

First Mike Award

The Evolution of the Mike Award

Most architects didn't enter architecture school filled with dreams of designing warehouses, industrial facilities and power plants. Most had dreams of working on high profile projects such as bank lobbies, shopping centers, office buildings, churches and courthouses. Why would anyone want to spend their high dollar education and well-honed talents designing caged steel ladders and corrugated metal sheds? For the time being, let's just say that I appreciate the beauty and honesty of simple materials used effectively, and as is often the case with industrial facilities, just a little bit of creativity can go a long way.

That is why I have developed the "Mike", an award that is to be given to projects that I feel are examples of how adding a little creativity and detailing to common industrial materials and methods can transform what might have been a mundane box into a positive addition to the built community. It's meant for structures such as the two I am about to mention. Two shining examples of how a little spit-and-polish can make even the most rudimentary of buildings winners of the coveted "Mike".



Super Target
 Architect: Target Property Development
 Structural Engineering: Needham and Associates: Tilt-Up Consultant

If you look at the Super Target building in Lee's Summit, Missouri, you'll notice it utilizes concrete tilt-up construction for the exterior wall. Tilt-up construction is often utilized in warehouses and factories. This system features hard-surface exterior walls,



is quite cost effective and even maintains scheduling advantages over masonry construction. By placing thin brick faces in the form before casting the walls, an architect is able to achieve a masonry look for the tilt-up panels. By using a curved casting bed, he is able to construct a curved wall, something not often seen in tilt-up buildings. The long sweeping curve adds a subtle but powerful focus to the main façade of the building. As in the case with the Super Target building, by utilizing some creative techniques and paying careful attention to the details, this architect was able to use a fast and relatively inexpensive construction system on an upscale retail facility.



Rexam Closures Plant
 Architect: Construction Management Revision LLC,
 Structural Engineer: Newline and Associates

Like the Super Target store, mentioned above, the Rexam Closures plant in Madisonville, Kentucky, along with the attached office building, also utilizes tilt-up concrete panels for the exterior walls. For this facility, the architect selected windows with a narrow jamb profile, allowing him to place opaque glass in front of the structural portion of the panel, effectively forming a band of "ribbon" windows not otherwise possible with tilt-up construction. The careful coordination of the locations of the panel reveal strips in the offices and the plant, and the use of dark paint for the strips in the plant, helped to achieve a distinctive and attractive look. The view of the facility from the highway located in the front of the building is quite striking.



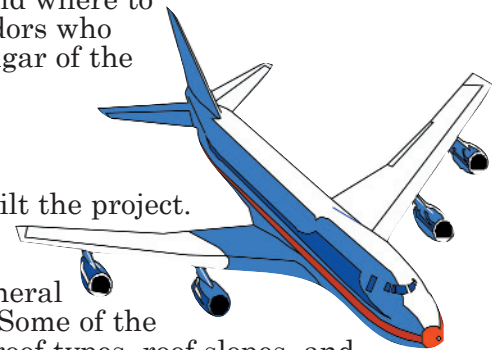
So for this month, those are my two award winners: the Super Target and the Rexam Closures plant. Keep up the creative work, and check back in future months for other structures that are fortunate enough to be welcomed into the elite circle as winners of the "Mike".
 mschuetz@needhamassoc.com



Part I: Aircraft Hangars: The Conceptual Design and Selection Process

The first thing an Owner needs to know about aircraft hangars, is how and where to find experienced and qualified design professionals, contractors, and vendors who can really tell you about costs, schedule, and what make a functional hangar of the quality you are expecting. Begin by visiting existing facilities—

- Select the arrangement and architectural style of facility you like.
- Make note of what you like, do not like, or would do differently.
- Talk to the Owner to learn cost, problems, and who designed & built the project.
- Get information on a realistic budget and schedule.



What will you find when you visit facilities and study hangars? It is a general fact that every hangar is different, unique, and one of a kind, every time. Some of the different variables are architectural and structural styles, door systems, roof types, roof slopes, and more. These main features you can observe. What will not be so obvious is the next set of facts. One, the wheel is re-invented on every new hangar design. There will always be a different Architect, arrangement, style, structure, and door system. Second, all of the design, coordination, construction issues, and problems are repeated again. These facts you will not directly observe; but, you will pay for them in some fashion. Why is every hangar building quite different when the aircraft model size remains constant? At Needham, we have been working on structural standardization.

How does an Owner begin the selection process? The best advice is to talk to designers and builders who have built several hangars of the size required for the given aircraft model. On very large facilities, you will need an Architectural/Engineering firm. They can best advise you on architectural and structural styles, cost, schedules, and how to proceed in the process. We recommend that you select the “design-build” type team approach comprising the A/E firm and general contractor. We emphasize selection of teams, where all team members have experience in the process, whether professional designers, contractors, or vendors.

jbreitenbach@needhamassoc.com

Part II in next newsletter.

Updates on OSHA Safety Standards for Open Web Joists and Girders

An important note on our OSHA information appearing in the April/May Newsletter.

Below is the information that appeared in the previous newsletter.

“I have received your bulletin for some time and always appreciate and enjoy the information that it contains. The April/May edition contains a section on the new OSHA regulations pertaining to steel joint strength requirement and is correct as stated. However, it is important to note that joist manufactures are NOT required to meet this regulation until July 18 of 2003. The extension was granted to the joist industry by OSHA pending the outcome of ongoing research at Bucknell University. (Refer to OSHA Directive Number CPL 2-1.34, Question #3 for specifics) The purpose of the Bucknell research is to develop design methodology and equations to be used to design to column joists.”

*Cary M. Andrews, PE
Socar, Incorporated
Chairman—Erections Standards Committee
Steel Joint Institute*

- All Connections must be bolted for spans over 40 feet.
- Previous OSHA rules for all bolted bridging have been rescinded (However, this standard is enforced on a local basis by other code authorities.)
- Must extend bottom chord at all columns onto knife plate (must be an erection home in the plate).
- Joists at Columns must be designed for a 300-pound load (man) in a fully unbraced (no lines installed) condition.

