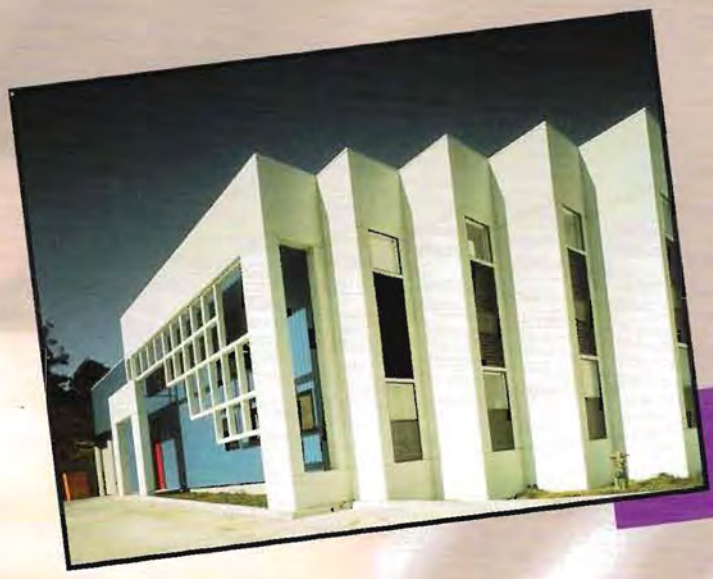
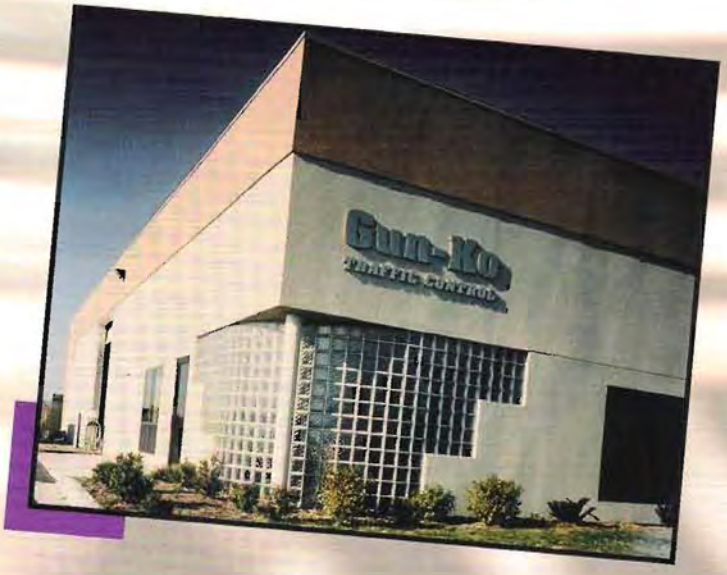
Solutions

Commercial Buildings





Metal Building Manufacturers Association

Applications

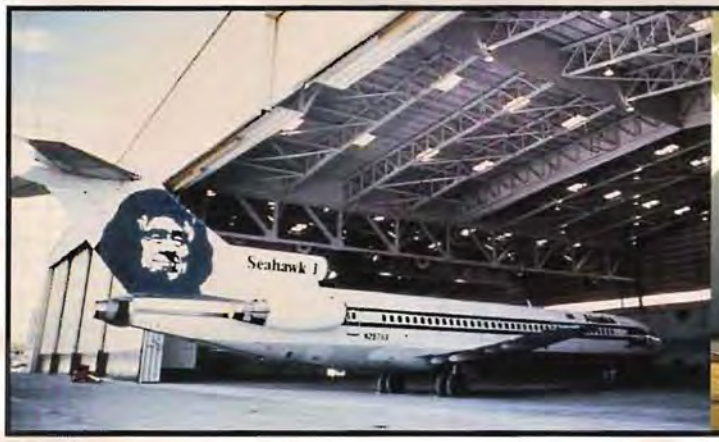
- Office Buildings
- Retail/Shopping Centers
- Distribution Centers
- Auto Dealerships
- Banks
- Warehouses
- Aircraft Hangars
- Mini-Storage Facilities
- Telecommunications Facilities

Tomorrow's Technology Today

Today's metal building systems rely on state-of-the-art technology that produces advanced designs and offers customers the many outstanding benefits of systems construction.

