Access Floor Systems

Agile and Sustainable Building Infrastructure Solutions

Products for Data Centers and Commercial Buildings

Tate®

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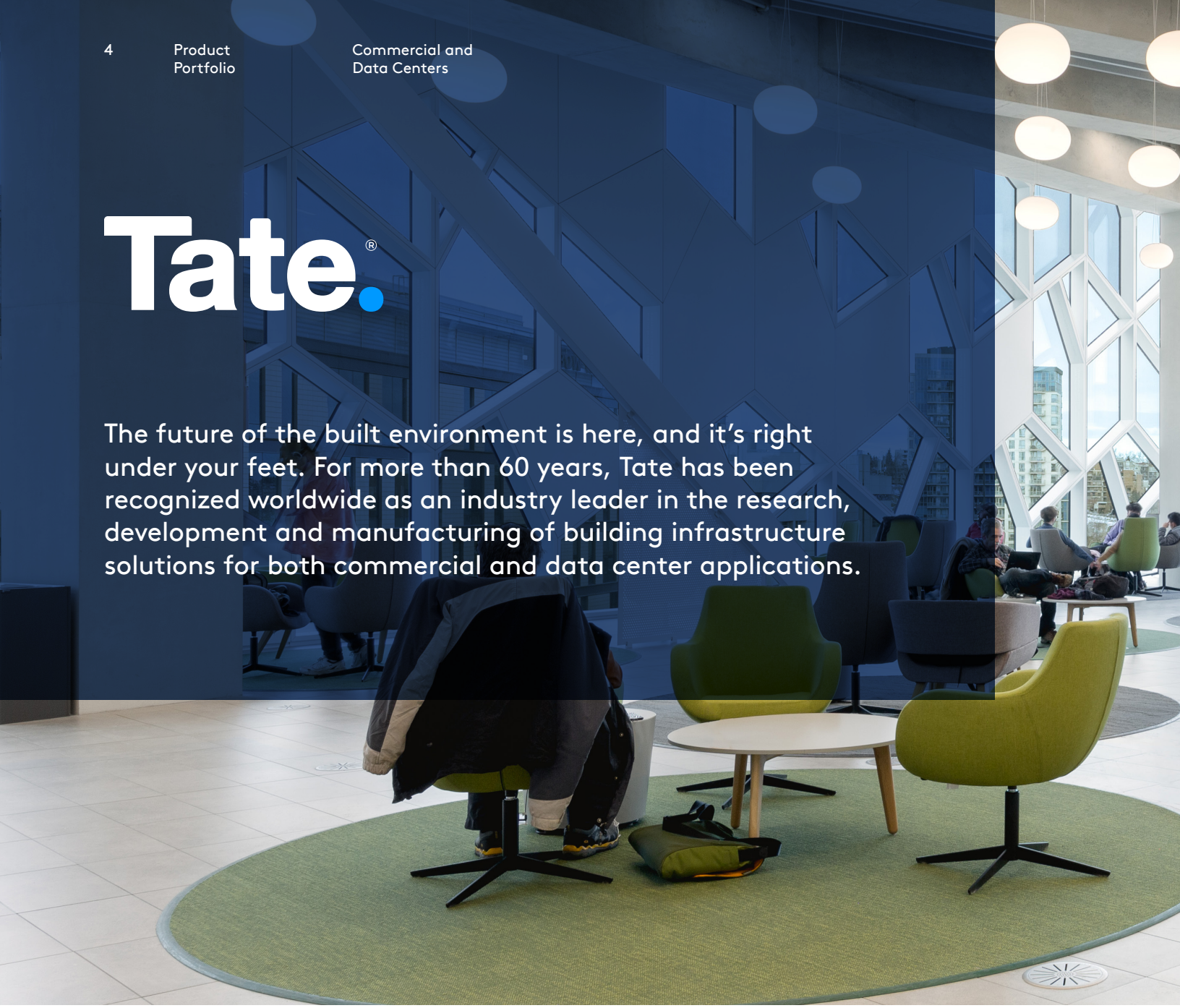
Tate.



Tate®

The future of the built environment is here, and it's right under your feet. For more than 60 years, Tate has been recognized worldwide as an industry leader in the research, development and manufacturing of building infrastructure solutions for both commercial and data center applications.

Whether Tate is driving innovation in today's cutting-edge workspaces with factory-engineered high-end finishes for our access floor systems, or designing customized airflow and infrastructure solutions for the data centers of tomorrow – or anything else in between – we've built our business on a passion for making solutions that are efficient and sustainable.

History

Tate is part of the Kingspan Group plc. Founded in Kingscourt Co. Cavan Ireland in 1965, Kingspan has become a global leader in the design, development and delivery of advanced building construction products and solutions and has grown to over 15,000 employees across five continents.

Tate joined this global Group in 2001 and has been in business for more than 60 years. During this time, Tate has become an industry leading global provider of innovative, next-generation solutions for both commercial and data center applications.

