

## Magnetic Window/Door Block-Outs

Hamilton Form's window and door block-out system is an easy to use, labor saving alternative to wood block-outs. And they can be customized for your unique production needs.

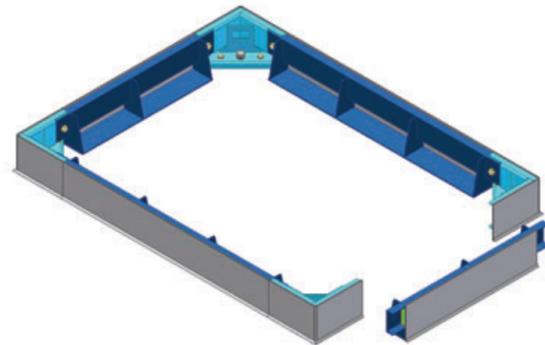
The corners are the corner stone of this highly adjustable system. Steel corners are always accurate and true. They can be made drafted or not. Side sections slide easily into receiving channels at the edge of the corners. Corners are held in place on the form with magnets.

Either steel or wood side sections can be used, depending on the variability required. With steel rails, there are no disposal problems like those encountered with wood, and they'll last for many years. Steel side sections can be made in a variety of lengths for a truly adjustable system and are easily held in place with magnets. Wood sides can also be used and held in place with magnets using a magnetic outrigger system.

If you need a more long lasting, labor saving, durable, better quality block-out system, call on Hamilton Form. We'll design a block-out system for you based on your specific needs.



Corner detail with button magnet.



Any length steel or wood side sections can be used.

### A Time Saver for ATMI

ATMI-Indy began using Hamilton Form's steel magnetic corner system last year to help form block-outs for dock doors. "We switched from using all wood to steel sides and corners. Wood is expensive and needs to be disposed of, so we prefer steel. We get cleaner, better openings with steel and save a tremendous amount of set-up time. Strand passes through the top and bottom and our strand patterns change, so we use still use wood in those area. Overall, I'm very happy with the ease of use and the cost savings that we've attained with the corner block-out system that we use from Hamilton Form," says Bob Ortscheid, General Manager of ATMI.



Magnetic corner system used as a door block-out with steel side sections and wood at the top and bottom held in place with an outrigger magnet.

## Hamilton Form Hosts PCI Productivity Tour



Bill Daily, President of Hamilton Form welcomes the PCI Productivity Tour.



Plant production equipment was on display for the tour. Here a group examines some magnetic rails.

Every year, the PCI organizes a Productivity Tour. The tour visits different areas of the country and producers on the tour graciously open their plants to other producers and share best practices and productivity improvement ideas.

The 2006 tour visited Texas producers and Hamilton Form Company where over 100 producers had a chance to witness the form-making process. Finished forms, and plant production equipment to help improve productivity and quality were on display.



### Taylor Slate

Taylor Slate is the newest member of the team at Hamilton Form. He has a degree in Civil Engineering from the Virginia Military Institute and an MBA from Georgia College. Taylor worked as a plant engineer for Valley Box in Virginia, and later as an engineer for the US Air Force, supervising runway extensions.

He is a pilot and has flown for the Air Force and as a commercial pilot for US Airways.

Taylor and his family relocated from Georgia to the Fort Worth area in September. His wife Yvonne, a native of Wales, and 9 year old daughter Abby, are busy adjusting to life in Texas.

Meanwhile, Taylor is quickly learning the nuances of building forms for the prestressed/precast concrete industry and is a great addition to Hamilton Form.

### Lean Layout

The Hamilton Form facility is laid out in a workflow pattern. Incoming materials are received at one end of the building and flow through the length of the building as they are cut, assembled, finished, then shipped at the other end. Over the years, waste has systematically been eliminated because the layout helps spot waste and unnecessary processes. Experience and constant attention to process improvement has continually increased throughput and led to an extremely efficient organization.

There is a lot more detail to building forms than most our visitors are aware of. At Hamilton Form, we're always willing to take customers through our facility to share our capabilities and discuss how we can most effectively work together.

If you ever find yourself in our area, please don't hesitate to call. We'd be delighted to host a private tour for you.



