

METAL CEILINGS IN REVIEW



The above installation features 6 inches wide Vista panels with flush filler strips. The panels are perforated providing a more acoustically pleasing interior.

Metal ceiling systems are designed for a variety of commercial, institutional and retail projects in both interior as well as exterior applications. Dozens of options are available: linear metal beams, open cell systems, dimensional baffles, durable metal panels, wood veneers, decoratively stamped metal panels and much more.

Their long-lasting good looks and low maintenance characteristics have earned metal ceilings a reputation for outstanding durability in high-traffic areas such as airports, hotels, schools and shopping malls. Metal ceilings contain no fibers to create dust or dirt, which makes them ideal for clean-room environments such as high-tech labs, electronic equipment rooms and specialized interior health-care facilities. Most metal ceilings are also designed to provide easy plenum access.

Steel and aluminum are the primary materials for today's all-metal ceilings. Metal ceiling panels may be offered in several thicknesses, depending on the proposed application. Perforations in many instances are available in metal systems to provide increased acoustical performance in especially busy interiors. Perforated panel options may include a choice of perforation patterns as well as a choice of perforation sizes. A wide selection of metal ceiling options is perhaps the best assurance that a specifier will obtain a system with the proper features to ideally satisfy the requirements of a particular application.

Metal ceilings can conceivably come in an unlimited variety of colors and finishes directly from the manufacturer. This was not the case a few years ago when most metal ceiling manufacturers offered only a smattering of colors. Today it is not uncommon for a manufacturer

to offer nearly 100 or more colors, such as natural earth tones, pastels, bright primary and secondary color, as well as reflective. Reflective colors are available typically either in a brushed or brightly polished chrome, brass or copper. Metal ceiling colors are often prematched to complement the variety of colors now being offered by fabric, carpeting, decorative laminate, furniture and other interior product manufacturers. Custom color matching is also available.

Parallel Beam Ceilings

Parallel beam ceilings create a planked ceiling appearance with standard beams available in 4-inch, 6-inch and 8-inch widths. Parallel beams are available in a 12-foot standard length as well as in unlimited custom lengths. The beams themselves may have either a square edge or a slightly rounded edge profile. Typically, the beams are made of aluminum and are suited for high moisture or exterior applications. Steel beams that offer greater strength and significant cost economies for interior applications are also available.

The best engineered parallel beam systems offer simple and straightforward installation with a minimum number of components. Fully integrated systems include their own distinctive lighting and air handling fixtures, as well as a choice of acoustical materials and other accessories such as end caps, beam splices and filler strips. Equally important is the type of plenum access each system can afford.

An abundance of design options are possible with linear beam ceilings. Ceilings with vast parallel beam expanses and curved radius or barrel vault applications are very common. Other options include the creation of floating parallel beam islands, use of diagonal or checkerboard patterns, wall treatments, and even decorative parallel beam pillars are possible.

Renovation applications with parallel beam ceilings are usually accomplished by means of a renovation carrier component that either snaps on or somehow otherwise attaches to an existing T-bar type grid ceiling. Often the original ceiling is left completely intact with the ceiling panels in place to provide insulation as well as inhibit the transmission of sound. Once all the renovation carriers have been installed, new parallel beams simply snap into place to create a new parallel beam ceiling.

Open Cell Ceilings

Open cell ceiling systems consist of 2-foot by 2-foot or 2-foot by 4-foot louver panels comprised of square or rectangular open cells made by U-shaped metal channels. The channels vary in width and height from system to system. Typical cell sizes range from 33-foot by 33-foot to 12-foot by 12-foot modules. Unlike most metal ceilings,

which conceal the plenum from view, open cell systems are used to define a plane in the ceilings. This ceiling plane may run from one wall to another or may appear to be unattached to a wall and simply appear to float below the plenum. In some instances, such as vast convention centers and other relatively large spaces with enormous height, open cell systems have been used to create mini islands hanging at various points throughout an interior. These islands, which are sometimes used as decorative elements may hang at a variety of angles and in different colors.

Where fire codes require a sprinkler system, open cell ceilings eliminate the need for individual sprinkler drops because sprinkler heads can be attached directly to the water supply line.