Performance

Raised access floors are a cost-effective way of creating a flexible working environment by utilizing the floor void to manage the distribution of M&E services and HVAC systems. Easy access to the underfloor area allows for greater design flexibility, faster construction, workspace reconfiguration and rapid repairs.

Our extensive product range is designed to meet the needs of a variety of buildings and uses. Each system is designed, manufactured and tested using CISCA performance methodology to confirm our performance meets design specifications.

Services

We have developed an extensive multi-national distribution and installation network. Whether you are working with one of our direct contracting teams in Canada, Europe or Australia, or through one of our authorized dealers, we are able to combine unrivaled knowledge and expertise with high quality products and services.

We can provide advice and guidance on every aspect of a project throughout the conceptual and schematic design stages to construction details and installation support. Our experience is extensive, and our pedigree is built upon over 60 years as an industry leader.

Mariner Skills Training Center | Architect: MCG Explore Design | Finishes: Linoleum

01

Access Floors

Maximize the Potential of Your Indoor Space

The ideal indoor environment in any commercial building should address a variety of needs. These needs include maintaining high-quality clean air, improving personal comfort control, responding to organizational and technological changes quickly and easily and supporting the overall aesthetic value of the building – all while being cost-effective in both construction and operation. With Tate's access floors and underfloor service distribution system, you have the ability to address many of the factors required to create the perfect agile indoor environment that will reflect the goals and image of your organization.

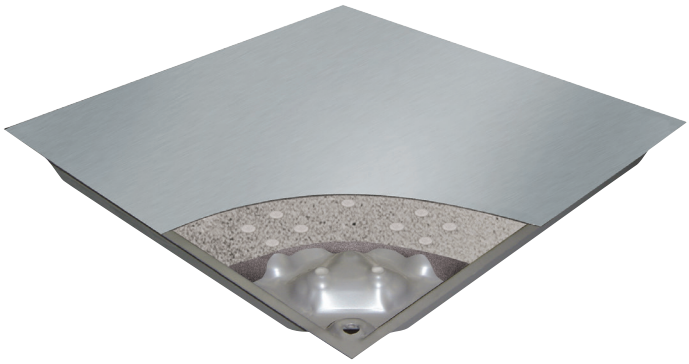
You can take advantage of these benefits:

- Enhanced indoor environmental quality through superior IAQ, improved acoustics and increased daylighting opportunities
- Maximum occupant comfort control at design inception and throughout the life of the building using underfloor air with modular 'plug & play' VAV or passive diffusers
- Energy efficiency through economizer operation and less fan energy
- Easily adapts to technological and organizational changes over the building's life-cycle at low cost
- Point-of-use services wherever you need them with complete flexibility, accessibility and unlimited capacity
- Accelerated tax depreciation opportunities
- Reduced construction time due to significant reduction in HVAC ductwork and use of underfloor pre-fabricated 'plug & play' wire / cable services
- Reduced operating costs and lower facility and maintenance costs through accessible, flexible and adaptable services

Access Floors
ConCore® Panels

ConCore® access floor panels are epoxy-coated unitized shells consisting of a flat steel top sheet welded to a formed steel bottom pan filled with a highly controlled mixture of lightweight cement. Manufactured to exacting tolerances, these non-combustible, rigid, solid panels deliver the ultimate in strength and durability.

ConCore panels are suitable for almost any application and are ideal for field-installed carpet or factory laminated with finishes such as hardwood, porcelain, Terrazzo, HPL, ESD vinyls, rubber, linoleum, and luxury vinyl tile.



ConCore® Performance Selection Chart

System Performance Criteria* (tested on actual understructure)

Panel	Understructure	System Weight lbs/ft² (kg/m²)	Static Loads			Rolling Loads		Impact Loads lbs (kg)
			Design Loads[1] lbs (kN)	Min. Ultimate Loads lbs (kN)	Safety Factor[2] min 2.0	10 Passes lbs (kN)	10,000 Passes lbs (kN)	
ConCore® 1000	PosiLock®	8.0 (39)	1000 (4.4)	2000 (8.9)	PASS	800 (3.6)	600 (2.7)	150 (68)
ConCore® 1250	PosiLock®	8.5 (42)	1250 (5.6)	2500 (11.1)	PASS	1000 (4.4)	800 (3.6)	150 (68)
ConCore® 1500	PosiLock®	9.5 (46)	1500 (6.7)	3000 (13.3)	PASS	1250 (5.6)	900 (4.0)	150 (68)
ConCore® 1000	Bolted Stringer	9.0 (44)	1000 (4.4)	2000 (8.9)	PASS	800 (3.6)	600 (2.7)	150 (68)
ConCore® 1250	Bolted Stringer	9.5 (46)	1250 (5.6)	2500 (11.3)	PASS	1000 (4.4)	800 (3.6)	150 (68)
ConCore® 1500	Bolted Stringer	10.5 (51)	1500 (6.7)	3000 (13.3)	PASS	1250 (5.6)	900 (4.0)	150 (68)
ConCore® 2000	Bolted Stringer	11.75 (57)	2000 (8.9)	4000 (17.8)	PASS	1500 (6.7)	1100 (5.6)	200 (91)
ConCore® 2500	Bolted Stringer	13.0 (63.5)	2500 (11.3)	5000 (22.6)	PASS	2000 (8.9)	2000 (8.9)	200 (91)
ConCore® 3000	2" High Bolted Stringer	13.5 (66)	3000 (13.3)	6000 (26.7)	PASS	2700 (12.0)	2400 (10.7)	300 (136)
ConCore® 4000	2" High Bolted Stringer	13.95 (68)	4000 (17.8)	8000 (35.6)	PASS	2700 (12.0)	2400 (10.7)	300 (136)

