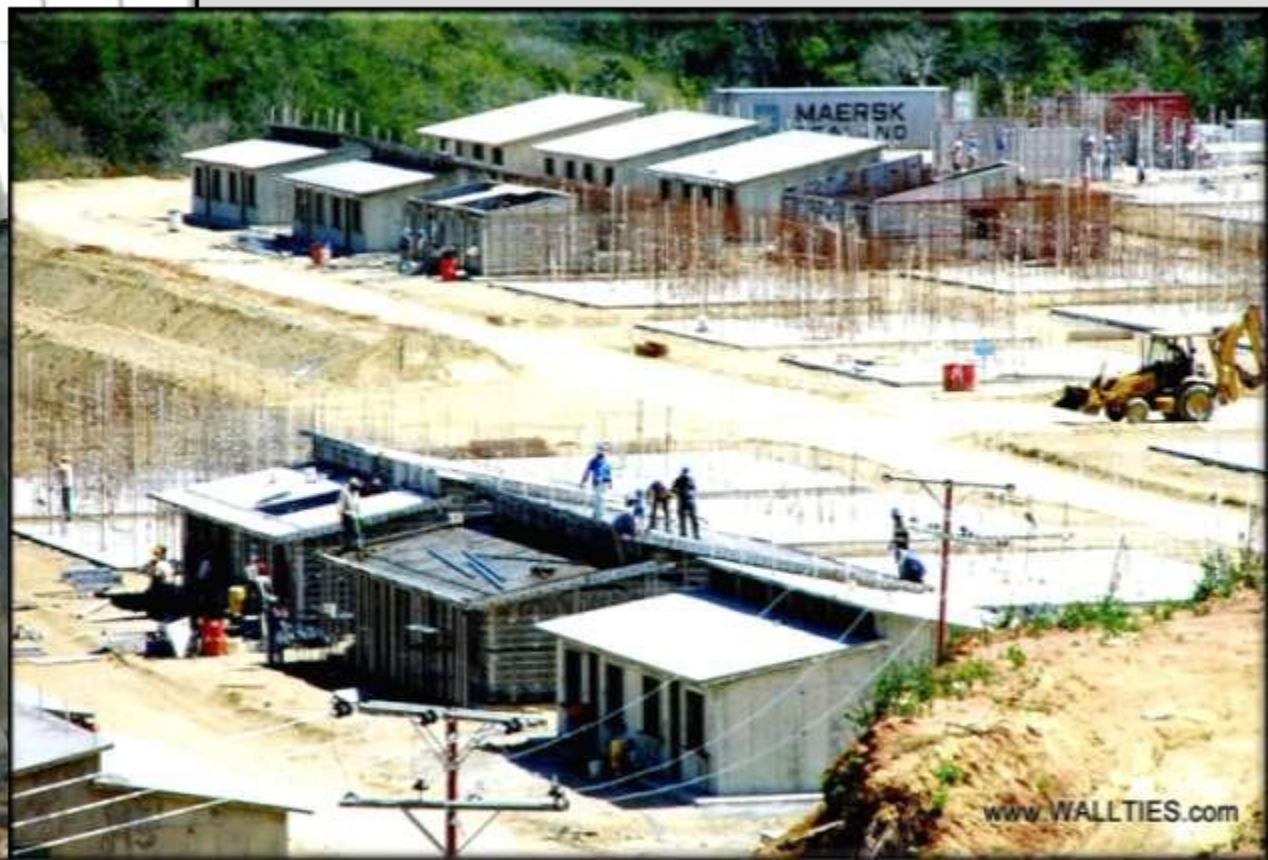
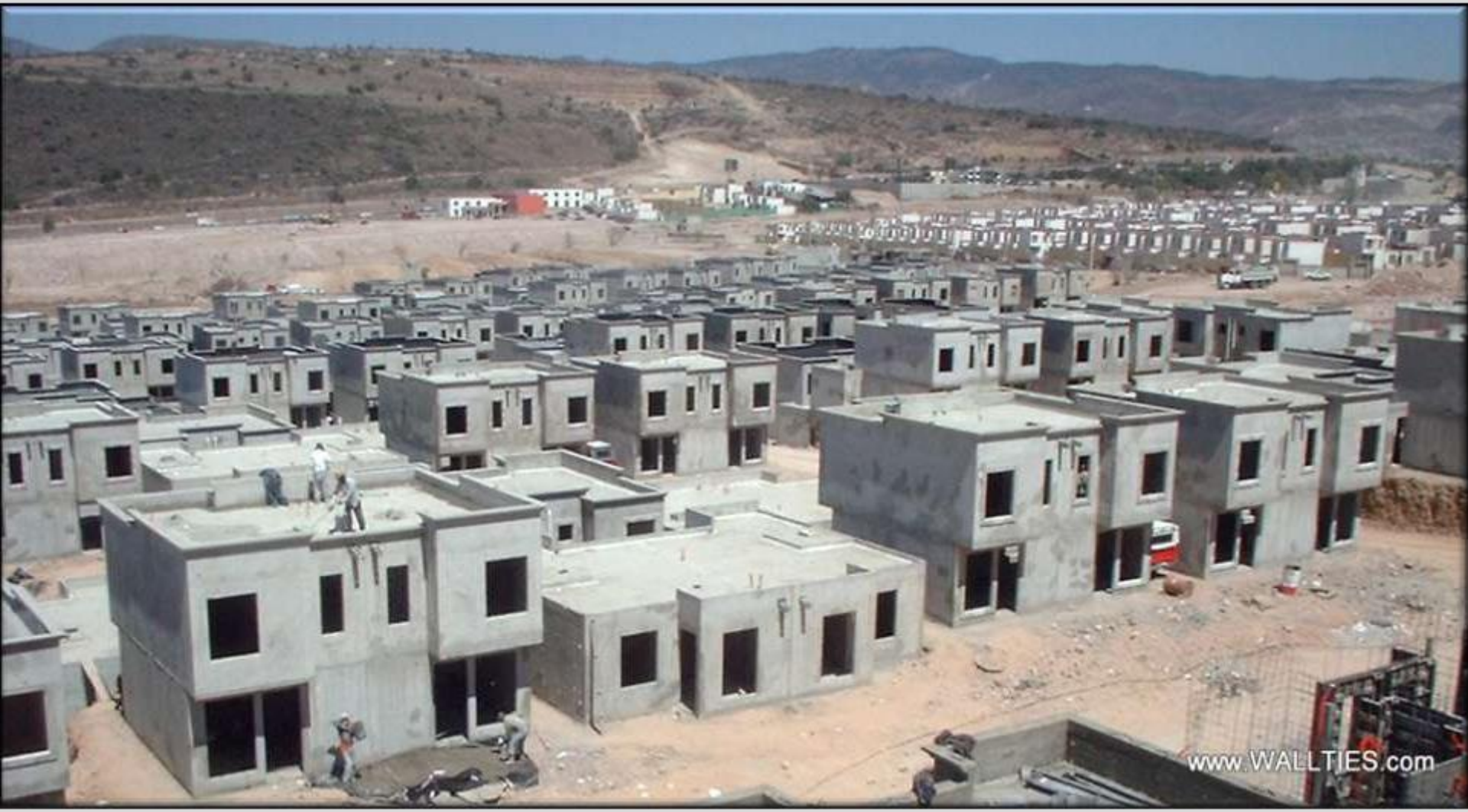
The WTF System of molds, shoring, and formwork (manufactured by Wall-Ties & Forms, Inc.) is unique and stands out because all of the components in the structure, such as walls, foundations, columns, beams, stairs, window moldings, balconies, and decorative details are molded and built monolithically, precisely meeting the architectural design. No other system can match the flexibility of the WTF Formwork System in handling all design conditions.

