

### CorTek Core Construction System

CorTek has developed and manufactures a pre-fabricated stay-in-place modular form system that is custom engineered to simplify and accelerate the construction of reinforced concrete stair and elevator core structures. This innovative construction approach incorporates the higher level of quality and efficiency provided by a specialized factory manufacturing environment, thereby reducing jobsite labor resource and schedule needs. Also a higher level of jobsite safety is provided through the elimination of the fall hazards inherent in vertical concrete formwork construction methods.

CorTek Inventor and Co-founder M. Douglas Rutledge continually seeks innovative ways to improve the design and construction delivery of building construction. He is a Principal of KL&A, Inc.; a Colorado based structural engineering and building firm where his vision is perpetuated throughout his design firm by their creative problem solving approaches to the varied book of work developed since 1995. Doug conceptualized the CorTek solution in 2003, which has been incorporated into multiple building projects to date, including the Limelight Lodge in Aspen, Colorado, One Steamboat Place in Steamboat Springs, Colorado, and TAXI' in Denver, Colorado.

Vertical reinforced concrete shear cores used for the primary lateral structural support have always presented challenges for building construction projects. Long and unpredictable onsite construction timelines are usually required prior to commencement of the main building framing. Quality issues frequently result from concrete dimensional tolerance variances, and improperly located steel embed plates necessary to receive steel framing connections to the shear walls. Jobsite safety is adversely affected due to the fall exposure risk created by the conventional construction approach for these concrete structures.

The CorTek Core System is a load bearing form system constructed with vertical and horizontal structural elements that are designed to support construction loads, and allow modularization of the form system. This structural system allows for support of metal stair flights and landings, structural framing, scaffolding, personnel, and other construction loads. The forms are to stay-in-place and do not require stripping adding two inches to the shear wall width. The factory is currently tooled to produce forms with finished walls structurally equivalent to 8" to 12" thick cast-in-place concrete walls. Due to the much tighter tolerances that can be held by the CorTek system, the resulting finished wall assembly can be thinner than conventional methods for many applications.

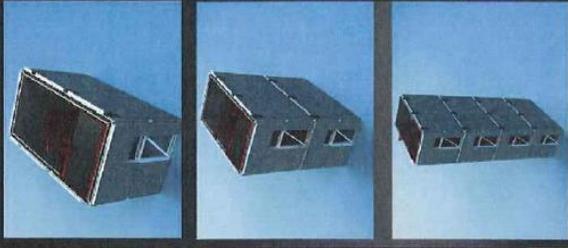
#### System Features:

- Factory built, high tolerance, all steel construction
- Core modules are load-bearing prior to concrete placement within forms
- Materials are pre-installed in the factory including: horizontal reinforcing steel, steel stairs systems, steel embed plates with shear connections, deck bearing support angle, elevator divider beams
- Optional pre-installed finishing connectors for cladding the forms with other materials are available, such as hat channels for stud framing and masonry ties.

#### System Benefits:

- Immediate availability of stairs for construction access by all building trades
- Elimination of many dangerous field operations
- Reduction of rework and coordination problems among trades
- Several cores can be constructed simultaneously
- Reduction of jobsite schedule by weeks or months on most building projects

The CorTek System can also be substituted for precast concrete and structural masonry shear walls. Details have been developed to support light gage metal and wood framed structures as well.



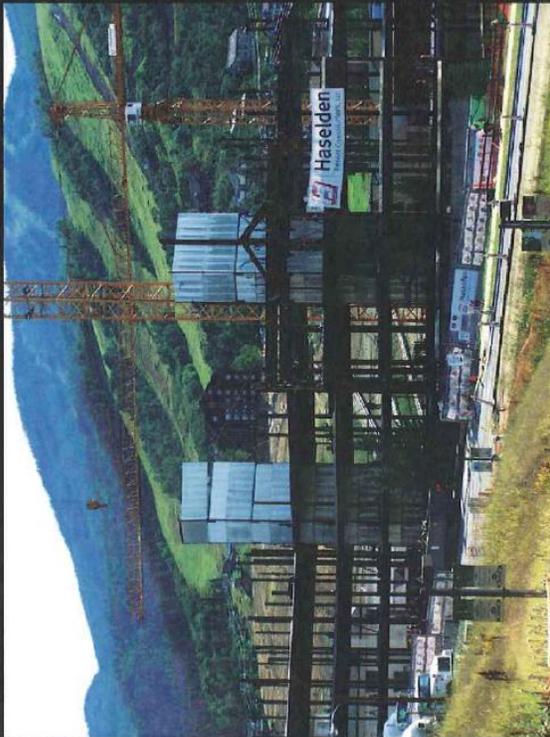
**Core Construction System**

Free up site schedule and resources by modularizing core off site in a specialized factory set up for quality and efficiency

- Stay-in-place modular form system for concrete core structures
- Factory built modules stack like building blocks.
- Custom-built to the specific requirements of each project.

**Faster, Safer, Higher Quality and Cost Competitive**

- Framing does not wait for cores
- Immediate presence of stairs allows trades early and safe access to structure
- Elimination of many dangerous field operations
- Reduction of poor fit-up and coordination problems among trades
- Cost comparable to conventional cast concrete



The CorTek Stair Core System is a stay-in-place modular form system, engineered to simplify and accelerate the construction of reinforced concrete stair and elevator core structures.

**Features**

- Factory-built, high tolerance, all-steel construction
- Rapid, simplified erection procedure
- Reinforcement steel is pre-installed at the factory
- Stairs are pre-installed at the factory, providing early trade access to the building floors
- The form system can support limited construction loads prior to placement of concrete
- Connections for floor and roof framing are preinstalled
- Compatible with steel, concrete and wood framing
- Custom-built to the individual requirements of each project
- Structurally equivalent to 8"-12" C/P concrete wall
- Cor-Tek modules go up with floor framing
- Cor-Tek modules do not require stripping