Ideal for a variety of one- and two-story commercial applications, metal building systems provide cost efficiencies and predictability, as well as speedy construction times. Other advantages include design flexibility, energy efficiency and outstanding aesthetics.

The metal building systems concept also enables the design professional to concentrate on improving both the structure's form and function. Similarly, the integration of computers in the design process has spawned an exciting new world of design possibilities . . . one where architects are limited only by their imagination and creativity.

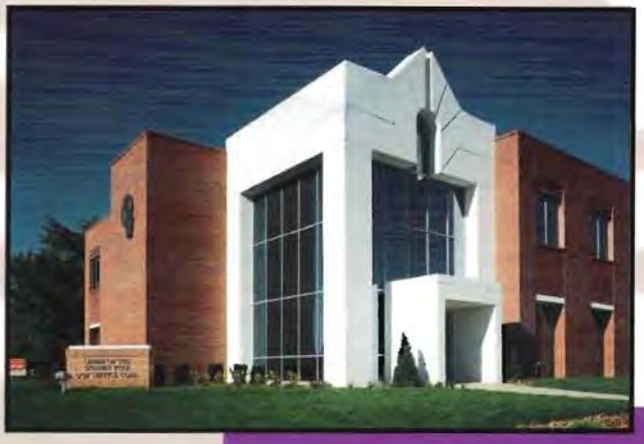


The current generation of metal building systems features a multitude of sizes, shapes and forms — from basic to advanced. In many cases, their outward appearance is indistinguishable from other types of buildings. The only significant differences lie in the methods and economies of metal building systems design, manufacture, construction and long-term performance.

Metal Building Systems Method

A metal building consists of an integrated, computer-designed, factory-fabricated structural, roof and exterior wall system that is produced by the manufacturer. Each project is customized to meet the specific requirements of the designer and building owner. Use of in-plant technology and production processes also reduces on-site labor demands.

Once the building system is manufactured, it is shipped to the jobsite ready for assembly and erection by an authorized independent local builder/contractor. This method assures single-source responsibility and prompt product delivery.



The builder usually acts as the general contractor, providing complete construction services.

Custom Engineering

Metal building systems adapt well to many different commercial environments — from office buildings, shopping centers and banks to warehouses and aircraft hangars. The metal building systems approach enables each commercial structure to be individually engineered and designed to meet both the building owner's requirements and specified local building codes.

In warehouses, distribution centers and showrooms, the metal building system's wide, clear spans offer uninterrupted space and high eave heights. Metal building systems also minimize the use of columns . . . while still meeting the needs for rack storage, conveyor belts, crane systems, mezzanines for office areas or additional storage. When large expanses are needed, long-bay systems can be designed with columns spaced far apart. The interior space in a metal building system can be finished or unfinished, depending on how the facility will be used.

In shopping centers, a metal building system can be designed with column-free interiors. Or the columns can be located in walls separating the various shopping areas. In either case, building owners gain maximum usable space and operating efficiency.

Other Benefits

Most metal building systems are constructed more economically than other types of structures. They typically require only about two-thirds the construction time of a conventional building. Major cost savings and faster and firmer construction timetables are the result.

Energy savings is especially critical in the design and construction of today's commercial buildings, which typically have high demand levels for lighting, heating and cooling. Metal building

systems accommodate high thermal efficiency requirements and are designed to meet the most stringent energy codes, as well as those for wind, snow and seismic conditions.

