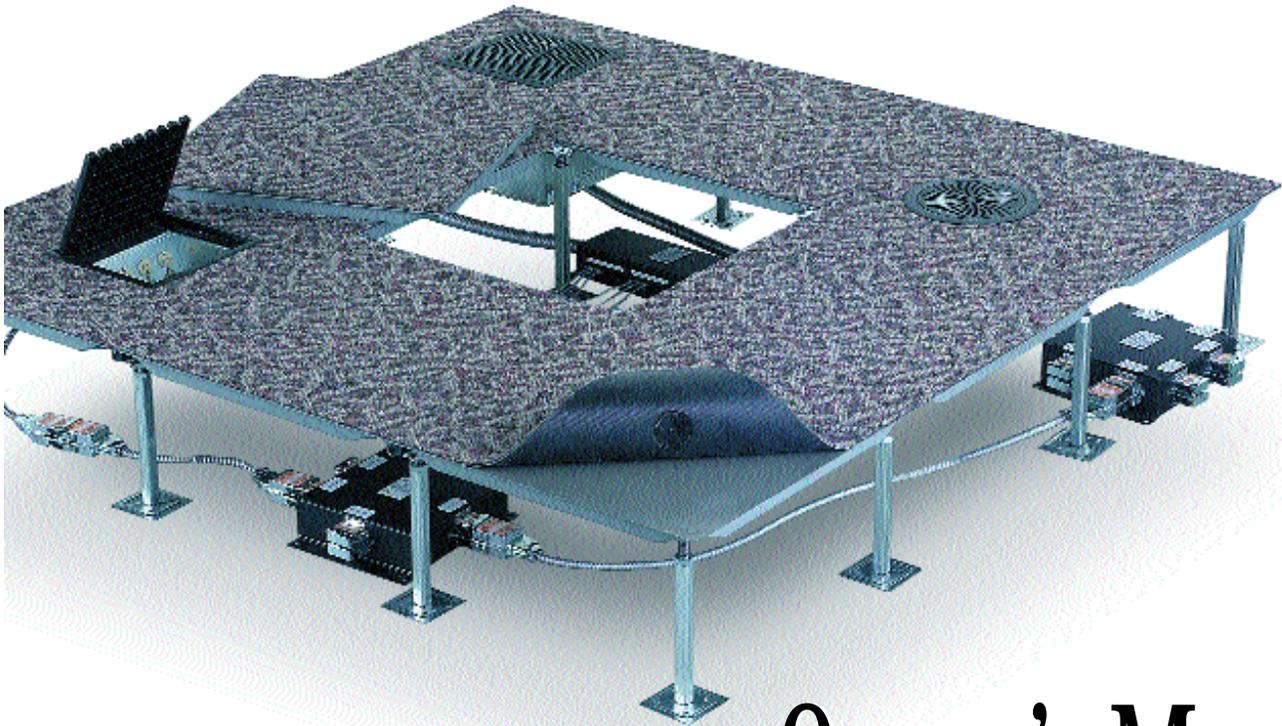


TATE

BUILDING TECHNOLOGY PLATFORM[®]



Owner's Manual

Maintenance, Safety and Guidelines



Office



Telecom



Cleanroom

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ACCESS FLOORS

Care and Use of the Floor System

I. Equipment Moving Precautions

Access floor systems are supplied and installed in conformance with the requirements set forth by individual project specifications and approved submittal documents. It is important to clearly understand the design capabilities of the Tate floor system as installed in specific projects.

The access floor must be protected from overloads and circumstances that exceed its specifications. Movement of heavy loads and equipment may require protection of the floor system through the use of plywood or other suitable load-distributing materials.

- The All Steel panel is a hollow steel panel designed primarily for static loads. Please consult your Tate representative before heavy loads are exerted on the floor.*
- The ConCore panel, similar in design to the All Steel panel, is filled with a structural cementitious material. It has excellent static and rolling load capabilities.*
- The Floating Floors® by Tate panel is a diecast aluminum panel with excellent static and rolling load capabilities. It is designed to meet the needs of today's high-tech environments such as clean rooms and laboratories.*

** Please contact the Tate Technical Hotline or authorized Tate dealer to discuss product limitations and protection procedures when wheel sizes and loads differ from the wheel sizes and loads identified in Tate specifications.*

II. Removal and Reinstallation of Panels

When access to the space under the floor is required, only those panels directly over the area of work should be removed. The first panel removed must be removed with the use of an approved lifting device. Place the lifter in the corner of the panel and lift up vertically. Once the panel is far enough above the plane of the adjacent panels, remove the panel by hand. If panels adjacent to this panel require removal, place a hand under those panels and lift out.

