



**BUILDING
STRENGTH™**

**INSULATED
CONCRETE
PANEL
SOLUTIONS**


 **DAYTON®
SUPERIOR**

INSULATED PANEL SOLUTIONS

YOUR ADVANTAGE

With the proven thermal mass benefits of concrete combined with superior **DOW®** insulation and the low conductivity of the **Dayton Superior Delta Tie** connector—contractors typically realize **20–30% cost savings** over other available systems!

Dayton Superior delivers exceptional value and performance across virtually every stage of your insulated concrete panel project, including:

- Tilt-Werks® Panel Design Software
- Delta Tie Software
- Comprehensive Engineering Support
- Precast Lifting Systems
- Tilt-Up Lifting Systems
- Bracing systems
- Panel Connections
- Rebar Supports
- Reinforcing Steel Splicing
- Forming Solutions
- Formliners
- Chemicals: Liquids, Powders and Polymer Technologies
- DOW Insulation 

By using Insulated Panel Solutions from Dayton Superior, the contractor will save time and money, and the owner will save on heating and cooling bills.

“After first using Dayton Superior’s Delta Tie 10 years ago, it remains the only insulated panel connector that my company will use. The Delta Tie provides dependability with an ease of use that saves time and money on the jobsite.”

Len Overbeek,
Tilt Wall Ontario, Inc.



Award-winning Humber College Building B project: Because no two tilt-up panels were alike, the versatility of the Delta Tie allowed the contractor to adapt installation as needed

SUCCESS STORIES



WEATHER THE STORM

Hurricane Sandy slammed ashore in the overnight hours of October 29, 2012 extending across 24 states, causing extensive damage and leaving a staggering 7.5 million people without power. And, as the storm passed, damage estimates were in the billions of dollars. Yet, for the six tilt-up projects secured by the Dayton Superior Accubrace system, each and every one weathered the storm. Not one failure was reported. The braces, varying in length from 21' to 27', were secured by 7'0" HBA, a connector and a 4'0" Helical Extension for deeper installations. Built for strength, the HGAs are able to handle brace loads up to 12,000# SWL or 15,000# with the extension.

The ability of the Accubrace system to withstand Hurricane Sandy's destructive conditions potentially saved each of these projects thousands of dollars in costly repairs and delays.



CONSTRUCTION CHALLENGES PROVE NO MATCH FOR TILT-WERKS®

When McCody Concrete decided to utilize the tilt-up construction method for a new headquarters, contractor C.E. Doyle, LLC needed an effective and economical solution to design 150 tilt-up panels. The panels ranged in size from 6' to 40' wide, 3' to 43' high, and weighed between 2,000 lbs. to 110,000 lbs.

From past experience C.E. Doyle knew Tilt-Werks by Dayton Superior, a web-based program, provided all the functionality necessary to take on the design challenges. Tilt-Werks allowed C.E. Doyle to complete panel reinforcing design, panel shop and reinforcing design drawings and panel lift engineering analysis in just days versus weeks. In addition, material summary reports generated through Tilt-Werks helped facilitate the construction process.

Even when the nearby Missouri River reached a record-breaking flood stage level of 29.29', creating significant construction schedule challenges and daily construction changes, Tilt-Werks was used to manage the multitude of changes and expedite the creation of new drawings, keeping the project on track.

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T6A BRACE INSERT

T6A Brace Anchor is a 3/4" diameter coil insert designed to be easily positioned and tied into the rebar mat of a concrete panel.

APPLICATIONS

- Used for attaching temporary braces to tilt-up or precast panels

BENEFITS

- Furnished with plastic tipped feet and a T21 Locator Plug
- Available with plastic dipped or stainless steel feet on special order
- Setback from top of the panel to coil insert is 3/8"
- Used with round and square braces

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DBDI® STRAIGHT DOWEL BAR SPLICER

The Dayton Superior DBDI Splicing System is a two-piece, upsized parallel threaded, mechanical splice that is stronger than the rebar being connected.

APPLICATIONS

- Used for splicing reinforcement bars in monolithic structures, rebar anchorages, future expansion, and dowel bar substitution at construction joints.