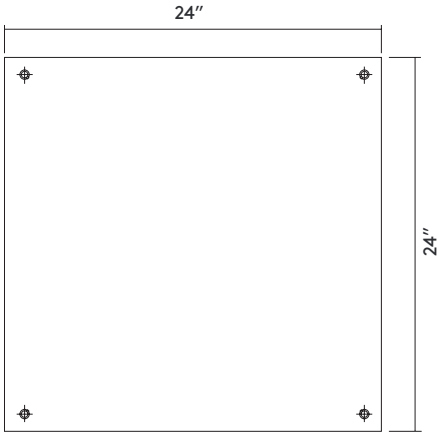
All tests are performed using CISCA's Recommended Test Procedures for Access Floors with the exception of Design Load.

1. System Design Load is based on permanent set ≤ 0.010" and is verified by loading panels in accordance with the CISCA concentrated load method but with panels installed on actual understructure instead of steel blocks. (Testing on blocks does not represent performance of an actual installation.) Ultimate, Rolling and Impact Load tests are performed using CISCA Test Procedures.
2. Safety Factor is Ultimate Load divided by Design Load.
3. Design Load and Rolling Load ratings are per-panel load ratings.

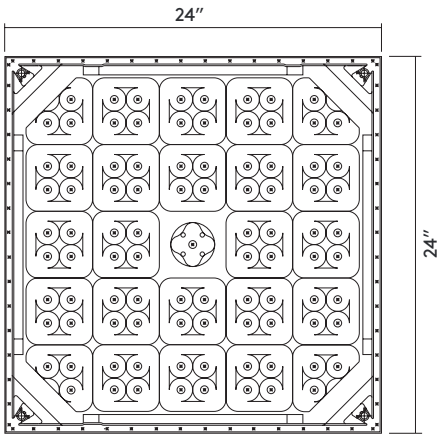
Exelon – Baltimore, MD | Architect: SmithGroupJJR Interior | Finish: Porcelain

Profile

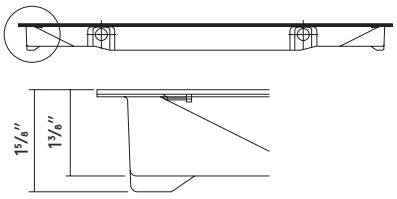
Top View



Bottom View



Side View

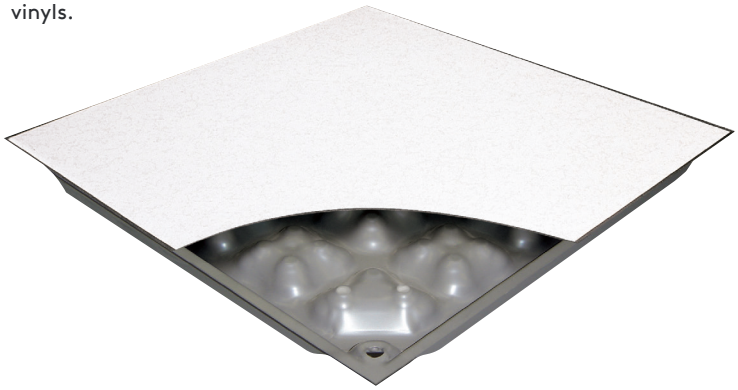


Access Floors

All Steel Panels

All Steel access floor panels are epoxy-coated unitized shells consisting of a flat steel top sheet welded to a formed steel bottom pan. Manufactured to exacting tolerances, these non-combustible rigid, solid panels deliver strength and durability with the convenience of lightweight construction.

All Steel panels are typically used in data center or communication rooms when panel weight is a concern due to frequent access or building structural requirements and are ideal for factory-laminated HPL and ESD vinyls.