Special Precautions

1. The use of screwdrivers, pliers or other objects to pry or lift panels is not recommended and should be prohibited.
2. Every precaution should be taken not to disturb the level adjustment of the support pedestals and the squareness and position of the stringers while the floor panels are out of the floor system.
3. When panels with factory-laminated carpet are reinstalled, carpet shoes must be used to ensure that carpet pile is not trapped.
4. To ensure the life of the trim, install all panels with trim per the above recommendations.
5. Always make a final check to see that panels are correctly in place, level and secure.

Types of Lifting Devices

- Suction Cup Lifter -for use on bare panels with no floor covering and panels with a hard surface floor covering.
- Claw Lifter - for use on panels with cut pile carpet laminated to the panel.
- Velcro Lifter - for use on panels with level loop carpet laminated to the panel.

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Care and Use of the Floor System

III. Adjustments to the Floor System

Periodically inspect the installed floor and make the following normal adjustments when required.

Rocking Panels

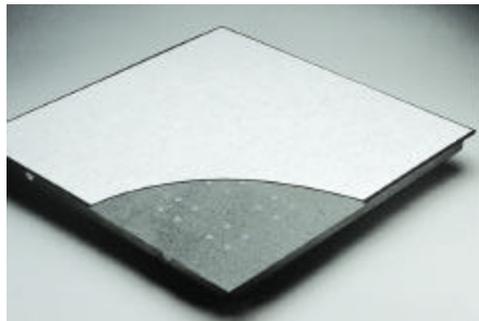
1. Check to see that pedestal head gaskets are positioned correctly and/or stringers are securely fastened. Make sure that no carpet pile or dirt is preventing panels from seating correctly.
2. Adjust the pedestal leveling nut after checking to see that the pedestal is sitting flat on the subfloor.
3. For persistent problems with tiled panels, try rotating the panels 90 degrees.



All Steel Panel

Tipping at Perimeter Panels

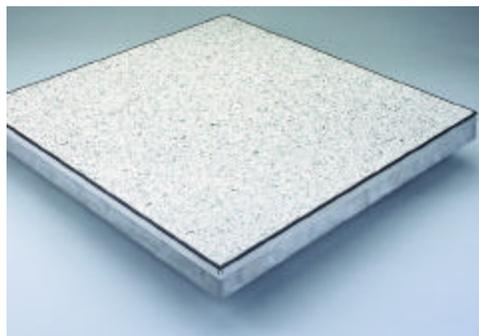
Tipping generally occurs when the perimeter panel is improperly supported. Adjust the leveling nut on the pedestal support, raising or lowering the pedestal head until the panel no longer tips but sits firmly on the pedestal head or stringer.



ConCore Panel

Panels with Factory-Laminated Carpet

1. Check to see that the carpet grain runs in the same direction for all panels; rotate panels if necessary to obtain uniform grain direction. Another method to ensuring uniform grain direction are arrows on the bottom of the panels—they should all be facing the same direction.
2. Trim any loose tufts of carpet.
3. Check for trapped yarn fiber at the edges of the panel. If necessary, use an approved lifting device to remove the panel, then remove the trapped yarn fiber. Use carpet shoe horns when reinstalling the panel(s) to avoid pile trapping and damage (see page 8).



Floating Floors by Tate Panel

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Safety Requirements for Panel Cutting

When using a hand-held heavy duty (industrial) reciprocating saw, follow the guidelines below:

- Use a bench or work table to cut the panels, possibly a B&D Workmate bench with clamps. This will spare workmen's backs and knees.
- Be sure tools are properly grounded and dry and that a well-lit work area is available.
- Use the correct saw blade (14 to 20 teeth per inch metal cutting blade).
- Be sure the entry hole is large enough to start the saw blade without binding.
- Always use personal equipment including:
 - Ear protection.
 - Safety glasses and full face shield (clear plastic).
 - Long sleeve shirt or sleeve protectors.
 - Light weight work gloves (light enough to use a saw but tough enough to protect from sharp metal edges and hot saw dust).
 - Steel toe safety shoes or boots.
 - Common sense. Remember - you cannot replace your sight, hearing or your life.

