



Corrugated webs make metal buildings fashionable

It often surprises me how different and remote observations and ideas sometimes spanning years and subject matter can collectively coalesce when you least expect.

In my youth, I remember vividly watching the Andy Griffith show and hearing Sheriff Andy Taylor frequently exclaim, “outstandin’!” with his touch of southern drawl. One episode that comes to mind was when Floyd the Barber was remarking to Sheriff Andy and Deputy Barney Fife with awe and amazement that he had just had a customer who had wanted “a haircut that didn’t look like he’d gotten a haircut.”

Similarly, years later as a metal building systems design engineer, I had a request from a client with a limited budget who wanted “a metal building that didn’t look like a metal building.” The term “tin shed” and phrases like “they all look like barns” kept coming up in our conversation. He was looking for the functional and economical features of a metal building system but at the same time he (and in particular, his wife) wanted a building with more aesthetically pleasing features typically available from more conventional building construction. After much discussion and brainstorming, all the while keeping in mind the limited budget, the client opted for an alternative exterior finish (brick veneer). Then we really stepped out of the metal building box and decided on a quasi single-sloped roof that was “curved!” It wasn’t much of a curve but with it we were able to attain the client’s goal of function, while satisfying his wife’s expectation of fashion. I heard a catch phrase recently that would have encapsulated this perfectly: “The function you need with the look you want!”

Later in my career, I was approached by an architect whose client was planning a park-


ing cover at an airport and wanted the roof of the cover to look like an airplane wing. Much like the previously described client, this client too was looking for function and fashion. In both cases, the roof curvature was accomplished by using typical straight metal building rafters but with varied height purlin clips to simulate the effect of a curved roof. Conventional through-fastened painted roof panels were utilized in both cases. The clients were pleased with the end results. They had indeed gotten the function they needed with the look they wanted. However, despite the fact that they were pleased with the exterior look, in each case they expressed some dissatisfaction with the interior appearance. Particularly noticeable was the “waviness” of the webs of the metal building frames—what we all typically refer to as “oil-canning.”

Today, many years later, clients are still looking for that “Wow!” factor. They want economically functional buildings that are also fashionable. They still want curved roofs and more attractive interior appearances. Innovative thinkers have responded with creative techniques to deliver on these wants. One unique approach that is available today would have addressed both of the dissatisfactions expressed by my former clients. This approach utilizes metal building framing with corrugated webs in lieu of conventional flat plate webs. The corrugations act like stiffeners resulting in the use of thinner web material which retains the economies of built-up structural members. At the same time, oil-canning is virtually eliminated due to the rigidity effectively induced by the corrugation bends.

Corrugated webs have another unique feature: they can be made to act like an

accordion and be manipulated to take the shape of a true curve. This innovative component eliminates the need for graduated height purlin clips and yields a more “finished” appearance. Finished projects and even projects in process often get the “wow, look at that!” reaction.

Other benefits to this innovative methodology include the full use of the metal building systems approach. Clients are still able to maximize enclosed space by utilizing light-gauge secondary framing materials and shapes. Metal standing-seam roofs are available today that can be curved to match the radius of the curved rafters to be able to take advantage of their advanced weather-tightness capabilities. The uniqueness and attractiveness of the primary framing members, especially if completed with a bright finish, can supplement cost savings by incorporating exposed framing as part of the interior design. Alternative exterior finishes and construction materials can still be utilized if desired or required by clients’ preferences and/or zoning requirements.

This innovative use of corrugated webs can provide unique opportunities for builders and architects whose clients are looking to add that little bit of extra “sizzle to their steak.” They can, in fact, get the function they need with the look they want. As Sheriff Andy Taylor would have said, “That’s outstandin’!” 

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Outside the Box

Metal buildings have endless possibilities



Have you ever watched the face of your potential customers change from a smile to a grimace at the mere mention of a metal building as a possibility for their new project? As soon as you mentioned the word “metal,” you singlehandedly caused their vision of a beautiful building to plummet to a plain box with simple colored metal panels for the walls and roof. Oftentimes, this is because the end user is not well versed on the versatility of metal building construction.

As you well know, metal buildings have evolved dramatically over the years. Instead of a standard box with metal panels, metal buildings are now disguised with more traditional construction materials such as wood, brick, stone, concrete and glass, which are harmoniously combined with the steel structure, thus creating an endless possibility of design options for the end user. Whether the owner desires to have a breathtaking attention grabber or a chameleon in their community, a hybrid metal building system will meet his every need.

So how do you meet the objections to a metal building system when meeting with your customer?

