Ceiling Suspension Systems: Narrow Profile Design Combines Aesthetics, Function

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If you compare your favorite car models of the late '50s with their current '90s versions, it would be very difficult to make the connection—a 1958 Ford Fairlane and a 1990 Ford Taurus look completely different. More than likely, you would have to check out the nameplate to make the association. The differences in aesthetic design and performance standards, over the course of 30 odd years, are truly amazing.

A similar analogy can be made for ceilings. Today's offerings far exceed yesterday's performance standards, and the aesthetics are fresh, smart and exciting.

Perhaps best of all, there are so many choices now—both from a design and performance standpoint—to fit the financial and aesthetic requirements of virtually any job.

The aerodynamic, sleek look of '90s cars parallels the design trends which are popular in ceiling treatments—streamlined, tasteful and understated. Narrow profile ceiling grids, for example, are being used increasingly in a broad range of applications, particularly in commercial office and retail applications. Architects and interior designers find that narrow suspension systems provide solutions to a combination of important needs.

As the number of success stories grows, contractors can expect to see many more specifications calling for narrow grid.

This trend toward thin grid reflects the market's need for ceiling systems that fulfill economic, aesthetic and functional needs. Narrow profile grid systems meet all three needs. They offer low-cost economies, monolithic aesthetic appeal and accessibility—as well as high acoustical and fire protection performance.

Fewer parts and simple installation techniques keep construction costs down, while providing easy access to the ceiling plenum. As architects and designers continue to specify narrow ceiling grids for a wider range of applications, major ceiling tile manufacturers are now developing a variety of new, creative products to be used with these grid systems. For example, some of the newly introduced face-cut, lay-in ceiling panels practically hide the exposed grid. With narrow grid ceiling systems, it is now possible to create the preferred look of a concealed grid system while preserving the traditional cost, perfo-
ance and access advantages of suspended ceilings.

Further, narrow profile suspension systems offer certain key advantages over concealed grid systems. Consider first that concealed grids were introduced as an attempt to duplicate the smooth, continuous look of drywall or plaster. For the most part, concealed grids have been successful in achieving this aesthetic goal; however, they have been less effective in delivering cost savings. While they do offer something of an advantage over drywall relative to plenum accessibility, concealed grid systems tend to be cumbersome and expensive to install. Also, plenum accessibility can be troublesome, certainly more so than with exposed grid systems.

Narrow suspension systems seem to offer the best of both worlds—a monolithic appearance combined with the economy, performance and accessibility of a suspended ceiling. Generally, narrow grid systems are those where the exposed portion of the suspension member measures less than 15/16” wide. Slotted suspension systems and 9/16” tee suspension systems make up the two basic types that are available.

**Slotted Suspension Systems**

Slotted systems are designed with a recessed slot in the face of the grid. The face dimension typically is 9/16” wide. The slot can be used to accommodate metal partition attachment bolts, snap-in metal ceiling panels or for hanging signage. More importantly, the recessed profile of the slotted face reduces the visual presence of the grid, providing a monolithic look.

Slotted grids are made using either extruded aluminum or roll-formed steel. Steel systems generally are more versatile because they can accommodate a wider range of ceiling design configuration. They’re available in several colors and performance grades, including fire-rated, and are suited for seismic applications. The premium steel systems include mitered intersections, light fixture frames and air diffusers. Popular slotted suspension system brands include Donn Fineline, Highline and Meridian from USG.
Examples of narrow grid ceiling systems from USG Interiors.

Fineline edge panel, Centricitee grid.

Fineline edge panel, Meridian grid.

Fineline edge panel, Fineline grid.

Fineline edge panel, Highline grid.
Interiors; Spectra and Ultraline from Chicago Metallic; Trimlock from Armstrong; and Series A and B from Gordon Grid.

**9/16” Face Tee Suspension Systems**

Typically roll-formed from steel, 9/16” faced tee suspension systems are nearly identical to standard 15/16” faced grids. These also come in a variety of colors to match ceiling panel offerings. Some systems are fire-rated and are suitable for seismic applications. Leading brands include the Centricitee Suspension System from USG Interiors; Tempra from Chicago Metallic; Suprafine from Armstrong; and Slimlock from National Rolling Mills.

**Installation Tips**

Knowing the product you are working with beforehand is always the best way to avoid installation problems and to maximize productivity. Contractors need to be aware of several installation situations that differentiate thin grids from standard systems.

--Make sure your ceiling panel has the correct edge detail to fit into the specified suspension system. Narrow profile suspension systems typically work best with regular edged ceiling panels. Contact your supplier for assistance.

--Narrow suspension systems generally are less forgiving than standard 15/16” systems. Care should be taken to keep the grid as square as possible, ideally within plus or minus 1/16” or better (2’ x 2’ module corner to corner). This will ensure an attractive panel/grid interface and a more monolithic look.

--Some light fixtures are manufactured slightly undersized in relation to the grid module size. These situations require the use of light fixture frames and/or clips. These parts extend the face of the grid, thereby providing a measure of safety when
fixtures are installed. Consult your supplier for recommendations.

--Installers should be equipped with acoustical punch pliers suitable for use with narrow profile grids. The standard Whitney punch usually does not work because the large head which contacts the tee body prevents the punch from reaching the tee flange.

--Manufacturers can provide the information you need, particularly for unique applications. For example, contact your USG Interiors sales representative for technical data and Tip Sheets for installing Donn grid systems.

--Consult the CISCA Ceiling Systems Handbook for more information on how to install suspended ceilings.

About the Author:
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