RECTANGULAR CUTOUTS—EXTERNAL AND INTERNAL

Panels with cutouts extending to the edge of the panel can be cut with a handsaw. TATE RECOMMENDS THAT A CUTOUT BE AT LEAST 3 INCHES AWAY FROM THE PANEL EDGES TO MAINTAIN A REASONABLE DEGREE OF STRUCTURAL INTEGRITY FOR THE PANEL. Cutouts

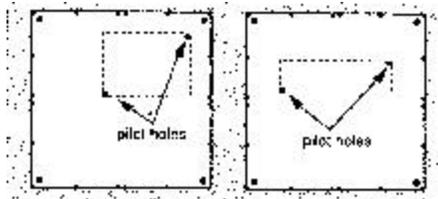


figure 16 Laying out Internal Cutouts

FACTORY MADE CUTOUTS

It is advisable to have internal cutouts (round and rectangular) cut in the factory whenever the size and location is known in advance. Doing this will save you considerable time during installation.

inside the perimeter of the panel can be cut with a heavy-duty hand-held reciprocating saw. For this activity, use bi-metal saw blades with approximately 14 teeth per inch. (Cutout sizes for Tate accessories are shown in Figure 15). Follow these steps for making your rectangular inside cutout:

- Lay the cutout on the panel (see Figure 16).
- Drill pilot holes in two opposite corners. Be sure the holes are large enough for the saw blade to pass through

without binding.

3. Cut out the hole.

4. Deburr all cutouts made for grills or electrical boxes where no trim will be used.

ROUND CUTOUTS

Round or grommet cutouts can be made with a hole saw up to 6" in diameter. A drill press is recommended for this operation. Use a very slow-speed heavy-duty drill with a bi-metal cutting hole saw blade. If you use a hand-held drill, pre-drill a hole at the center of the cutout location. For round holes larger than 6", lay out the circle on the panel. Drill one entry hole along the edge of the circle just inside of the line and cut out the panel with a reciprocating saw, then deburr all sharp edges.

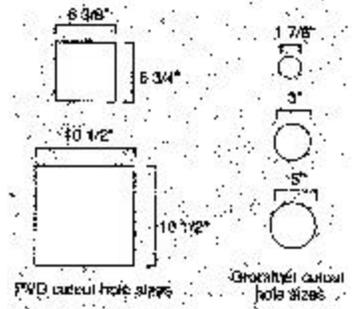


figure 15 Cutout sizes for Tate Accessories

INSTALLING PROTECTIVE TRIM AROUND CUT EDGES

All rectangular cutouts to be used as a passageway for cables or other services must have protective trim along the cut edges. Tate's cable cutout trim components are: universal cutout trim in 4-foot lengths and molded corners and screws. An optional foam plenum seal is available to seal the opening. Before cutting the trim, take a look at how the molded corners were designed to hold the trim in place. Cut the vinyl trim pieces straight at each end so that the ends can fit under the corners (see Figure 17). Secure each molded corner in place with a screw fastened into the panel.

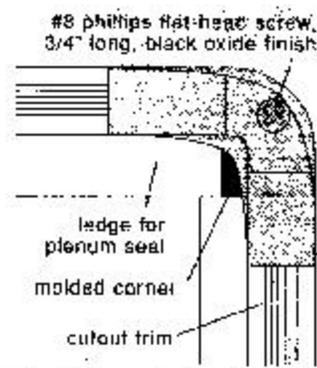


figure 17 Installing protective trim around cut edges

If the cutout extends to the edge of the panel you will have to attach the trim near the edge of the panel without molded corners. To do this, attach the straight piece directly to the panel with a pop (blind) rivet or screw. If a screw is used, countersink the screw in the trim piece.

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Guidelines

Floor Static Control Guidelines for Computer Rooms

The standard HPL coverings are classified as antistatic coverings and typically provide the necessary static protection for computer rooms. To insure a proper balance between insulation and conductivity in anti-static floor coverings, IBM developed the "IBM Resistivity Range". The following excerpt is from the IBM General Information Manual, Second Edition, publication numbers GC22-7072-1, dated January 1987. The manual states that the electrical resistance range of the floor covering should be from 150,000 ohms to 20 billion ohms. The standard high-pressure laminates offered by Tate fall within that range.

