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"Building" Customer Satisfaction Through Generations of Teamwork

INSIDE:

**How Molin Ships
to You!**

Project

Gustavus Stadium

**Molin Assists
with Shear Tests
at the University
of Minnesota**

**Molin Receives
"Super Sub"
Award from
Stahl
Construction**



**Gustavus Adolphus Stadium
Saint Peter, MN**

www.molin.com

Molin Concrete assists Daniel P. Jenny Research Fellowship

New Shear Testing for 16" and 20" Hollow Core



ERIK
MOLIN

Hollow core plank has certainly come a long way since its introduction to the world in the 40's and 50's. Technology has allowed designers to do amazing things with precast slabs. Current products, however, are using older theories about how shear is measured on deeper sections. Realizing the need to update these models, PCI granted a 2007 Daniel P. Jenny Research Fellowship to Arturo Schultz of the University of Minnesota, School of Civil Engineering. A new research study titled, "Shear Strength of Deep Hollow-Core Slabs," will test common methods for assessing shear in new products such as 16" and 20" hollow core plank. Because of multiple variables that go in to making hollow core: aggregates, sand, and cement, precasters across the nation will be aiding this project in order to assist with the empirical results. Keith Palmer, who is assisting Dr. Schultz in the testing had this to say: *"Shear in concrete members is an incredibly complicated problem but all the more rewarding to study because of that. Hollow core slabs add additional complications due to the multiple web members, the geometry of the voids, and properties of extruded concrete, which vary from manufacturer to manufacturer. The goal is to figure out how these affect the shear capacity."*

Currently, most structural engineers would

use the ACI method (ACI 318-05) for determining shear for hollow core plank. The challenge lies in that technology has made 16" plank, as well as 20" plank possible- passing by current standards for determining shear capacity. Engineers have found a way of computing shear based on limited testing and by extrapolating from current ACI Code and applying them to the new products. Dr. Schultz hopes to improve on current theoretical models for shear so that they are updated for the new, deeper cross sections that are available to precasters. The end result being a broader and more in-depth knowledge base that designers can use to aid in their precast design.

Note: Although this article discusses extrapolating from current theories about hollow core design, we want to state that engineering professionals- including Molin Concrete Products- use conservative estimations when designing plank- making sure that every precast job is safe and secure for a lifetime.



16" Hollow Core rolls out of Molin's plant

SHIPPING

GETTING FROM HERE TO THERE

The process Molin Concrete Products uses to ship our products is very step oriented. First, when we receive the approved shop drawings back from the customer, our drafting department gives them a final overlook. Copies of the drawings are then sent to the shipping department and another is given to one of our field superintendents.

Once our field superintendent receives the final drawings they can travel to the job site to check access for cranes and delivery trucks, measure out the job to confirm product placement, check road restrictions, and clarify which trades are working while we will be on-site. From this preliminary information, the field sup determines crane size and the directions in which we will be installing the product. The weight of the product plays an important role in which size crane we need, and how the crane will be placed for optimal safety. Once this information is communicated and clarified between the contractor and the field superintendent, it is routed to our shipping department. When Molin supplies "material only" to the job, this information comes from the customer or erector on site.

All of the necessary information is now in the shipping office. Our shipping office assistant then "marks up" the print. This means the print is divided into loads for shipping and erecting purposes. Loads are divided up so that they do not exceed legal limits. A load can consist (Continued on Page 4)



Hollow Core being loaded in one of our gantry bays

PROJECT HIGHLIGHT
GUSTAVUS ADOLPHUS STADIUM



**BEN
MOLIN**

Precast concrete stadia seating is used in virtually every stadium and indoor arena across the country. This is due to the key benefits it provides over other building materials. Those key benefits include speed of construction and all-weather installation. With that being stated, there was little doubt for the Gustavus Board of Directors when they chose the same route for their stadium project. In June of 2006, they gave the go-ahead for the college's new football stadium to be built. Exactly one year later, Molin Concrete Products joined Gosewisch Construction and began installing precast components. Having completed seven considerable stadia jobs to date, Molin has become efficient in designing, manufacturing, and installing quality-building components for a variety of sporting event facilities. Molin Concrete provided the precast raker beams, stadia, spandrels, and the installation services needed to bring them all together. This turnkey approach streamlined the design, manufacturing, and installation of the project.