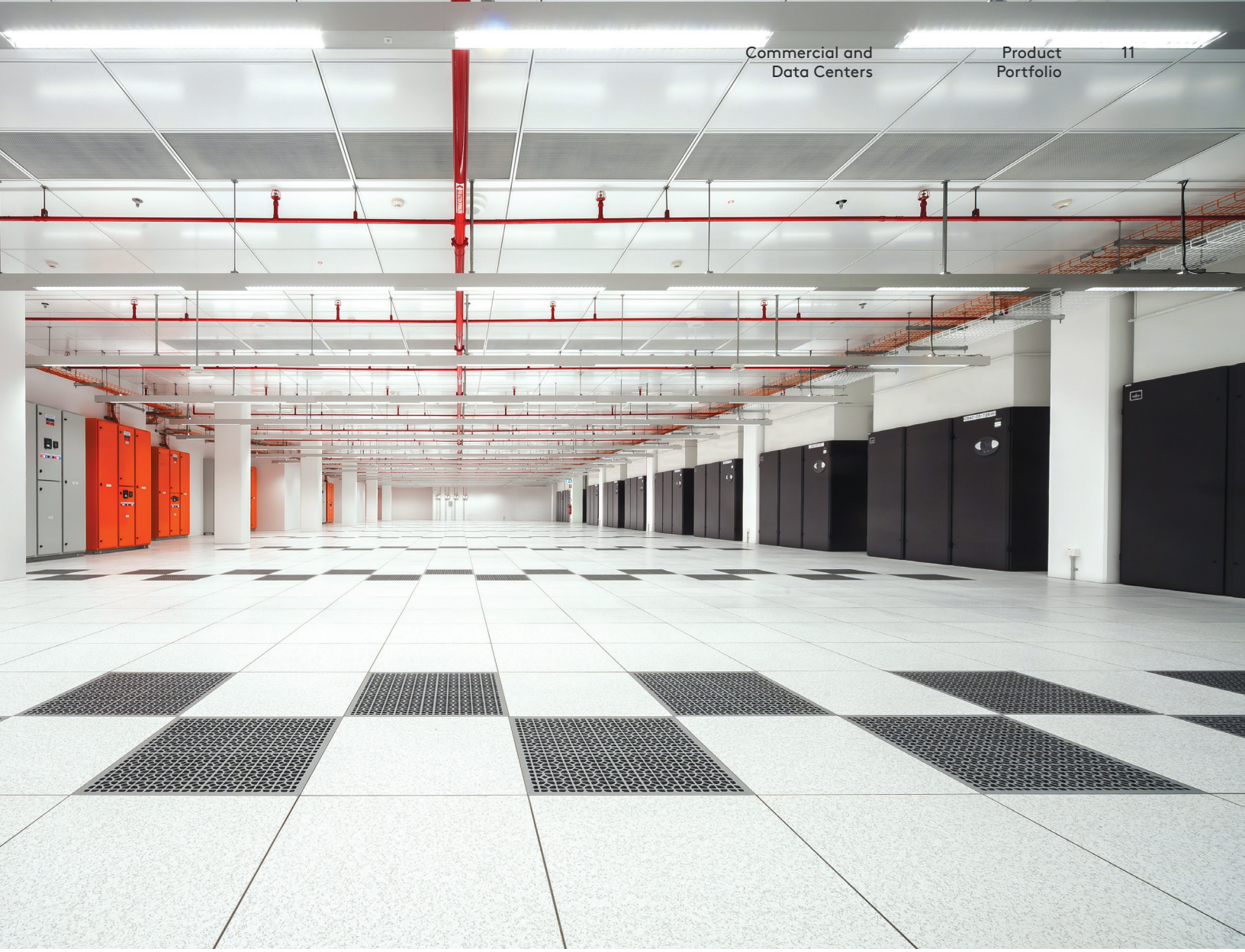
All Steel Performance Selection Chart

System Performance Criteria* (tested on actual understructure)

Panel	Understructure	System Weight lbs/ft² (kg/m²)	Static Loads			Rolling Loads		Impact Loads lbs (kg)
			Design Loads[1] lbs (kN)	Min. Ultimate Loads lbs (kN)	Safety Factor[2] min 2.0	10 Passes lbs (kN)	10,000 Passes lbs (kN)	
All Steel 1250	Bolted Stringer	7.0 (34)	1250 (5.6)	2500 (11.1)	PASS	500 (2.2)	500 (2.2)	150 (68)
All Steel 1250	LFFH/PosiLock	6.0 (29.3)	1250 (5.6)	2500 (11.1)	PASS	500 (2.2)	500 (2.2)	150 (68)

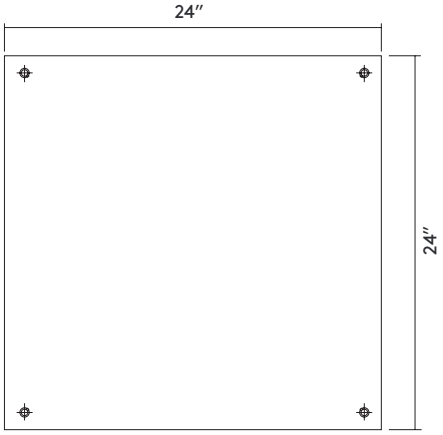
All tests are performed using CISCA's Recommended Test Procedures for Access Floors with the exception of Design Load.