BENEFITS

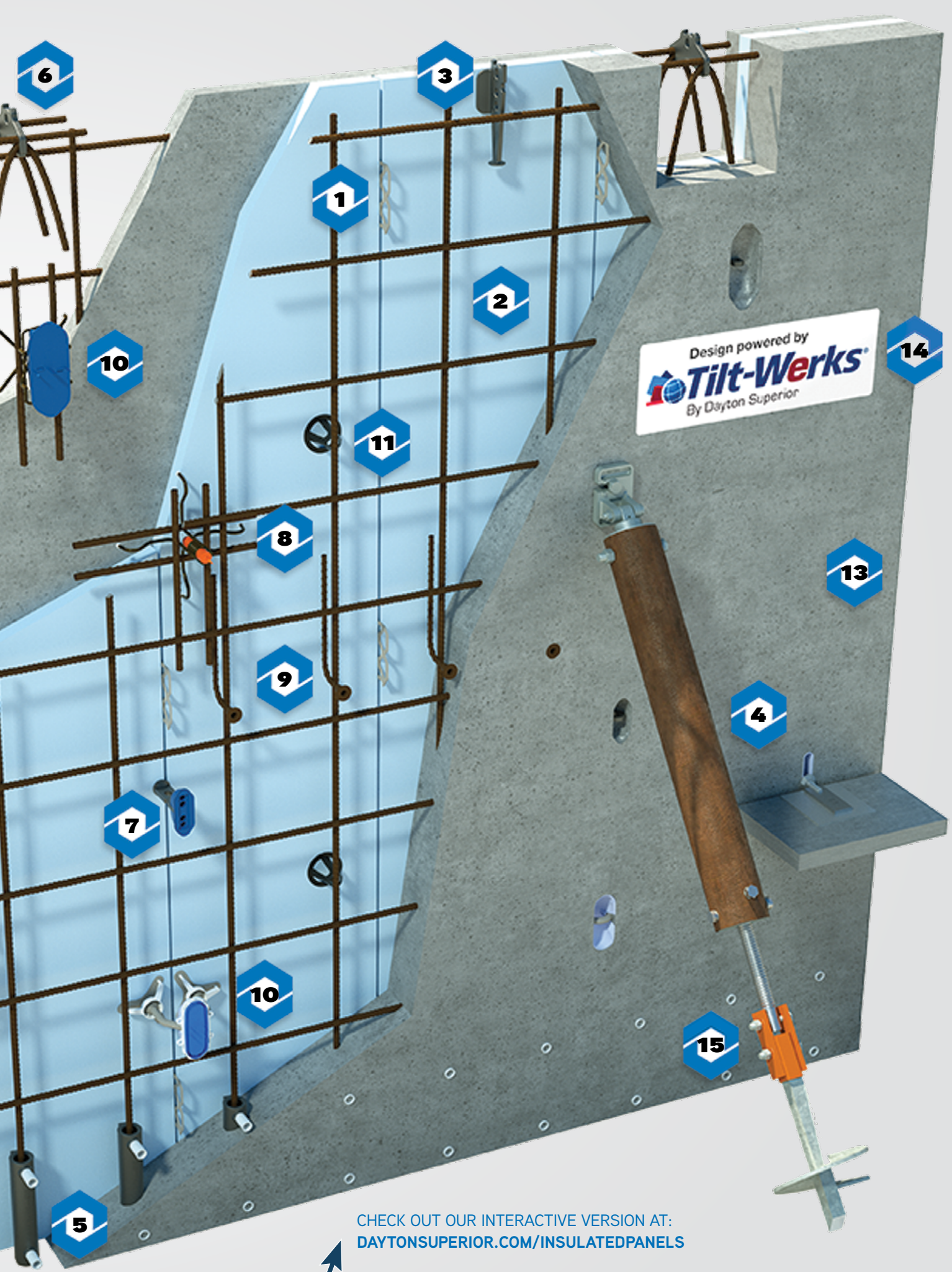
- Meets ACI Type 2, seismic splice requirements
- Can be furnished with male or female thread, as straight dowel, or with a L or J hook end
- Available on rebar sizes #4 through #11

INSULATED CONCRETE PANEL SOLUTIONS

“By using the Sleeve-Lock grout sleeve, we could make two panels instead of one and use a more maneuverable and smaller crane while still complying with tough OSHA safety guidelines.”

Ray Cartaya
Owner and Vice-President of Operations
Florida Tilt





Design powered by
Tilt-Werks
By Dayton Superior

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DAYTONSUPERIOR.COM/INSULATEDPANELS



1 P24 DELTA TIE INSULATION SYSTEM

The Delta Tie, featuring a two-dimensional truss design, is a structurally non-conductive, non-corrosive fiber composite connector.

APPLICATIONS

Wythe connectors for concrete sandwich panels

BENEFITS

- Truss design that is superior to pin design; can be used for non-composite and composite design
- Unmatched spacing of 2'x4' = fewer ties
- Installed between insulation sheets
- One size covers multiple insulation thicknesses up to 8"

2 DOW® INSULATION

Rigid insulation solution from DOW Building Solutions such as ISOCAST-R™ and STYROFOAM™ Square Edge combine superior insulating capabilities and dew point control with the additional strength of concrete.

3 P92FEW FORGED ERECTION ANCHORS

The P92FEW anchor is designed with two protrusions on the head of the anchor which provide protection against concrete spalling.

APPLICATIONS

- For erecting precast panels

BENEFITS

- High capacity - available in 3T, 6T and 12T capacities
- No tension or shear bar required in most cases
- P92FEWDP anchors can resist shear in both directions
- Based on Charpy Impact Test, forged anchors have double the low temperature ductility over stamped anchors

4 P38 COREWALL® SLOTTED INSERTS

P38 Corewall Generation II Insert is the next generation product in the Corewall legacy.