Maximum Flexibility

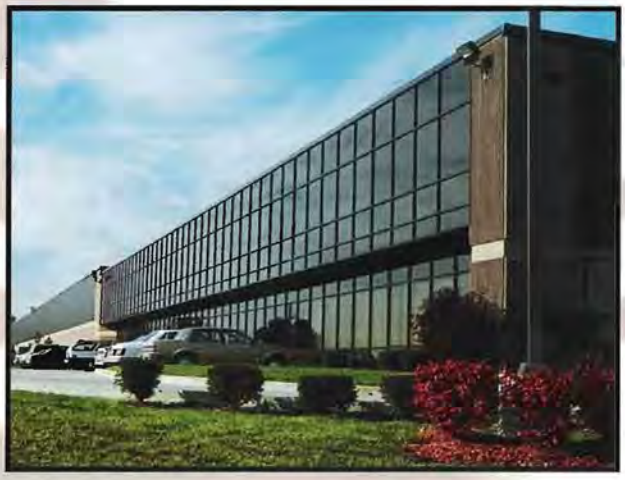
The flexibility inherent in metal building systems construction is another key to their success. Most metal building systems are custom-engineered to meet the building owner's specific space and end use requirements. Architects can easily employ twists and turns, as well as other creative utilizations of space.

This flexibility reduces the time and inconvenience typically required to expand or add to existing traditional construction. It also reduces the costs of an expansion project. Commercial facilities can be enlarged simply by removing one or more walls, erecting new framework, and adding matching wall and roof covers. The original wall panels can often be reused.

Computer Design

The computer is the primary design tool in metal building systems design. A structural design can be rendered in a matter of hours rather than weeks, as is often the case with conventional buildings. Metal building systems use standard engineered sections for design and fabrication, which permits quick delivery of the building project to the jobsite — and immediate erection of the structure.

Among the building elements that are systemized and integrated are the structure itself, ceiling systems, roof panels, exterior walls, fascia and soffit systems, window and wall systems, doors and frames, insulation and various trim systems.