1. System Design Load is based on permanent set ≤ 0.010" and is verified by loading panels in accordance with the CISCA concentrated load method but with panels installed on actual understructure instead of steel blocks. (Testing on blocks does not represent performance of an actual installation.) Ultimate, Rolling and Impact Load tests are performed using CISCA Test Procedures.
2. Safety Factor is Ultimate Load divided by Design Load.
3. Design Load and Rolling Load ratings are per-panel load ratings.

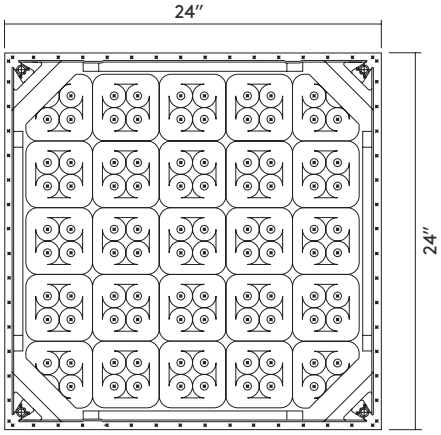


Profile

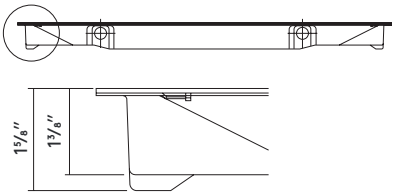
Top View



Bottom View



Side View



Access Floors
Understructure Systems

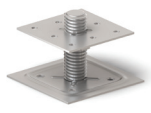
Tate has a complete line of understructure systems to meet the specific load capacity needs for your project, as well as provide proper positioning and air sealing capabilities. From four inch raised clearance to three feet of space underneath the floor, we have versatile systems for all types of installations including offices, data centers, libraries, casinos, schools, and retail.

Low Finished Floor Height

For applications where a large underfloor space isn't required, low finished floor height understructure is an easy way to provide a pathway for light cable and data infrastructure. It also provides a quick and easy way to level uneven floors, making it ideal for renovations.

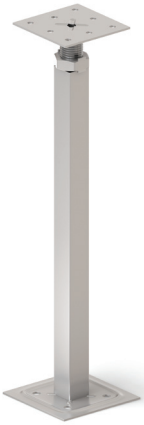
Pedestal Base for Seismic Conditions

Tate also offers seismic force-resistant pedestal options for our complete understructure product range. With stronger vertical supports ranging from ⅞" galvanized tubing and several diameters of round tubing to Schedule 40 pipe, the need for special bracing can be limited or eliminated entirely. For more information on Seismic bracing please discuss with your local rep or dealer.