Open cell systems provide some inherent cost advantages that have contributed immensely to their popularity. Typical of most every ceiling system is the required attachment of light fixtures, air supply and return ducts, loudspeakers and sprinkler systems at the level of the ceiling plane. On the other hand, open cell ceiling systems readily permit the transmission of air, light, sound and even water. As such, open cell ceilings offer some cost economies that result in significant savings. For example, air handling can be achieved through large plenum registers, eliminating the need for individual air supply and return ducts. Lighting, especially in the larger cell sizes, is very often installed in the plenum, with economical fixtures or in reno-

Orna-Metal stamped panels are an exciting interior mix of texture and nostalgia. Eight different patterns drawn from the past enliven contemporary and traditional styling with their finely crafted detail.



Cornices and accessories enrich design preferences. The choice of lay-in panels allows plenum accessibility to meet modern needs. For public areas or private homes, OrnaMetal ceiling panels accentuate a timeless elegance.

Mega-Cube is a bold new look in interior ceiling systems. It is a variation of other open cell systems with a significant difference. Mega-Cubes's dynamic look is offered in a large number of cell sizes and profile depths. The many choices offered allow MegaCube to complement any interior where a suspended ceiling would be used.



The Cube 2 System utilizes the Tempra-4000 suspended grid system. Tempra is a conventional T-bar suspension system and is installed like any other grid system, except for a U-channel grid cover that is placed over the grid component to conceal the web of the T-bar, and to complete the illusion of a continuous ceiling plane.



vations where their removal along with the purchase of new fixtures would prove too costly. Loudspeakers for music and public address systems are also frequently mounted in the plenum to service a greater area with less equipment. Where fire codes require a sprinkler system, open cell ceilings eliminate the need for individual sprinkler drops because sprinkler heads can be attached directly to the water supply line. Finally, with the majority of the systems operating within the plenum, open cell ceilings are often less cluttered than conventional ceilings, which fuels their popularity where aesthetic appeal is concerned.

Open cell system installation techniques vary depending on each individual system. The majority of open cell systems have channel-shaped components that serve as main carriers and cross runners. These components typically create 2-foot by 2-foot or 2-foot by 4-foot modules. The open cells in turn generally are available as pre-assembled 2-foot by 2-foot or 2-foot by 4-foot panels. Depending on the system, the installation tech-

niques of these panels will vary and may affect the installation time.

Some of the more innovative open cell systems designed to significantly reduce installation time rely on a conventional narrow face 9/16-inch T-bar ceiling grid to support lay-in open cell panels. The ceiling grid is installed much like any direct-hung grid system. Masking components, usually simple U-shaped channels, are slipped over the web of the narrow grid to completely conceal upper and often unpainted exposed sections. Once complete, preassembled open cell panels are ready to lay into place. The advantage gleaned from these systems is that field mechanics who are already proficient at the installation of suspended T-bar ceilings may install open cell systems with a minimal amount of additional training. As a result, the likelihood of costly installation errors, product damage and even the risk of overall poor ceiling appearance are significantly diminished.

Integrated open cell ceiling systems are available with a full complement of integrated lighting and air-handling products. Perimeter

molding treatments are also available. Open cell systems that rely on narrow 9/16-inch T-bar suspension components offer the added advantages of NEMA Type-G lay-in light fixtures.

Linear Baffle Systems

Linear baffle systems are suspended ceilings comprised of parallel baffle blades supported by a T-bar type suspension system. They are open-type ceilings where the plenum is not completely sealed off and, as such, they share many of the same characteristics of open cell systems. Baffle systems define a plane in the ceiling and they are effective at masking mechanical, electrical and plumbing utilities in plenum areas.

Baffles are available in standard as well as custom lengths. The height of the baffles as well as their styles are what differentiates them among most manufacturers. Two traditional baffle styles are a round-base and a V-base style. Baffle systems can create various visually interesting patterns through the use of effective spacing, panel direction and with panels of various heights.

Baffle systems that rely on a suspended T-bar grid to support them may incorporate lay-in acoustical ceiling panels to provide additional sound absorption as well as a means to completely seal the plenum from view.