APPLICATIONS

- An economical way to connect wall panels to building framework

BENEFITS

- Higher load capacity and greater ease to install the product, which significantly reduces erection costs
- Features a heavy duty electro-galvanized 3/4"-10 NC threaded nut to provide fast, efficient and reliable connection

5 D410 SLEEVE-LOCK® GROUT SLEEVE

D410 Sleeve-Lock Double Ended Grout Sleeve is a one-piece mechanical coupler.

APPLICATIONS

- To butt-splice reinforcing steel in concrete structures

BENEFITS

- Fully tested and compliant with ACI 318 and CALTRANS®
- Exceeds Type 2 engineering performance criteria
- Supports the full range of rebar sizes from #4-#18
- Achieves ultimate strength in 24 hours
- Multiple grout options available

6 P92SF FORGED SANDWICH PANEL ANCHORS

The P92SF anchor is designed with two protrusions on the head of the anchor which provide protection against concrete spalling.

APPLICATIONS

- For erecting precast insulated sandwich panels with a minimum loss of insulation

BENEFITS

- Available in 6, 9 and 12 ton capacities
- The anchor design allows an even load distribution to both concrete wythes by using two tension bars placed through holes at the end of the anchor
- Eliminates steel near top edge of panel face, reducing the opportunity of concrete spalling
- Based on Charpy Impact Test, forged anchors have double the low temperature ductility over stamped anchors
- Shear bars are used for double shear condition

7 P94S FLEET-LIFT™ FORGED ANCHORS

P94S Fleet-Lift S-Anchor is a high-strength, forged anchor used in face-lift applications.

APPLICATIONS

- For back-stripping due to high pullout strength

BENEFITS

- High Capacity – available in 2.5, 6.0 and 10 ton capacities
- Based on Charpy Impact Test, forged anchors have double the low temperature ductility over stamped anchors

10 T110 and T275 SUPERIOR LIFT SYSTEM

The T110 insert consists of a forged foot anchor, 4-leg wire base and plastic void former.

The T275 insert consists of a dual forged foot anchor, void former and two plastic supports.

APPLICATIONS

- Lifting tilt panels

BENEFITS

- High capacity insert due to forged design
- T275 features easy to remove lid and LEAVE-IN VOID FORMER for fast and easy attachment of lifting hardware
- Directional inserts
- Used with Ground Release 12 ton T120 Superior Lifting Hardware

11 BAR SUPPORTS

Dayton Superior manufactures a complete line of rebar and mesh supports.

APPLICATIONS

- Maintain the elevation of rebar in reinforced concrete. They may be used to support steel on soft material form surfaces, such as carton forms or fill material

BENEFITS

- All Dayton Superior rebar supports are manufactured to the recommendations or specifications of the Concrete Reinforcing Steel Institute (CRSI)

OTHER PRODUCTS:

- High Strength Bearing Strips and Shim Packs
- Rustications
- Chamfers and Joint Covers
- Temporary Braces

12 FORMLINER

Formliners provide unique designs and economical solutions to forming architectural concrete surfaces.

APPLICATIONS

- Create architectural concrete surfaces

BENEFITS

- An extensive collection of standard patterns including wood grain, stone, brick and ribbed patterns, as well as custom made unique designs

13 PRECAST AND TILT-UP CHEMICALS

Dayton Superior offers one of the most comprehensive lines of chemical product solutions. Products include:

- **Clean Strip™ J1A:** Low VOC, ready to use, petroleum based form release
- **Sure Lift™ with Dye J6D:** Reactive and membrane-forming bondbreaker designed to provide clean and easy lifting of tilt panels
- **AquaFilm™:** Evaporation retardant designed to minimize moisture loss from concrete
- **Architectural Finish™:** Rubbing and sacking repair mortar. A single component, cement-based material used for vertical and overhead restoration
- **Recrete™ 20 Minute-Repair Mortar:** Fast setting with Excellent workability
- **Pro-Poxy™ 500 Anchoring Gel:** Ideal epoxy for anchoring dowels, bolts, threaded rod, pins and reinforcing steel in cracked and uncracked concrete. ICC Approved for Seismic design categories A through F
- **Sure Inject™ J56:** Low viscosity epoxy adhesive for cracked concrete
- **All Weather J51 AW:** Two component all weather epoxy acrylate hybrid gel anchor

14 TILT-WERKS SOFTWARE

Tilt-Werk is standardized cloud-based software package for designing tilt-up buildings and producing precise structural drawings:

BENEFITS

- Concurrently design all panels for projects
- Design a building in hours rather than days
- Automatically generate BIM data
- Instant, accurate tilt-up panel quantities and cost

15 ACCUBRACE® HELICAL GROUND ANCHOR SYSTEM

Helical Ground Anchors are engineered alternative to concrete deadmen and floor slabs:

BENEFITS

- Dayton Superior installs helical ground anchors and rents necessary components
- Rapid, all-weather brace installation
- Anchor location is adaptable — can be installed inside or outside of structure
- Bracing on the outside of wall simplifies structural steel erection especially in multi-story buildings
- Remove and relocate ground anchors if installation of braces requires adjustment



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