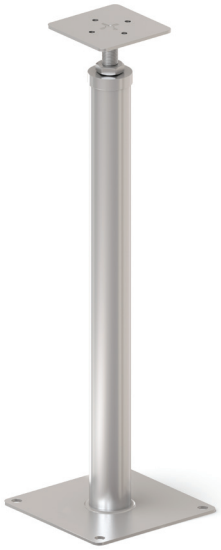


Low Finished Floor Height
3"-4" Range

Standard PosiLock
Floor Height 4"-24"
Range



Standard Bolted Stringer
Floor Height
6"-36" Range



Capable of floor
heights above 5 ft

Understructure Compatibility

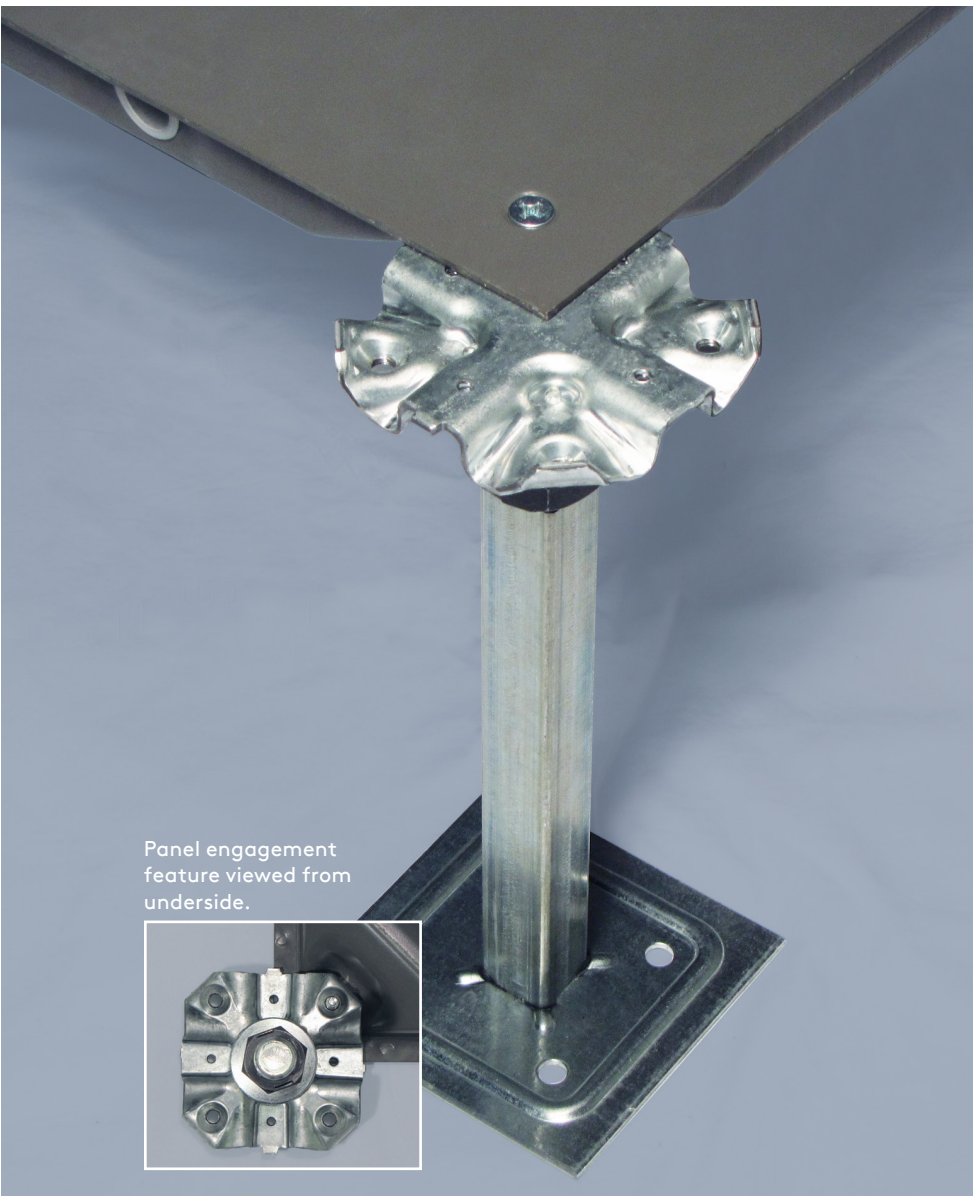
Panel	Low FFH PosiLock	Low FFH Bolted Stringer	PosiLock®	Heavy Duty Bolted Stringer	2" Deep Bolted Stringer
ConCore® (1000, 1250)	✓	✓	✓	✓	
ConCore® (1500)	✓		✓	✓	
ConCore® (2000, 2500)				✓	✓
ConCore (3000, 4000)					✓
All Steel (1250)	✓		✓	✓	

Understructure System

PosiLock®

For ConCore and All Steel Panels

Tate's PosiLock® understructure system provides self-engagement and positioning of the floor panels without the need for stringers.

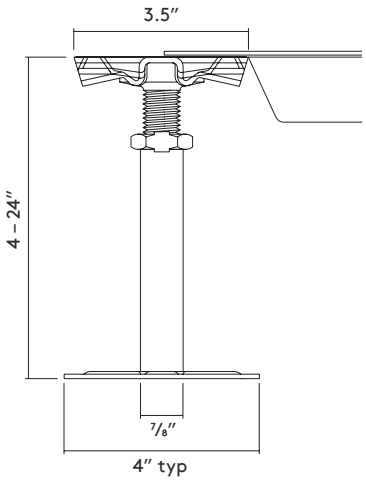


Panel engagement feature viewed from underside.

Key Performance Characteristics

- PosiLock® design provides self-engagement and positioning of floor panels
- Self-capturing fastener remains within the panel – will not get lost
- Steel pedestal head provides maximum strength
- Pedestal nut provides anti-vibration and locking features
- Seismic force-resistant pedestals are available that limit or eliminate the need for special bracing
- Typical floor heights from 4″-24″