Concealed Metal Ceilings

A longstanding favorite among architects for ceilings in high traffic areas are concealed snap-in metal ceilings. Concealed snap-in metal ceilings, along with durability and low maintenance characteristics, also provide an added measure of security to the plenum. Concealed metal ceiling panels are manufactured from eight lightweight quality aluminum or electrogalvanized steel for corrosion resistance. Plenum access, an often critical factor, can be achieved from any point in the

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ceiling. Some manufacturers also provide the option of "security clips" that lock panels into place. Special access keys are available to remove panels when service work in the plenum is required.

Well-engineered systems will also provide for simple straight forward installation. Easy-to-install systems rely on the use of 1 1/2-inch support channels to reduce the possibility of suspension system misalignment or damage. Concealed metal panels typically have a contoured lip on all four sides. Installation is achieved when the panels are pushed up into the suspension carrier, which snaps into the panel lip.

Typical concealed metal ceilings come in a range of sizes. Some systems also offer

scored panels containing grooves to simulate the appearance of smaller panels. For example a 24-foot by 24-foot panel may have two perpendicular bisecting grooves to simulate the appearance of four 12-foot by 12-foot panels. Other design options included various edge details such as square or beveled edges, several perforation patterns, sizes and metal thicknesses.

Almost always in very high traffic areas, concealed metal ceiling panels are perforated and lined with an acoustically absorbent material to control reflection and the transmission of sound. Ceiling panel security clips or other such similar devices that prevent access to the plenum provide a sensible approach for the protection of electrical, security and communications cables as well as other vulnerable systems.

Lay-In Metal Ceiling Panels and Stamped Metal Panels

Metal lay-in ceiling panels offer boundless opportunities for distinctive metal ceilings. They are intended primarily for use with 15/16 inch T-bar systems. Standard grid systems offer some viable advantages: full plenum access from any point in the ceiling, compatibility with standard lay-in light fixtures and air diffusers, efficient installation and a choice of modular configurations. The other benefits of using metal panels with 15/16 inch standard grid are the significant number of systems available to suit specific needs with respect to special-purpose applications, as well as economics.

Metal ceiling panels vary from square-edge to revealed edges and in practically unlimited sizes. Metal panel features arise equally as diverse, with options ranging from "stepped edging," to allow for a flush and level fit between the grid face and the panel to mirror-like exotic finishes such as brass and chrome.

Perhaps the most interesting development in metal lay-in ceiling panels is the resurgence of decorative stamped metal panels using lightweight, tin free steel. Decorative stamped metal ceilings provide a unique blend of Victorian charm with the contemporary features of an exposed grid ceiling. Though stamped metal ceilings have been available for at least 75 years or more, the onslaught of new applications is overwhelming in modern municipal buildings, dinner-dance vessels, casinos, taverns, restaurants, private residences, and the list con-

tinues to grow. Many of the same patterns available when stamped metal ceilings first became popular are still available today.

Decoratively stamped metal panels are typically available in 2-foot by 2-foot as well as 2-foot by 4-foot lay-in panel sizes. If a factory-painted panel is selected, make sure the manufacturer can provide an accurate color match between the ceiling grid and the pointed panel. Bare metal panels are also available to allow for on-site painting. The very best quality panels are treated with a layer of chromium for paint retention should the panels be hand painted. Hand painted stamped metal panels may either be finished in one solid color or incorporate a number of colors. In either case, the results are truly outstanding. Other finish options include reflective metal panels in attractive brass, chrome or copper-coated surfaces.

Optional accessories include a wide selection of cornices to provide the proper wall trim. Historical restorations or authentic recreations or ornate metal ceilings are possible with the availability of 2-foot by 4-foot as well as 2-foot by 8-foot nail-up panels.

Today's metal ceilings offer an outstanding array of design options as well as a high degree of specification.

To ensure the success of your next ceiling project, a good rule of thumb is to always obtain and store the latest information on new systems and system upgrades as the information becomes available. Always request new literature. Use the reader service cards offered by trade journals, as they allow you to quickly obtain information from a number of sources. If you request product samples, spend some time to familiarize yourself with the components and note how they install. A simple and straightforward approach to installation benefits everyone involved in the project. Feel free to experiment with component samples and, if the design promises to be unique in nature (meaning a use or configuration that may require some modification), by all means ask the manufacturer for his or her recommendations. □

About the Author

Chicago Metallic recently celebrated its 100th year of service to the building products industry. A worldwide distribution center is backed by professional service teams, with manufacturing facilities located in Illinois, California, Maryland and Belgium,