## Hamilton Form Company, Ltd

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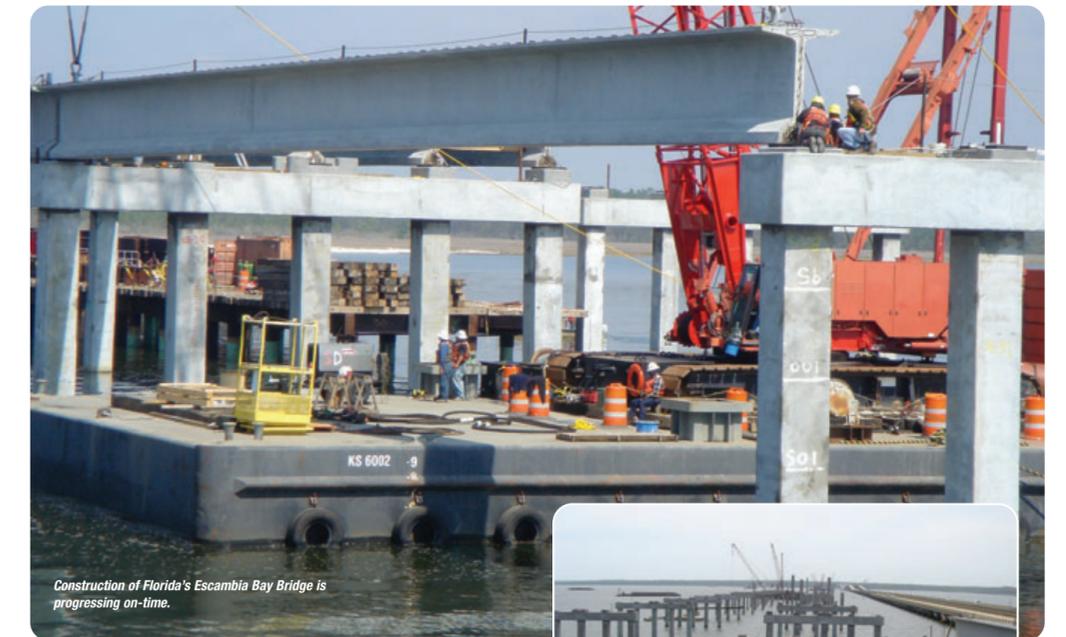


# form+function

News & Information from Hamilton Form Company

### Project Spotlight

## Gulf Coast Pre-Stress, Spanning the Coast



Construction of Florida's Escambia Bay Bridge is progressing on-time.

Precast pier caps are attached to the piles by an on-site cast tension connection.

Although Hurricane Katrina hit more than a year ago, her effects will be felt for a long time to come. No one knows this better than Gulf Coast Pre-Stress. First, its plant suffered major damage from the storm. Within days after the hurricane, Gulf Coast management and staff rolled up their sleeves, started the clean up, and quickly resumed operation.

"It feels like we haven't had time to catch our breath since the hurricane hit," says Don Theobald, Gulf Coast's Vice President of Engineering. That's because in the wake of the hurricane, the rebuilding effort has been going full speed ahead.

Gulf Coast is currently working on four major bridge rebuilding projects; the Florida Department of Transportation's I-10 Escambia Bay Bridge at Pensacola; US-90 St. Louis Bay and Biloxi Bay bridges,

and I-10 Twin Span Bridge over Lake Pontchartrain between New Orleans and Slidell. "We have literally shipped miles of piles," remarks Don, "and we still have a long way to go."

The bridges are being built at a higher elevation to help protect them from even greater storm surges than Katrina's 12-foot surge.

## Project Spotlight (Continued)

### Gulf Coast Pre-Stress, Spanning the Coast

The bridges also incorporate a number of new design elements to increase hurricane resistance. Many of the new requirements present unique engineering challenges in designing the forms to make the precast products. The Escambia Bay Bridge is a good example.

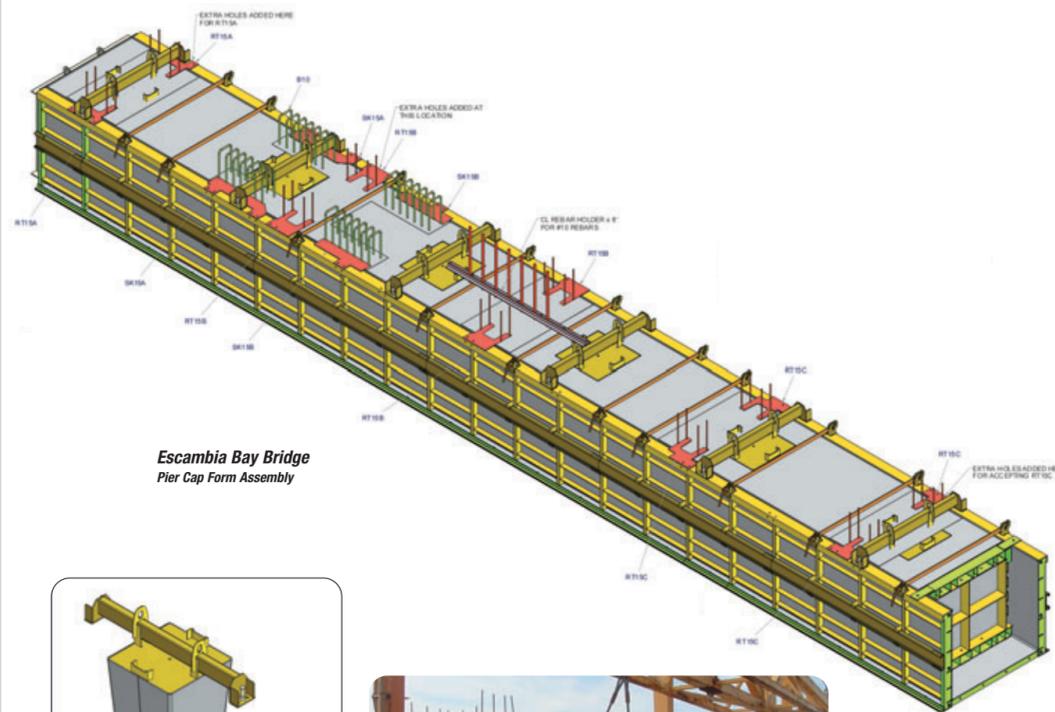
The Escambia Bay Bridge is being built with precast, pre-stressed, BT-78 concrete girders set on precast concrete pier caps supported by 36" square piles. The typical precast caps are approximately 55 feet long, 4 feet deep,

