What to Look For In An Open Cell

By definition, an open cell ceiling system is one in which a repeating pattern of “cube” shapes appear unbroken by any suspension components so the finished ceiling will look much like a perfect waffle in appearance.

In all fairness to other types of ceiling systems, the open cell ceiling is unique and visually interesting. That is only one reason why it is gaining in popularity, why several manufacturers offer such a system, why architects are specifying them, and why you may find yourself having to install one in the not too distant future. So, what should you look for in an open cell system?

For starters, look for familiarity. The idea here is to minimize the learning curve and the possibility of errors both on the estimator’s pad and in the field. Choose a system with components that install in a familiar manner, similar to that of standard T-Bar, for example, to simplify the process.

Open cell panels may vary greatly in terms of cell size, components and installation procedures.

The type of metal is another consideration since open cell systems are made from both steel and aluminum. A system produced from steel offers a distinct advantage over one produced from aluminum. Steel is a much more rigid metal than aluminum and as such it is less likely to incur damage in shipping, handling, or accidents, particularly in the sensitive areas where components attach. Such damage could lead to locking problems which may be remedied in the field, yet still result in alignment problems further on. Steel is heavy and needs to be electro-galvanized to resist corrosion. Aluminum, on the other hand, is much lighter and is inherently rust resistant.

Open cell panels are offered in a variety of sizes. By virtue of the “open cell” design, the entire plenum is 100% accessible. If there’s some problem with something in the plenum, chances are the mechanical trades can easily identify and access problem areas to initiate necessary...
Ceiling repairs. This eliminates the need for any preplanned access areas.

When it comes to the size of the cell panel created by a particular system, bigger is better. A system that accommodates a 2' x 4' cell panel will probably save more in time, labor, and material costs than one which requires a 2' x 2' cell panel. Cell panels are offered both assembled and unassembled. Unassembled panels take time to assemble, while factory preassembled panels usually, though not

Labor costs on the ceiling system may be higher, but there will be savings on lighting, HVAC and sprinkler systems

always, require an upcharge. It pays to shop.

Look at the locking systems by which the open cell panel is secured to the suspension components. Some open cell systems do not feature any locking mechanism. Although this is convenient, the panels may shift and throw the open cell design out of square. Other systems have locking tabs to secure the panels, and in a system of this type it’s a sound idea. Some systems have locking tabs on all four sides. Others have locking tabs on two sides which may be a little easier to secure the panel, while others feature sliding tabs which are
sometimes difficult for the mechanic to access.

Ceiling load carrying capacities, which are a critical element with conventional ceilings, can be virtually disregarded with the open cell type ceilings. Basically, the open cell ceiling installs fairly independently of typical ceiling load concerns and the resultant costs incurred.

With respect to lighting, cost savings can result using economical and lightweight fixtures as opposed to a standard NEMA Type-G lay-in unit. Some open cell systems have optional light fixtures as accessories which attach to the system, or fixtures may be placed above in the plenum allowing ample light transmission through the open cells.

Air distribution offers similar cost savings, since it can be achieved without the need for additional supply ducts and lay-in air diffusers. In an open cell system, air supply and return is typically handled via large plenum registers with air being directed through the cells.

When sprinkler systems are required, open cell ceilings offer yet another advantage by eliminating the need for individual sprinkler drops. Instead of the drops, which are generally located 10’ on center and range anywhere from $50.00 to $75.00 per drop for installation, sprinklers could be fitted to the main water pipe, which in the event of a fire would discharge water through the open cells.

The time spent for labor on an open cell ceiling system may increase anywhere from one-fourth to one-third as compared with a conventional T-Bar and acoustical tile installation. On the other hand, lighting, HVAC, and sprinkler systems require much less labor.

Don’t overlook the obvious such as hanger wire placement and attachment requirements. These can range from 2’ and 3’ to 4’ on center.

Essentially, look at everything.
Main runner, cross tee, and panel assembly of the Cube (tm) Open Cell Ceiling System. Courtesy of Chicago Metallic Corp.