Static buildup and discharge can be minimized by:

- Providing a conductive path to ground from a metallic raised floor structure including the metal panels.
- Ensuring that a maximum resistance for the flooring system is 2×10^{10} ohms, measured between the floor surface and the building (or an applicable ground reference). Flooring material with a lower resistance will further decrease static buildup and discharge. For safety, the floor covering and flooring system shall provide a resistance of not less than 150 kilohms (150,000 ohms) when measured between any two points on the floor space 1 m (3 ft) apart.
- Maintenance of antistatic floor coverings should be in agreement with the individual supplier's recommendations.

Guidelines for Grounding, Bonding And ESD Control of the Access Floor and Understructure

This Specification deals with guidelines to ground (or bond) the access floor for safety or to control ESD. The understructure must be grounded to the building in some manner. The type of understructure used determines the quantity, or networking of building ground wires.

The determination of the number, type, and actual installation of building ground wires should be done by an electrician, not the Access Floor manufacturer.

We recommend a #6 AWG copper wire. Take note of the general guidelines used to determine the wiring requirements for the following understructure systems:

The stringerless (freestanding) understructure system requires a minimum building ground wire attachment to every other pedestal to insure proper dissipation of an electrical charge.

The stringered (bolted or snap-on) and cornerlock systems require a minimum building ground wire attachment of one connection for every 3,000 square feet of access flooring. The addition of stringers or cornerlock screws reduces and simplifies the building ground wire network by providing metal continuity from pedestal to pedestal.

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Test Standards

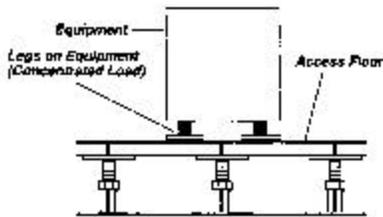
There are no agreed-upon industry standards for access floor loading performance. The Ceilings & Interiors Systems Construction Association (CISCA) publishes "Recommended Test Procedures for Access Floors" which establish procedures for the testing of: Concentrated loads, Ultimate loads,

Rolling loads, Stringer loads, Pedestal Axial loads and Pedestal Overturning Moment loads. These test procedures are not used uniformly by all manufacturers and do not set standards for test results. Tate uses CISCA as a guide in the development of all test procedures.

Static Load

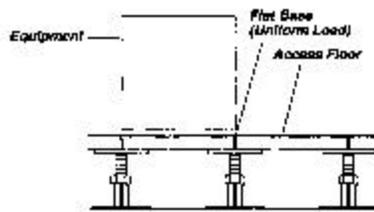
Concentrated

These loads are applied on a small area on the panel surface, with typical examples including a leg on a desk or a computer frame. The concentrated load is applied on a 1"x1" indenter, and deflection is measured at the top surface under the load. Permanent set (rebound) is measured after the load is removed.



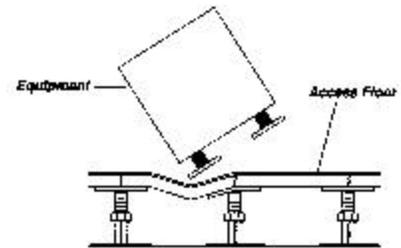
Uniform

Uniform loads, expressed in pounds per square foot, are applied over the entire surface of the panel. A file cabinet is a good example.



Ultimate

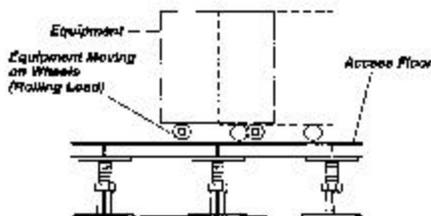
These loads are reached when the panel has failed structurally and cannot accept any additional load.



Dynamic Loads

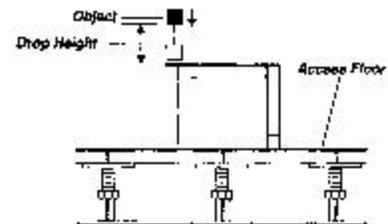
Rolling

These loads are applied by wheeled vehicles carrying loads across the floor, such as chair casters, pallet jacks, and electronic mail carts are typical examples. Dynamic loads are defined by wheel size and hardness, weight of vehicles, contents, and number of passes.



Impact

Impact loads are achieved by accidentally dropping objects on the floor. A box of computer paper dropped from waist height is an example. Impact loads are defined by weight, impact surface area and distance dropped.



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Floor Coverings

PosiTile®

General Description

PosiTile carpet tiles are precisely cut to fit the modular 2'x2' size of Tate's ConCore access floor panels. Each tile has positioning buttons that precisely align with holes located in the top of each floor panel. This eliminates the need for adhesives except at perimeter locations.