5 feet wide and weigh about 165,000 lbs. (82½ tons). The form for the cap is unique.

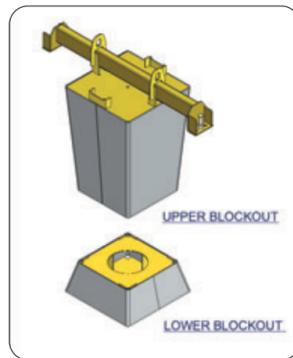
It features a two-piece, tapered, square void, positioned at the supporting pile locations. The two-piece void allows the top section to be "popped" after preset of the concrete to facilitate total removal at stripping. The 36" square support piles are voided, to allow an "on-site" cast tension connection between the pile and the cap. This *moment connection* also resists horizontal and/or vertical movement of the

caps, the supported BT78 girders and the supported deck during future hurricane surge tides.

"The forms are well thought out and worked perfectly," says Don Theobald. "We've benefited from working with a supplier that knows how to build user-friendly forms and knows the bridge business. Hamilton Form has been an instrumental partner in helping us in all of our bridge projects."



Escambia Bay Bridge  
Pier Cap Form Assembly



2-Piece block out with top lifting bar.



The typical pier cap is 55' long and weighs 8½ tons.

## Productivity Place

### Heldenfels: Leadership and the Lean Journey

#### The Process Begins

How does a company begin a lean manufacturing or process improvement process?

We put that question to Gil Heldenfels of Heldenfels Enterprises, one of the plants on the 2006 PCI Productivity Tour. Here's his answer:

"Our lean journey began in 2002. The first thing we did to get started was tour a plant in our area, Butler Manufacturing. Butler had implemented a lean manufacturing process and was showing substantial gains in productivity. They got us excited about the possibilities for our company.

"After a few unsuccessful starts and stops we determined that we needed an outside firm to help get the process started successfully. After carefully evaluating several consultants, we selected one, primarily because we liked their approach. They begin with an assessment, provide initial training, guide the first teams through the initial Kaizen events and then gradually help you reduce your reliance on them, so that the company can continue the process internally.

"The first thing our consultant did was train the management team. We were made fully aware of the resources, support and leadership needed from management to be successful. They recommended that we hire a full time person to head our Continuous Improvement Office. Luckily, we had an internal person that we felt could meet the challenge.

"The management team determined the initial areas of focus for improvement, and identified goals. Four areas for improvement were identified: Safety, Quality, Cost and Delivery. We made the commitment to provide the support and resources needed to support the process.

#### The Kaizen Event

"The first Kaizen event that we held was focused on improving storage utilization. We identified a process improvement team and team leader.



A special room is set aside where the Kaizen teams meet. Teams focus on rapid improvements processes that are quick and crude versus slow and elegant, using creativity before capital.



The first Kaizen event focused on improving the storage area. The team implemented a "supermarket style" storage system, reduced crane movement and labor involved in storing and retrieving materials.

"Our consultant explained the Kaizen process, then, guided us through the event. The Kaizen event was completed in one week:

- Day 1 — Half-day training session to learn the principles of process improvement
- Day 2 — Observation of the current process. Improve the process by eliminating waste, then streamline the remaining processes
- Day 3 — Implement improvements
- Day 4 — Check and fine tune
- Day 5 — Present to management

"Our Kaizen events focus on rapid improvements, that are quick and crude versus slow and elegant, and put creativity before capital.

"Our first event was very encouraging. The team implemented a supermarket style storage system and a grid system in our finished goods storage area. Finished goods were easier to find. They also minimized crane movement. Labor involved in storing and retrieving materials was significantly reduced. The positive results of this initial event helped eliminate much of the

skepticism and apprehension that comes with change. We were on our way.