Profile

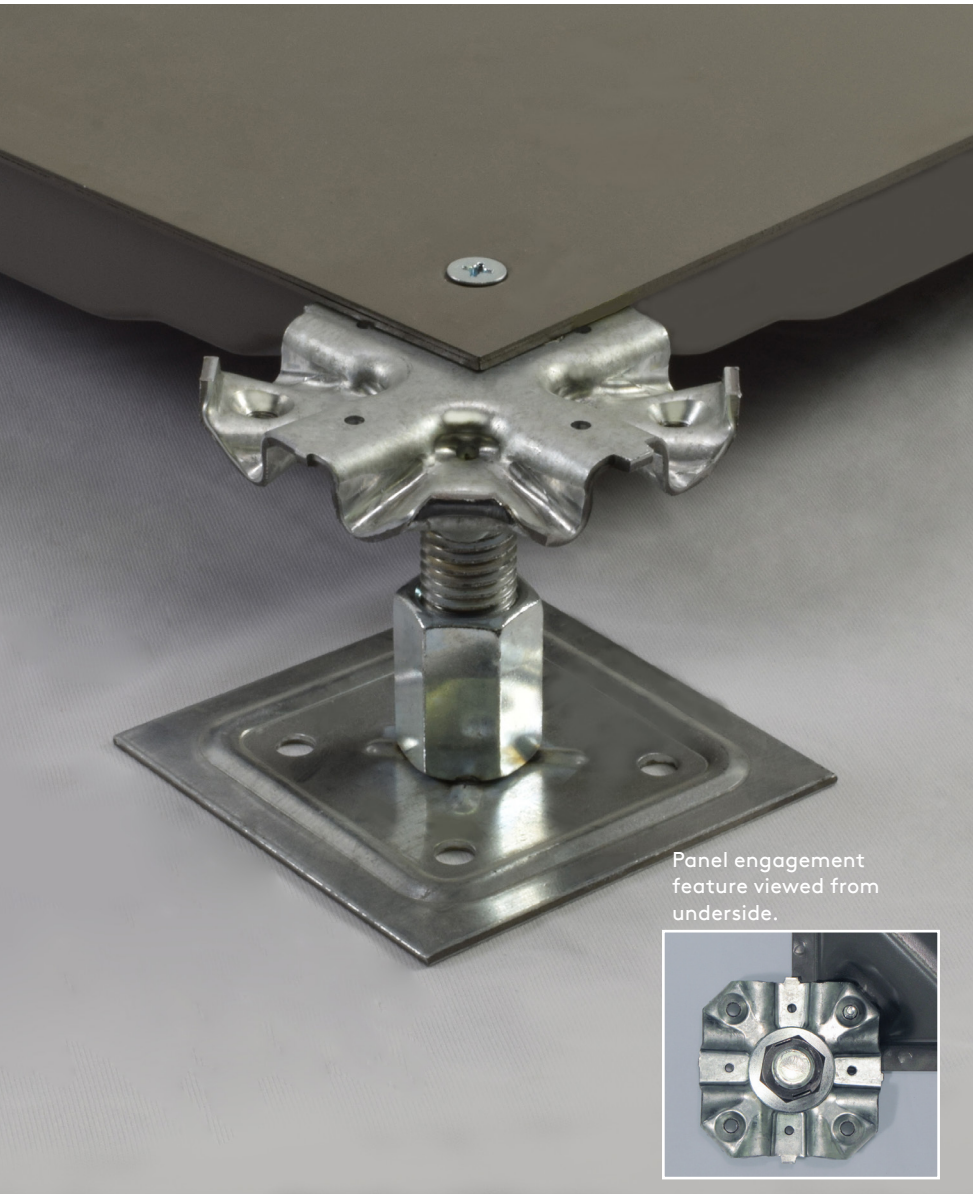


Understructure System

LFFH PosiLock®

For ConCore and All Steel Panels

Tate's PosiLock® understructure system can be reconfigured to accommodate low finished floor heights (LFFH) of 3″ - 4″.

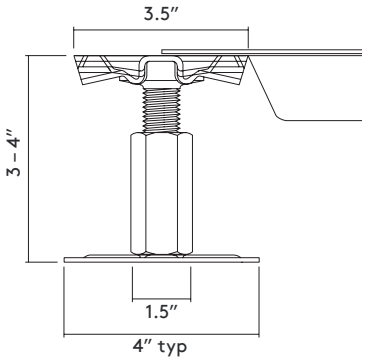


Panel engagement feature viewed from underside.

Key Performance Characteristics

- PosiLock® design provides self-engagement and positioning of floor panels
- Self-capturing fastener remains within the panel – will not get lost
- Steel pedestal head provides maximum strength
- Pedestal nut provides anti-vibration and locking features
- Seismic force-resistant pedestals are available that limit or eliminate the need for special bracing
- Typical floor heights from 3″- 4″

Profile



Understructure System
Bolted Stringer

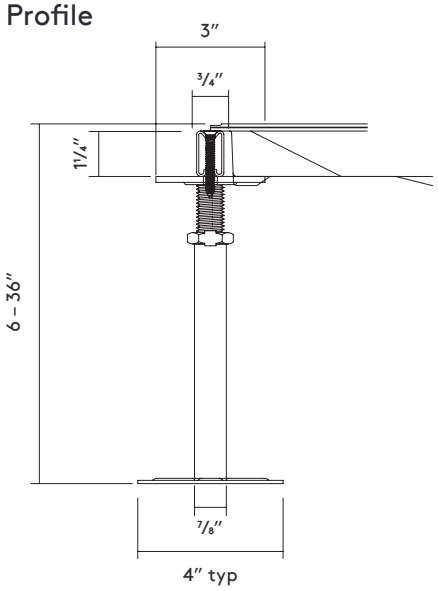
For ConCore and Airflow Panels

Tate's Bolted Stringer system provides lateral resistance to heavy rolling loads and seismic loading.