Skilled labor or heavy machinery/cranes are not required for the assembly of the WTF System. The heaviest mold panel or formwork weighs only 32 kg (70 pounds). This allows a single worker to handle the components of the WTF System. The shoring or formwork is assembled and secured with steel bolts, wedges, and spacers or ties. The only tool required is a hammer. The WTF System can save 10 to 20% of the total construction cost and increase the speed by 30 to 50% over traditional methods such as brick, block, or even beams/columns.

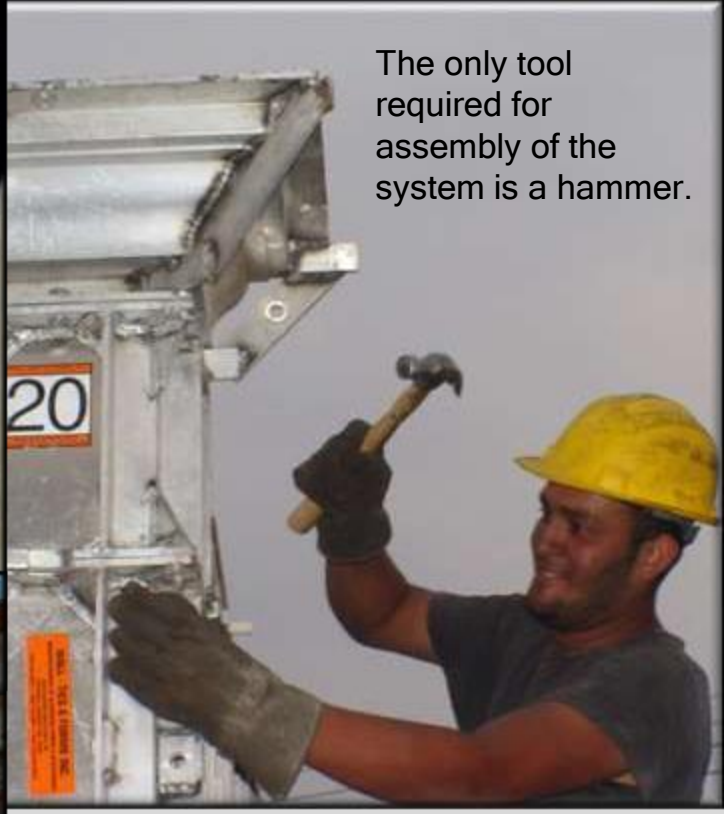


The aluminum molds, formwork or shoring system WTF for concrete construction (on site) is the most versatile system in the world. Unlike other systems, it adapts equally well to single-level or multi-level structures.

