



## LIGHTING PLACEMENT

[ OPTIMAL LIGHTING FOR  
YOUR INSTALLATION ]



# LIGHTING PLACEMENT

## PROBLEMS AND PREVENTIONS

### PROBLEMS

- Any type of lighting located on or near tile walls accentuates irregularities by casting shadows on the tile surface joints.
- The appearance of a tile installation is especially affected by critical lighting due to the small individual units, such as 2" x 2" tile sizes, and the practical tolerances allowed in the manufacturing and installation of tile.
- Critical lighting problems occur when the tile wall is bathed in vertical light from the ceiling directly over the wall.
- Critical lighting problems also occur when outside natural light, through windows and doors, casts shadows from slightly irregular tile surfaces.
- Small die release lines inherent on the edges of some ceramic mosaic tiles, rarely noticeable when installed under normal lighting conditions, can produce large shadows from wash-wall lighting.
- 4-1/4" tile with factory scored grout lines will produce different shadows on the factory scored joint and the installed joint, amplifying the individual 4-1/4" unit.
- Thin-set mortar installations over masonry walls with critical lighting produce an almost impossible condition for shadow free walls.

### TIPS FOR THE CONTRACTOR

- Inform the architect and/or owner of the anticipated results by providing a copy of this brochure.
- Recommend that the lighting be moved at least 24 inches from the wall; and preferably to the center of the room.
- Instruct the contractor and other trades that the strict adherence to ANSI or NTCA preparation and tolerance requirements for walls or slabs be strictly adhered to and provide a copy of the requirements.
- Have the permanent lights installed before the tile installation, or place your temporary lights directly above the tile installation.
- Use tile from manufacturers who meet high standards of mounting, uniform thickness and warpage control.
- Avoid the use of ceramic mosaics and scored tile on critical lighting walls or floors.
- Where wall-wash lighting effects are desired, inspect the subsurface thoroughly prior to installation and require

### PREVENTIONS

- Locate light fixtures at least 24 inches away from the wall; preferably in the center of the room.
- Avoid the use of ceramic mosaics and scored tile where wall lighting is necessary.
- Requiring smooth, flat wall or floor surfaces within ANSI standards' tolerances will reduce the shadows.
- Installing the permanent lights prior to the tile installation will allow the tile installer to make some adjustments during the installation.
- Changing the thin-bed installation to a mortar bed installation with the tile installed while the bed is soft will reduce installation shadows, but will not eliminate the shadows produced by the irregularities in the manufactured tile.

the responsible party to prepare the surface according to ANSI standards. Use Methods W201, W211, W221 or W222 when installing tiles over concrete block masonry; and use Methods W231 or W241 when installing tiles over stud walls to produce the flattest surfaces. For best results, mortar beds should still be plastic during installation of tiles. Don't buy the contractor's or other trades' problems.

- Give proper orientation to the tile installers and emphasize the high-risk aspect of the installation; and make an early inspection of the installation using light directly against the tile.
- Use large beating block and properly "beat-in" tile.
- On multi-room jobs, have the architect inspect the first tiled and grouted wall.

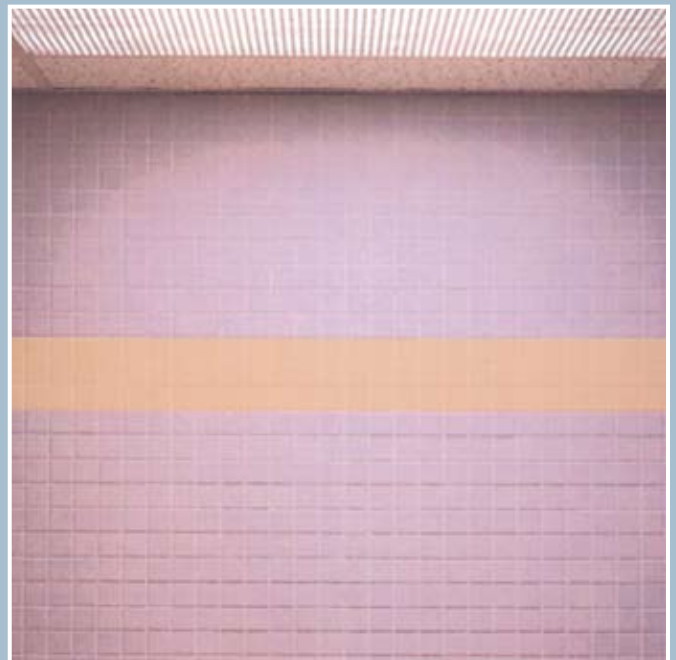
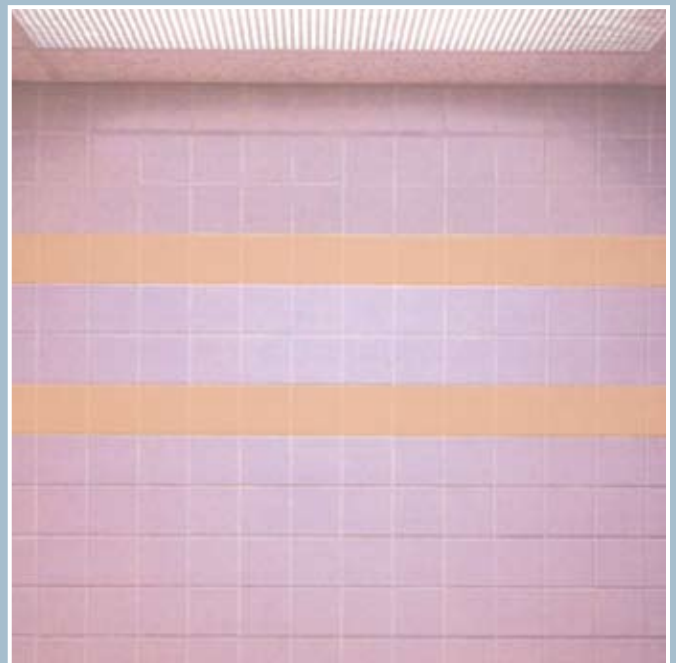
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## ILLUSTRATING THE DIFFERENCE

The photographs below illustrate the dramatic difference the placement of overhead lighting can make in the appearance of a tiled wall. The photographs on the left show the effect of overhead lighting panels mounted next to the wall resulting in “wall wash.” This harsh lighting technique creates harsh shadows that accentuate any irregularities in the tiled surface.

The photographs on the right show the dramatic visual improvement achieved simply by moving the overhead lighting just one ceiling panel (24”) away from the wall. The tiled wall illustrates a standard thin-set installation. The wall, fluorescent fixtures and camera angle are exactly the same in both sets of photographs. Only the placement of the lighting fixtures was changed.





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