

SOLUTIONS SANDBOX

Sneak peek: Tilt-up Concrete Association's annual trade show.

BY BILL PALMER » Applications and techniques for tilt-up construction continue to expand. Keeping up is critical for success and one of the best ways to do that is at the Tilt-Up Convention and Exposition sponsored by the Tilt-Up Concrete Association (TCA); Concrete Construction is the official media sponsor of the event. This year's show is Sept. 19 to 21 in Dallas.

One unique feature this year is the Solutions Sandbox: 13 stations with small-group presentations and live demonstrations. TCA attempted this two years ago, where everything demonstrated was a solution to a real jobsite issue. This year's demos have a mix of ideas embracing this same mission. The products are meant to help designers and contractors increase productivity and quality.

Here are three solutions we found particularly interesting. See the box for a list of the other 10 demos. Go to www.tilt-up.org to register for the 2018 Tilt-Up Convention & Expo.

Tilt-up Panel with Helix Reinforcement

"THIS MAY BE the most exciting demo because it will include an actual lift and has additional interest due to the use of high-early strength concrete and twisted steel micro rebar," says TCA Technical Director Jim Baty.

The planned panel will be 25 feet tall, 16 feet wide, and erected the day it's poured. The majority of the reinforcement will be provided by Helix Steel's twisted steel micro rebar (TSMR), a 3D technology that increases shear strength, durability, ductility, and pre-crack capabilities. This panel will push the envelope of what's possible being thinner and having no other traditional reinforcement.

The mix will incorporate CTS Cement's Fast Rock 500, which transforms ready-mix concrete into a rapid-setting mix when substituted for a small percentage of the portland cement. This allows the panel to be erected in as little as 6 hours. Flexural testing will be used to ensure panels reach the required capacity before erection.

Helix TSMR is high tensile strength steel wire with a rectangular cross



Helix micro rebar and CTS Cement will combine to produce a panel that can be placed and lifted in one day with minimal conventional reinforcing steel. HELIX STEEL

Solutions Sandbox

In addition to the demonstrations from Helix/CTS Cement, GHC Products, and Trimble, there will be 10 other demonstrations at the show in Dallas. At each station, the exhibitor will demonstrate a solution to a defined problem or hurdle in the tilt-up industry.

Reveal Comparison: This interactive display will demonstrate proper installation practices for reveal products, highlight the differences between reveal types, and show the impact of reveal selection on the finished product. Sponsored by Nox-Crete

Rebar Tying Competition: Contestants will take turns tying cages and competing for prizes. Sponsored by MaxUSA Corp.

Thermal Break Detailing for Insulated Panels: A typical issue for insulated panels is how to detail the insulation into the window and door jamb. This display will include both a formed condition and a small in-place sample panel. Sponsored by TigerLoc

Proper Curing of Slabs for Tilt-Up: This demonstration will guide participants in how to cure a slab that will have a tilt-up panel constructed on top. Visitors will have the opportunity to apply various curing materials and bondbreakers. Sponsored by SpecChem

Attachment of Brace to Helical Anchor: At this demonstration, a braced panel secured from the back side will allow visitors to attach and detach a brace without removal of the brace shoe. Also demonstrated will be the installation of a base connection grout bar on a footing with no slab. Sponsored by SureBuilt Concrete Forms & Accessories

Repair Patch: Visitors to this demonstration will have the opportunity to use two rapid-setting repair products to patch holes in a tilt-up panel. Sponsored by CTS Cement

Form Layout for Brick Liner: Visitors to this demo will be able to lay out a form for an adjusted brick liner for window openings. Sponsored by Innovative Brick Systems

Installation of Tilt-Up Anchor: Participate in positioning an anchor assembly that will show how it provides clean cover of the anchor and quick attachment for lifting a panel. Sponsored by Dayton Superior

Quick Connect Helical Ground Anchor: This display will demonstrate the quick connection of a brace to a helical ground anchor as well as the time savings of the panel/footing connection. Sponsored by Connect-EZ

Innovative Tilt-Up Hardware: New and solution-oriented products will be on display. Sponsored by Meadow Burke/Thermomass



This thin panel has conventional reinforcing steel only at the perimeter and for the lifting inserts. TCA

section. Fibers are 1 inch long and have an equivalent diameter of 0.02 inch. There are more than 11,000 fibers in each pound. Helix will be mixed into the concrete at a rate of 45 pounds per cubic yard. In tests with CTS' Cement All, the mix reached a flexural strength of 1,260 psi. "We've worked with CTS Cement in the past," says Helix Founder and President Luke Pinkerton, "and have found a

synergistic effect when these two materials are used together." Fast Rock 500 isn't identical to Cement All, but is based on the same active ingredient.

A second panel that uses conventional concrete along with Helix providing the majority of the reinforcement without thickness reduction will also be erected after five days.

During the demonstration, the panels will be lifted and placed on piers. Visitors will be able to witness lifting and bracing.

The Tiltup Brace Saddle

INTRODUCED AT 2018 World of Concrete, this clever new device makes removing braces simple and safe. "We used to remove them with a manlift and a rope," says Greg Carpenter, inventor and president of Greg Carpenter Concrete, a union shop, full-service concrete contractor based in Lodi, California. With braces weighing as

much as 300 pounds, this can create a difficult and dangerous situation.

The Tiltup Brace Saddle attaches to the forks of a vertical forklift or telescopic forklift (telehandler). Pockets on the mechanism line up and are tied with a safety chain to the forklift. With a capacity of 700 pounds, the saddle can remove the