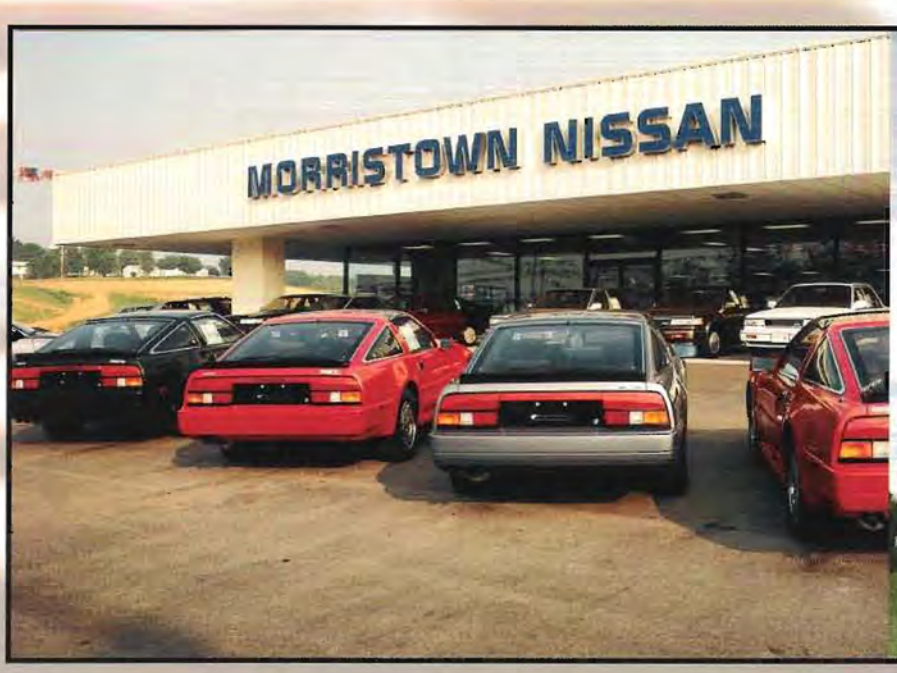


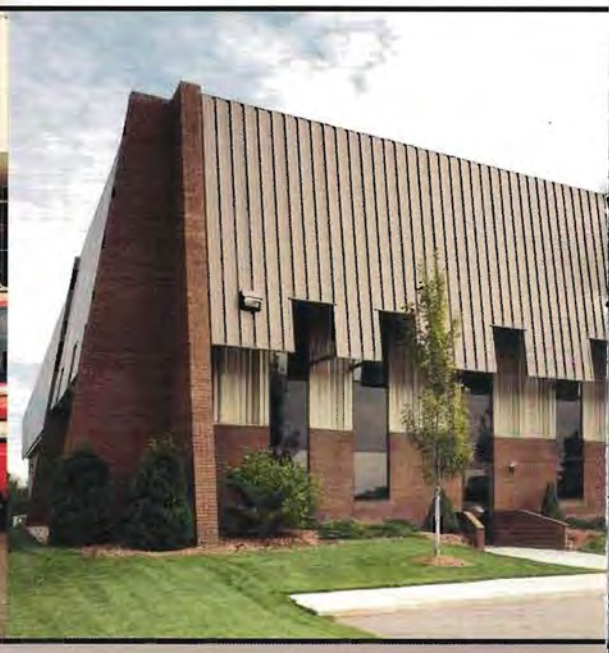
Standing Seam Roof

The standing seam metal roof generally used with a metal building is a weathertight roof system. It accommodates expansion and contraction, and has few structural fasteners. The roof can be designed with a low slope . . . or be highly visible with a steep slope to add distinctive aesthetic appeal to the building. The standing seam roof panel can also be used for mansards, fasciae and similar applications.

Structural standing seam roofs rely on a unique fastening system that permits the roof plane to expand and contract during extreme temperature changes, maintaining its weathertightness. The standing seam roof's light weight and durability also make it an excellent retrofit option.

When installed over an existing roof, a standing seam metal roof can often be applied with minimal structural modifications to the existing building. Life-cycle cost studies confirm that standing seam metal roofs are among the most cost-effective systems available.

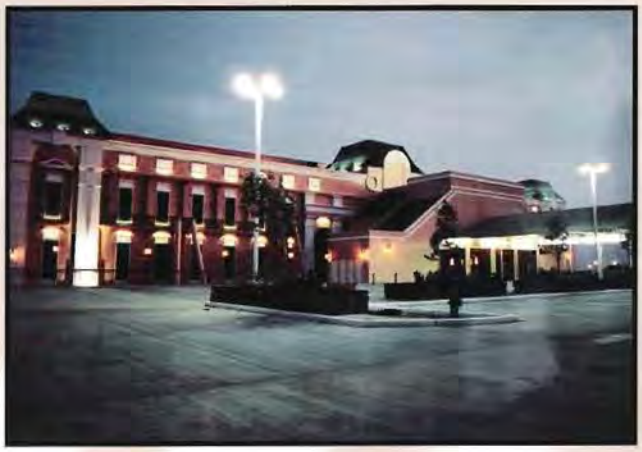




Exterior Material Choices

Wall panels designed with attractive profiles, curves, textures and colors are readily available. These alternative wall systems also allow a smooth visual transition between office areas and manufacturing or warehouse areas. The steel is protected by other metals or metallic alloys, or treated with silicon polyesters, fluoropolymers or other coatings that resist peeling, chipping, chalking and fading.

Metal building systems are designed to incorporate non-load-bearing wall systems. This permits the structure to be integrated with exterior cladding materials that provide a pleasing exterior compatible with the surrounding environment. The choice of materials includes precast concrete, brick, stone, wood and glass.



Metal building systems continue to evolve as the dominant method of low rise, non-residential construction. Whether the building owner requires a small, utilitarian structure or a large, complex facility, a metal building system can provide the solution . . . quickly, economically and attractively.

Certification Program

Metal building systems manufacturers displaying the AISC Category MB logo are now covered by a comprehensive Quality Certification program developed by the prestigious American Institute of Steel Construction (AISC).

These are just some of the benefits that owners, architects, specifiers and building code officials achieve through this extensive program:

- Certified manufacturers have undergone rigorous third-party examination of their professional engineering and manufacturing policies, procedures and practices.
- Quality assurance standards and controls have been found to meet the requirements established in the certification program.
- Annual on-site audits ensure continued compliance with the program requirements.
- Certified manufacturers have proved under the program that they can meet the public safety requirements imposed by the applicable building codes because their basic design and quality assurance procedures and practices used to produce metal building systems meet the needs of predictable structural integrity and quality.

This program also enables local, national and international code groups to utilize an already established and nationally recognized certification agency to verify compliance with their standards.

The AISC Category MB logo verifies that the metal building systems manufacturer has met rigorous quality certification standards.

CERTIFIED
CATEGORY MB

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