The Benefits of Metal Buildings

By Bob Zabcik, Director of Research and Development for NCI Group

Overcoming misperceptions about metal buildings and focusing on their superior advantages

Metal buildings, in and of themselves, are nothing new to the construction industry. But the variety of custom-designed metal buildings available on the market today is definitely worth a second look for owners and developers. Unfortunately, many people are unaware of the exceptional benefits a steel solution can provide. That is why it is important to focus on marketing messages that provide compelling reasons to overcome misperceptions about metal buildings and focus on the superior advantages they can provide.

Though the history of metal buildings is one that began in the military and agriculture industry - with a primary function of shade and shelter - today’s pre-engineered designed structures have so much more to offer. Premium products and adaptable materials allow these buildings to easily meet energy efficiency and code requirements. Customizable finishes give architects endless options for the aesthetics of the project. Early stage coordination with architectural and structural design teams, combined with proactive project management and adaptable materials and products, ensure compressed construction schedules.

The metal building industry has evolved and today leads the charge in providing on-time, on-budget, eye-catching projects for its customers. For owners or developers hesitant about metal buildings, there are numerous benefits they can be shown that would positively impact the form and function of their project and, ultimately, add value to the bottom line.

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When a custom metal building solution is chosen for a job and managed proactively, it can greatly increase the project’s speed to market. When owners encourage collaboration between the design team, the contractor and the manufacturer, the construction schedule can be condensed even further. Metal buildings also have shorter construction durations because of their ability to be erected in less-than-ideal weather conditions. Pre-applied textured finishes create a one-step installation process and eliminate multiple pass applications such as those required with field-applied finishes like EIFS or brick veneers. In conventional construction (brick, block, EIFS, etc.), the weather has a more direct impact on the duration of the project, as installers must rely on ideal conditions in order to proceed with each step of the construction process.

With ever-changing energy codes becoming more stringent with each new release, it is important to continue making improvements to products with energy efficiency in mind. Insulated wall and roof panels play a key role in making metal buildings among the most energy-efficient options available by offering R-values as high as R-42. These insulation values not only meet today’s building energy efficiency code requirements, they also provide lifelong energy savings for building owners by reducing external HVAC equipment loads. For these reasons, insulated metal panels (IMPs) are becoming more and more prevalent across the industry and are projected to continue to gain popularity in coming years.

For those applications where IMPs may not be the best alternative, many manufacturers have developed high R-value standing seam roof systems. These systems use clips that enable single-skin standing seam roof panels to accommodate up to 12-inch blanket insulation (R-30) over the supporting roof members with less compression than traditional clips. This is just another example of innovative metal building manufacturers adapting to ever-evolving energy requirements and providing cost-effective solutions for building owners.

Another recent addition to the industry are fire rated panels, similar to foam IMPs, but with a mineral wool core. These panels offer one-, two- and three-hour fire ratings with about half of the R-value of foam panels. They can be utilized in either exterior or interior applications where an owner desires, or codes require, fire-rated walls.

Metal building systems no longer have to look like old school metal buildings. The industry has evolved to provide owners with custom colors, textured finishes and embossing to allow companies to design and brand a building’s shell from top to bottom. Other options like horizontal profiled panels, concealed fasteners and factory-formed corners give buildings a unique aesthetic appeal. The myriad of options available give architects and designers the freedom to be creative and still utilize a single-source supplier for simplicity and efficiency.

It’s an exciting time for the metal building industry. With custom-designed buildings and essentially endless panel options and finishes, contractors can create solutions which will meet nearly any energy efficiency or aesthetic requirement while still offering cost savings, consistency and speed-to-market advantages over conventional construction methods. Today’s challenge is demonstrating to the public that what steel building manufacturers have to offer is leaps and bounds above the old idea of “your grandfather’s metal building.”