#### An On-Going Commitment

"The first event provided the momentum to push for further improvement. We looked at one process at a time and implemented a series of rapid Kaizen events to address each one. In one six-month period we were able to increase throughput by 50%, without adding capacity. The following year we were able to improve productivity by 20%.

"The improvements we experienced were dramatic at first, but then leveled off. That leveling off period is when management has to step in to keep the momentum going. For the process to work, management must be supportive and completely dedicated to it.

"Not everything we did was great or by any means perfect, but we have a strong commitment and we keep plugging away. Many of the initial processes that we improved have been revisited and further improved. It's important to remain adaptable and open to change as the process progresses. Remember, process improvement is on-going — it's a journey, not a destination."

## Technically Speaking

### 14 Maintenance Tips to Protect Your Forms

Routine preventive maintenance and inspection of your steel forms is important for long life and continued performance. The following is a checklist that can be used to supplement your form maintenance program.

- 1 First, determine that the form was initially installed properly by reviewing the installation procedures on the form drawings. Frequently a form that is not performing as expected is the result of improper installation.
- 2 Long-line forms should be anchored and fixed at the center of the bed to allow for expansion and contraction in both directions. In general, all forms must be supported and clipped at least at 5 foot center (refer to your form drawings for specifics.) The anchor clips must allow the form to move longitudinally, but at the same time must hold the form in line and also resist uplift forces where necessary.
- 3 Make sure anchor connections are clean and free of any concrete build-up. This is very important, so the form will be able to expand and contract.
- 4 Check that the form is level and straight. Has the form been shimmed as required? Are the shims still in place? Was the form partially prestressed before the longitudinal field joint connections were made? Straighten and level your forms as needed.
- 5 Avoid welding on a form because it could result in distortion of the skin surface.
- 6 Most forms are designed to withstand properly applied external vibration. Periodically inspect vibrator mounts for any cracked welds.

- 7 Never vibrate an empty form.
- 8 Use of a self-stressing form to withstand prestressing forces that exceed the allowable specified capacity can result in destruction of the form and possible injury to personnel. Always refer to the form drawing to verify that the stressing capacity is not being exceeded.
- 9 Always make sure jacking plates bear evenly on the end of the form skin and stiffeners. Do not add new holes or enlarge existing holes to increase stressing capacity without first checking with the engineering department at Hamilton Form.
- 10 Keep the underside of the form clean and check periodically for excessive corrosion of the form understructure. Before any corrosion becomes too severe, the form should be taken up, sand blasted and repainted.
- 11 Keep all casting surfaces clean and free of any concrete build-up. Remove debris with a wire brush or by wiping. Do not let standing water collect on or in the form. (Hamilton Form's CLEANER machines make quick work of keeping your forms clean; call us or go to our website: [www.hamiltonform.com](http://www.hamiltonform.com) for more information.)
- 12 Never sand blast or use a hard disk grinder on the skin surface. Any blasting should be done with walnut shells, corn cobs or similar soft material. Avoid removing the mill scale. It is the natural protective coating on the steel plate.
- 13 On flat casting tables with gravity-type jacking abutments, periodically inspect the anchor bolts and formed channel clips to ensure the abutments and casting table are free to move longitudinally. Check for corrosion at the bolts. Replace bolts if necessary.
- 14 When a form is not in use for an extended period of time a corrosion preventive compound should be applied to all casting surfaces.

## Insulated Concrete Curing Blankets

### Cure Concrete Faster, Save Energy

Hamilton Form's Insulated Concrete Curing Blankets capture the heat of hydration that naturally occurs during curing. Heat helps speed the concrete curing process. At the same time, the blanket covers and protects concrete beds from the elements. And, a blanket should be used to cover beds and reduce energy usage when using steam or heat lines used for accelerated curing.

Our blankets are strong, durable and custom made to fit your needs. A closed cell insulated core is covered with outer layers of an abrasive resistant industrial vinyl fabric. The blanket sections are heat welded together so that there are no seams to leak or unravel. Riveted D-Ring Tie Downs

that won't tear or rip like grommets are used. You won't find a better made, more durable custom blanket.

The easiest way to use our blankets is with a Hamilton Form Tarp Roller/Dispenser Cart. Our carts are designed to be controlled by a single operator, to quickly and efficiently roll and unroll curing tarps and blankets on your beds. When not in use, the tarp roller is perfect for storing your blanket.

Call or e-mail Jonathan Daily;



Using an Insulated Blanket is a simple and inexpensive way to help concrete cure faster, and protect beds from the elements.

Tarp Cart with storage rack for blanket support bows.

[jdaily@hamiltonform.com](mailto:jdaily@hamiltonform.com) / 817 590-2111 to discuss your blanket and cart needs.