Regardless of the application, A&S Building Systems in Caryville, Tenn., believes that metal buildings provide the greatest design flexibility, allowing you to create an impressive looking structure without having to sacrifice the functionality, energy efficiency, or economic benefits afforded to you through the use of a custom designed metal building system. To create this sense of freedom, there are four key benefits that the end user should know:

- **The sky is the limit.** If you can imagine it, a metal building system could make it possible. Think of your metal building system as just the infrastructure. There are infinite possibilities as

how to best customize your project. However, it is important to involve the manufacturer early in the process so that they can help you with every aspect of your project.

- **Metal building systems provide unparalleled long-term functionality when compared to traditional types of construction.** They are designed to be fire resistant, capable of withstanding the harshest of elements, and are less affected by insect infestation. If you live in an area afflicted by heavy snows, earthquakes or hurricanes, a metal building will ensure that your investments are protected. This is important to owners, particularly those making long-term investments.

- **Metal building systems offer cost savings not provided by traditional construction such as speed of construction, lower in place costs, lower building maintenance costs, and lower heating and cooling costs.** In these competitive times, owners are interested in solutions that provide immediate cost benefits as well as long-term savings. Work with your manufacturer to help understand how their system meets these needs.

- **Metal buildings systems are inherently designed to promote building green.** The most recent developments in the metal building industry are focused on energy efficiency and sustainability. Furthermore, they will reduce your operating costs and enhance the value of your assets and overall profits, including the building itself. Some of these developments include:

- **Insulated Metal Panels (IMPs):** These are perfect for green building construction projects. Comprising of two single-skin metal panels and a foamed-in-place core, IMPs can provide R-values (a measure of thermal resistance, the higher they are, the better the

insulator) that surpass those of competitive materials. IMP benefits include:

- Reduction in energy consumption
- Improved internal air quality when properly used with heating and cooling systems
- Minimum maintenance required over the building’s life span
- Meeting requirements set by ASHRAE
- Opportunities to be closed in sooner, allowing for shorter assembly times
- Aesthetically pleasing appeal

- **Standing-seam Roofs:** Metal provides a wide variety of standard and custom colors, many of which excel in solar reflectivity values for cool roof ratings. These products allow the insulation to sit into a space between the panel and the frame, increasing the effective R-Value and improving the system performance, while providing a high degree of weather-tightness to guard against leakage. When investing in a standing-seam roof, it is important to partner with a manufacturer that is backed by engineering support to ensure that the roof is right for the building. Other talking points to share with building owners are:

- According to the American Iron and Steel Institute, metal roofs that are properly installed last between 40 and 60 years and require significantly less maintenance than other materials.
- If your customer is expanding their facilities and have roof problems resulting in leaks, high maintenance costs, low energy efficiency, or they need to meet new wind uplift requirements, retrofitting a roof with metal may be the best answer.
- Metal roofs can be totally recycled and can usually be installed right over an existing roof, keeping materials out of landfills and saving natural resources. According to a 2007 Corps

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of Engineers study covering last 40 years, 7 to 10 percent of landfill space is occupied by obsolete roofing material.

- This structural addition will extend the lifecycle of your building and, when combined with a color that is selected with energy efficiency in mind, should improve energy efficiency.

Cool Roof Colors: When utilized with an appropriate roofing slope, the specific color palette can reduce energy consumption and help prevent the occurrence of heat islands where they are a problem.

Weight Efficient Design: This trend has resulted in the use of fewer natural resources because the design engineering software enables the buildings to be custom designed and engineered faster and more efficient, with less material waste.

The most important thing to remember when speaking to a customer sold on traditional construction is that they have to think outside of the box. Traditional construction can put limitations on your customer's project that metal buildings do not. 

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Vicwest Opens New Multi-function Facility



Canadian manufacturer opens facility in Delta, B.C. that will also include a product showroom, design center and Vicwest University

The Canadian metal construction market appears to have weathered the economic storm of the past couple years much better than its United States equivalent as new construction numbers remain strong and retrofit gains momentum.

Vicwest, a leading Canadian manufacturer of exterior building products for more than 100 years, is looking to capitalize on the strength of that market by expanding its manufacturing base with the opening of its newest facility in Delta, British Columbia, Canada.

The new 91,400-square-foot (8,491 m²) operation opened its doors August 4, 2010, and is a consolidation of the company's former Delta and Surrey, B.C., plants into a single state-of-the-art facility. Employing 62 permanent staff, the new facility is 50 percent larger than the three older plants combined and is equipped to produce and house profiles to service the Western Canadian and Pacific Northwest markets.

"The opening of this state-of-the-art operation is a fresh, innovative approach to business that gives the company the opportunity to better service our construction communities and positions the company for growth as the Western economies continue to strengthen," said Emile Mabro, Vicwest's vice president and general manager. "Through a single operation we will have one shipping location to allow customers to assemble complete orders to suit all of their product needs at a single time, a single customer support group to increase order visibility and transparency