Today’s acoustical ceilings are more than functional. They can—and should—complement and enhance the interior. The challenge for the specifier is to explore the possibilities and select the acoustical ceiling that offers the best design, quality, and performance.

That challenge is harder now than ever because of the variety of new images from which to choose, including new edge details, textures, geometric patterns, and colors.

Custom Ceilings

The advent of “custom” ceiling systems offers thousands of design possibilities. These systems feature families of design-related acoustical panels that can be combined in different ways to create unique installations. The panels come in articulated patterns with edge details that repeat furniture and architectural details.

This development has had a great impact on commercial interior design. Designers now can circumvent light fixtures, echo corners and curves, highlight functional areas, and create focal points.

The use of accents at intersections highlights the ceiling grid instead of disguising it.
Since the introduction of customized ceilings, a number of innovations have been made. One is the use of accents to provide a decorative focus at the grid intersection. The accents highlight the grid rather than disguise it.

Another innovation is made-to-order fixture openings that incorporate the same edge pattern as the panel itself, thereby producing detail not previously possible in acoustical ceilings.

Square or circular openings, centered in each panel, are created at the factory to eliminate field cutting. The openings allow specifiers to continue a chosen edge detail around high-hat light fixtures, speaker heads, air diffusers, and other HVAC openings.

**Texture provides another means of adding interest to an acoustical ceiling namely through nuances of light and shadow.**

Still another innovation is the use of multi-depth detailing in pre-designed border and medallion patterns that can be combined to create a ceiling “tapestry.” The result is a lay-in ceiling that provides acoustical performance and accessibility along with a simple or ornate “carved” appearance. This style is well suited to everything from high-bay lobbies to hospitality settings.

A system also has been introduced that simulates a coffered ceiling but with the acoustical performance, accessibility, and installation ease of lay-in panels.

The coffers are assembled at the job site by connecting four factory-mitered molding segments. The molding coffer is then installed in the grid system, and an acoustical ceiling panel is placed in the crown of each coffer. This configuration provides a level of acoustical performance not usually obtained with plaster or fiberglass-reinforced gypsum ceiling systems.

**Textured Ceilings**

Texture provides another means of adding interest to an acoustical ceiling namely through nuances of light and shadow.

There are a number of distinctive patterns ranging from soft, subtle textures that offer an unobtrusive appearance and a sense of expansiveness to a room, to boldly textured surface designs that add an extra dimension to a room’s overall appeal.

In addition, multi-toned or variegated paint finishes are now available on both new and existing patterns to add depth and character to a ceiling and to match the intricate, multi-colored effects that are becoming more popular in contract interiors.

**Scored Ceilings**

Another way of achieving dimension is to use deeply scored acoustical ceilings. These geometric ceilings work together with an extra-thin grid system to create an overall monolithic appearance.

A more contemporary interpretation of a scored ceiling is the corrugated look. The ribbed surface pattern of this ceiling type creates a subtle interplay of light and shadow for an overall texture, while the deep corrugations provide the required acoustical control.

**Specialty Finishes**

Specialty finishes are installed over a mineral-fiber substrate to obtain the required acoustical performance. Among the more popular styles are:
- fabric—available in a variety of colors to impart an understated elegance

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Custom Ceilings - cont’d from page 7

• wood—reated with real wood veneers, usually walnut or mahogany
• mirrored—highlighted by a clear, reflective surface film, usually in silver, bronze, or gold.

Fiberglass Ceilings

The ceiling choices mentioned thus far feature a mineral fiber substrate. However, another segment of the industry offers panels with a fiberglass substrate.

Fiberglass acoustical ceilings are divided into four categories:
• standard—ceilings designed to provide optimum performance at minimum cost in commercial buildings with large expanses of ceilings
• upscale—ceilings combining color and acoustical performance with a maintenance-free film facing to help maintain quiet, attractive interiors
• high-performance—ceilings designed to provide greater sound absorption in commercial installations
• energy-saving—ceilings combining sound absorption with thermal resistance for use in low-rise buildings.

Installation

To ensure a satisfactory appearance of any acoustical ceiling, proper application and adherence to manufacturer% instructions are essential.

Acoustical ceilings are designed to be installed within the normal expected occupancy range of 60°F to 85°F. Relative humidity should be no more than 70 percent. All plaster, concrete, terrazzo, or other wet work should be complete and dry. All windows and doors should be in place. HVAC systems should be installed and operable where necessary to maintain proper temperatures before, during, and after ceiling installation.

Before acoustical ceiling materials are installed, the units, either panels or tiles, should be permitted to reach room temperature and have a stabilized moisture content. They should not be installed in conditions much different from those that will be normal in the occupied space.

Dirty air can soil any ceiling. Proper design for both supply air and return air, and maintenance of the HVAC filters and interior space are essential to minimize soiling. Before starting the HVAC system, make sure supply air is properly filtered and the building interior is free of construction dust.

Maintenance

Acoustical ceiling systems require no more maintenance than painted drywall ceilings. However, when maintenance is necessary, certain procedures should be followed to ensure continued high performance and attractive appearance.

Carved, multi-depth detailing creates a ceiling tapestry.
Dust and loose dirt may easily be removed by brushing or vacuuming. Vacuum cleaner attachments such as those for cleaning upholstery or walls are best. Tiles or panels should be cleaned in one direction only to prevent dust from being rubbed into the surface.

**Acoustical ceilings are designed to be installed within the normal expected occupancy range of 60° F to 85° F. Relative humidity should be no more than 70 percent.**

After loose dust has been removed, pencil marks, smudges, or clinging dirt may be erased easily with an ordinary art gum eraser. However, a good grade of fresh wall cleaner may be preferred.

Most mineral fiber ceilings may be cleaned with a cloth or a sponge dampened in water containing mild soap. (*This does not apply to cloth-faced ceiling panels.*) The sponge should contain as little water as possible. After washing, the soapy film should be wiped off with a cloth or sponge slightly dampened in clean water.
Lighting

When selecting lighting, it is always advisable to consider the effect it will have on the appearance of an acoustical ceiling.

Flush, recessed fixtures used with suspended acoustical ceilings provide excellent illumination. This type also eliminates the possible shadow problems of side lighting and complements the ceiling’s appearance.

Fixtures close to the underside of the ceiling, in coves, for example, generally are less satisfactory. In such cases, light grazes across the ceiling and emphasizes variations as small as .005-inch.

Window-wall lighting and semi-recessed fixtures often create this same uneven ceiling effect. However, both light treatments can be used with acoustical ceilings if grazing side light is eliminated. This can be accomplished for window-wall lighting with a valance, draperies, or Venetian blinds. With semi-recessed fixtures, shields around the fixture achieve the same result.

Surface-mounted fixtures can also cause troublesome ceiling shadows. These also can be shielded to prevent low-angle glaring.

If shadow-casting light cannot be avoided, make sure it is brought to the attention of installers, who may be able to make joints less visible.

Thermal Insulation

Overlaid insulation placed on, and supported by, mineral ceiling panels is not recommended. The additional weight could cause the panel to sag in high humidity.

If insulation is unavoidable, however, limit it to a maximum of .26 lb/ft.² (R19 fiberglass). Only roll insulation is recommended. It must be applied perpendicular to the cross tees so that the grid supports the weight of the insulation.

Fiberglass ceiling panels are recommended when additional thermal insulation will be laid on the back of the panels. Contact the ceiling manufacturer for specific fiberglass backloading recommendations.

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