The WTF system is specifically designed to allow for the fast construction of multi-unit projects. The WTF system is on a daily cycle and allows for maximum productivity of one housing unit per mold per day.




Example: 8,500 duplex or paired unit project, with one and two levels, in Mexico.




The only tool required for assembly of the system is a hammer.

This aluminum molds, formwork or shoring system WTF is ideal for unskilled labor, achieving the highest production rates. Each component is light enough for a worker to maneuver without the need for heavy equipment for load handling.

The WTF formwork or shoring system allows the builder to monolithically and simultaneously construct most of the structural components of the building. This includes structural and non-structural elements, as well as architectural and decorative details.

The forms for this structure include all structural, non-structural, and architectural elements. Architectural details include arches and curved elements, decorative columns, sloping concrete roofs, and rain gutters poured directly into ornamental moldings.


By pouring or casting all structural elements, a savings of 10 to 20% can be achieved over traditional methods.



By pouring or casting all structural elements, construction speed can be increased by 30 to 50% over traditional methods. These benefits are achieved thanks to the Formwork or Shoring System which already incorporates and facilitates finishes on the structure and on concrete surfaces.



One of the most important technical features of the system that allows for high construction speed is the special central support system for slab shoring. This allows for the removal of the roof formwork panels while leaving in place the props and central support beam of the fresh slab. The area of the demolded slab can be re-shored and the removed roof panels can be immediately reused.

The precision of the WTF Formwork System allows door and window frames to be ordered in quantities of the same size and installed on site without much variation in dimensions or sizes.

Because the openings are precise, the builder can be confident in pre-purchasing doors and windows. Often, the builder can purchase these components for the entire project, generating a huge cost savings.

The concrete surface produced with the WTF Formwork System allows for high-quality wall finishes without the need for excessive plastering.



A set of pre-assembled molds for quality control inspection at the factory.

The WTF System of Molds, Formwork, and Shoring is manufactured with high-quality, hard-alloy aluminum raw materials and the best robotic manufacturing and welding technology. This allows for a lifespan of over 2000 uses.

Typically, the lifespan of the WTF Formwork System exceeds the construction time of the initial project and can be used on a new project. The modular design of the system allows for 70-90% of the components of the Formwork and Shoring system to be easily adapted to new projects.




From foundations to multi-level structures, they can be observed in the following illustrations that chronologically describe the accelerated construction process of the WTF Mold, Formwork, or Shuttering System.

The process begins with soil compaction. Excavations are made for the installation of electrical, plumbing, drainage, natural gas, and the WTF foundation slab system is mounted.

Following the foundation slab and its installations, the installation of structural reinforcements made of iron rods and electro-welded mesh is carried out. The structural design is local and complies with local building codes.

Concrete placement is carried out using local methods.


The steel reinforcement of the walls is placed according to local building codes.

The electrical boxes are mounted against the face of the panels and secured to the steel reinforcement mesh of the wall, as well as the conduits. These can be rigid or flexible depending on local building codes.

The construction of massive housing projects operates conceptually like an industrial production line. The different stages are constructed in chronological order. At the beginning of the production line, the foundation slab is always laid, followed by the iron reinforcements in the walls and partitions, then the installations, and finally, the concrete is poured into the walls and roof or intermediate slabs. These are simultaneous processes but at different points in the production line.

The process of assembling WTF forms typically starts at one corner or multiple corners depending on the number of workers. This process continues until all the walls are assembled or raised.

Once the wall forms are in place, the slab formwork can begin. The slab formwork, like the mold walls, is manually assembled and preferably started in a corner.


After finishing the slab formwork, the steel and electrical work are installed in preparation for pouring the concrete.

When all the preparations are complete, the concrete is poured monolithically into the walls and slab. Concrete pouring is usually done with a concrete pump, but the method can vary depending on what is available in the market. This can be stationary pumps, crane tanks, or even manual containers.



The WTF formwork system is removed the following day to start a new cycle.

In multi-level structures, attached scaffolding is used. The scaffolding not only supports the weight of the workers, but the "TEE" are also designed as scaffold support measures and as a base support for the exterior panels of the upper floor wall.

The steel is secured, the formwork is positioned, and the concrete is poured, repeating the daily cycle.

For projects developed in regions with extreme climates, the WTF formwork system works exactly the same but with the direct incorporation of thermal insulation, which is placed simultaneously with the concrete on the exterior walls and roof.

The insulation foam is installed between the formwork spacers before placing the external formwork.

After the concrete is poured and cured, the formwork is removed, leaving the insulation foam permanently adhered to the concrete.

The WTF formwork system is used in more than 45 countries worldwide. Below are just a few examples of WTF's presence around the world.

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