Once the raker beams are set in place, they become the building block that supports the precast stadia. The stadia pieces provide the surface for the spectators seating. Once the raker beams and stadia are in place, the spandrels are then fastened on the sides and back of the seating area, adding additional solid structure to the facility. There were 102 pieces of stadia, 8 raker beams, and 15 spandrels made for installing that totaled over 2,000 lineal feet of precast. In addition, Molin manufactured and supplied 2,700 square feet of hollow core plank for the grandstand of the stadium. The stadium also called for an architectural precast scoreboard. American ArtStone proved to be a great partner for Molin when producing this structure. With this partnership, Molin Concrete covers both the structural and architectural ends of the precast spectrum. This is another example of Molin as a full service provider that has become proficient with their stadium solutions. Whether it is an ice arena, speedway, or college football stadium, Molin has the capabilities to make any sporting event facility come to life off the drawing board.

Architect: TKDA
Engineer: TKDA
GC: Gosewisch Construction
Owner: Gustavus Adolphus College

Product:
8" Hollow Core: 2,704 Sq. Ft
Structural Wall Panels: 814 Sq. Ft.
Raker Beams: 398 L.F.

Product:
Stadia: 1,991 L.F. (102 pcs.)
Steps: 52 pcs.
Architectural Scoreboard by American Artstone



NAHB TRAIN THE TRAINER
BOB CLAUSON

Bob Clauson recently attended the NAHB Train the Trainer program. With this new knowledge Bob will be able to give NAHB certified classes. Congratulations Bob!



STAHL CONSTRUCTION
MOLIN IS A SUPER SUB!

Molin was recently awarded the Super Sub award from Stahl Construction. The award was presented to Paul Kourajian during an open house event with Stahl. Molin looks forward to many more years of working with Stahl Construction!

TOURS/EVENTS
SCHEDULE YOURS NOW

Call Molin to schedule a lunch box presentation or plant tour today! 651-786-7722!

SHIPPING

(Continued from Page 2) of any amount of pieces depending on the size, weight, and length of the product. If a piece is oddly shaped or are special pieces that cannot be stacked, then we may have to ship lighter loads in order to prevent damage while being transported. Once the job is divided into loads, a copy of this is given to our yard personnel. If the product is not yet produced, our production scheduler can use this information to determine what loads need to be produced next for the job to run efficiently. A couple of days before the job is scheduled to be delivered, the loaders will locate all of the pieces in the yard and set them up according to their load lists. Loads will not always be loaded in the exact order of when the pieces are needed. In this case, the pieces not needed at the moment, but fit the load, will be set on the ground at the job site until they are needed. This way we can cut down on loads sent to the job site. This process is used daily by Molin to make sure that every load arrives to the job site safely and on-time!



Approved Drawings Received

Site Conditions Checked

Project Sequencing Determined

Product Shipped

Fax Back Information Form

For more information,
Fax this form to (651) 786-0229

- Hollow Core Plank
- Foundation Wall Panels
- Structural Wall Panels
- Prestressed Beams/Columns
- Prestressed Stadia
- Residential

Please have a representative call me:

- I have immediate needs.
- Please call in _____ months.
- Interested in having a lunch box seminar.
- Interested in having a plant tour.

If you know of someone who should be added as a newsletter recipient, or taken off the list, please let us know.

Name: _____
 Company: _____
 Address _____
 City: _____ State: _____ Zip _____
 Comment: _____

Your wish is our command with our fax back form!

If you're looking for product information, want to schedule a plant tour or box lunch, need an address/company change, need to add or delete someone as a newsletter recipient, change your e-mail address, or wish to be notified of our newsletter via e-mail, please fill out the appropriate information on this page and fax it to us. Thanks



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