Installation

When installing carpet tiles, the access floor surface should be free of dirt, debris and excessive dust. The plastic plugs in the panels' top surface must be removed before installing PosiTile carpet tile.

Perimeter Tiles

Carpet tiles can be easily cut to fit perimeter locations and areas around columns. If the tile is cut eliminating the positioning buttons, it is recommended to use a releasable adhesive or double faced tape at the cut edge of the carpet tile.

Removal and Reinstallation

When access to the space under the Tate floor is required, only those carpet tiles and corresponding panels directly over the area of work should be removed. The carpet tile can be easily removed by lifting and peeling back the carpet tile at one corner. When reinstalling the carpet tile, it is necessary to use carpet shoe horns.

Standard High Pressure Laminate Floor Tile

The access floor covered with high pressure laminate floor tile is designed for years of service with a minimum of care and cleaning. Following these simple guidelines allows users to obtain the maximum life from this unique floor surface.

Do:

1. Keep floor clean by damp-mopping with a mild multi-purpose ammoniated floor cleaner.
2. Provide protection from sand and chemicals tracked in on shoes by providing "walk-off mats" at entrances.
3. Rotate panels in high-use areas to areas of low traffic to spread years of wear over the entire system.
4. Use a non-flammable organic solvent on bad spots.

Don't:

1. Wax seal—it's never necessary.
2. Flood or use anything other than a damp mop. Copious quantities of water can attack the adhesive and cause delamination.
3. Use strong abrasives or scrapers to remove stains.

Damp Mopping for Standard High Pressure Laminate Floor Tile

When light soiling is widespread and spot cleaning is impractical, use this damp-mopping procedure:

1. Sweep or vacuum your floor thoroughly.
2. Damp-mop with warm water and mild multipurpose ammoniated floor cleaner.
3. Dip a sponge mop into a bucket of warm water, wring it out well, and push the sponge across the floor, pressing hard enough to loosen the surface dirt.
4. Damp-mop a small area at a time, wringing the sponge out frequently to ensure the dirt is lifted and not just redistributed.

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Standard High Pressure Laminate Floor Tile (continued)

5. When damp-mopping a large floor, change the water several times so the dirt doesn't get redeposited on the floor.
6. A good sponge mop for cleaning is one with a nylon scrubbing pad attached to the front edge. This pad is similar to those recommended for use on Teflon pans or 3M type.
7. Rinsing is the most important step. Detergent directions often state rinsing is not necessary. While this is true on some surfaces, any detergent film left on a floor will hold tracked-in dirt.
8. Ideally, use one sponge mop and bucket to clean the floor and another mop and bucket solely for rinsing.

Conductive and Static Dissipative Vinyl Tile

The access floor covered with either conductive or static dissipative vinyl tile is designed for years of service by using the typical maintenance schedule.

Do:

1. Keep floor clean by damp-mopping with a neutral cleaner.
2. Provide protection from sand and chemicals tracked in on shoes by providing "walk-off mats" at entrances.
3. Rotate panels in high-use areas to areas of low traffic. This spreads years of wear over the entire system.
4. Use a diluted commercial stripping agent on particularly bad spots.

Don't:

1. Flood or use anything other than a damp mop. Copious quantities of water can attack the adhesive and cause delamination.
2. Use strong abrasives or scrapers to remove stains.

Damp Mopping for Conductive and Static Dissipative Vinyl Tile

When light soiling is widespread and spot cleaning is impractical, use this damp-mopping procedure:

1. Sweep or vacuum your floor thoroughly.
2. Damp-mop with warm water and commercial neutral floor cleaner.
3. Dip a sponge mop into a bucket of warm water, wring it out well, and push the sponge across the floor, pressing hard enough to loosen the surface dirt.
4. Damp-mop a small area at a time, wringing the sponge out frequently to ensure the dirt is lifted and not simply redistributed.
5. When damp-mopping a large floor, change the water several times so the dirt doesn't get redeposited on the floor.
6. A good sponge mop for cleaning is one with a nylon scrubbing pad attached to the front edge. This pad is similar to those recommended for use on Teflon pans.
7. Rinsing is the most important step. Detergent directions often state rinsing is not necessary. While this is true on some surfaces, any detergent film left on a floor will hold tracked-in dirt.
8. Ideally, use one sponge mop and bucket to clean the floor and another mop and bucket solely for rinsing.

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