Key Performance Characteristics

- Designed for computer rooms, data centers, industrial applications and heavy rolling load areas
- Allows floors to be built over 24" (60 cm) high
- Panels are gravity-held in understructure for fast removal and replacement
- Stringers provide lateral resistance to heavy rolling loads and seismic loading
- Seismic force-resistant pedestals are available that limit or eliminate the need for special bracing
- Typical floor heights from 6"-36" (15-90 cm) with other heights available
- 2" deep bolted stringers are utilized for ConCore 3000 and 4000 panels.

Profile



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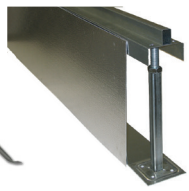
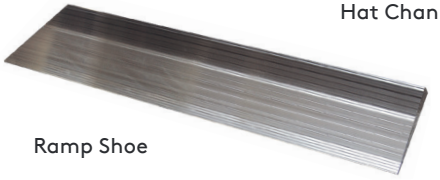
Accessories

Seismic Brace



Plenum Divider with Hat Channel



Ramp Shoe

Access Floor Accessories

Tate offers a variety of accessories to complete your raised floor installation. From ramps and steps to plenum dividers, bridges and seismic braces, we supply everything required to make your project a success. Find details on the full range of accessories at www.tateinc.com.

Seismic Brace
Various height with 1-⅛" legs

Penum Divider with Hat Channel
Various height with 4" wide hat channel

Ramp Shoe
1:12 slope x 6' long.

Swirl Diffuser

Designed for use with an Underfloor Air Distribution system, Tate's swirl diffuser provides complete flexibility and personal comfort control. Tate's swirl diffuser provides greater personal comfort control over thermostatically controlled variable-air-volume ceiling diffusers by allowing the occupant the ability to control the volume and placement of the airflow in their space.

Size: 8-¼" Diameter

UFAD Grommets

Tate's Underfloor Air Distribution (UFAD) grommets are designed to nearly eliminate air leakage in buildings with Underfloor Air Distribution systems. We offer many different sizes to seal openings in an access floor panel. Our grommets are made from fire-resistant ABS or brushed aluminum to complement your décor. These grommets are for use in office areas only.

Size: 3-½" to 6-⅝" Diameter

If you need something you don't see here or are looking for a modification to fit the specific needs of your project, please contact us at 410-799-4200 or the Tate Info Line at info@tateinc.com.

Accessibility

The continuous evolution of access flooring systems means today's high-performance buildings can maintain accessibility to the underfloor pathways while still having a wide selection of high-end architectural finishes. With each modular panel capable of being easily removed anywhere along the service path, access floors give you total control over your building's service distribution systems.

Flexibility

Today's business landscape is all about being agile, and your workspace needs to maintain the same flexibility your business does in order to stay competitive — maximizing both individual comfort and worker efficiency while minimizing costs. The modular design of Tate's access floor solutions allows you to easily relocate service terminals and air diffusers within minutes. Simply swap the panels and get back to your business.

Reconfigurability

A step beyond flexibility, Tate's access floors help ensure that your business is future proof, allowing you to completely reconfigure your workspace as your business grows and changes. Tate access floors make it simple to replace one finish with another or add/remove partition walls — allowing your building's aesthetic to adapt to your needs both today and in the future.

Salesforce East – San Francisco, CA | Architect: Skidmore, Owings & Merrill | Finishes: Plank Wood, Multi-Piece Porcelain and Carpet

02

Architectural Finishes

Your Vision. Our Experience.

Tate offers an exciting selection of high-end finishes ranging from laminated options like porcelain, wood or resilients, to freelay products such as PosiTile®, a one-to-one fit carpet tile, or Attiro®, a magnetically backed plank wood. Architects and designers now have the freedom to create a truly unique look for any project while still maintaining the versatility and convenience offered by an access floor.

Time

Tate access floor panels and high-end architectural finishes arrive at your work site as a finished product which is installation-ready. This means a quicker, more efficient installation process and an earlier move-in date for your project.

Cost Savings

Time is money, which is why Tate access floors are the smart choice for any project.
Design-assisted solutions arriving installation-ready from the factory means fewer on-site trades and less time spent during construction overall. That's money that goes straight to your bottom line.

Architectural Finishes

Laminated Finishes

Tate works with top manufacturers to offer a wide range of finishes including: porcelain, wood, resilients, high pressure laminates (HPL) and static control vinyl. Factory-laminated finishes offer a wide range of benefits including easy access to underfloor services, reconfigurability and maintenance. Having the finish applied directly to the access floor panels reduces installation time and lowers cost.

HPL and static control vinyl finishes are designed to control static discharge, which
helps protect sensitive equipment in critical applications such as data centers and labs.

Laminated Finish Options


Porcelain


Terrazzo


Wood


Resilients


HPL

ValueAct Capital Headquarters – San Francisco, CA | Architect: Gould Evans | Finish: Porcelain

Key Performance Characteristics

- Wide range of surface and finish options for any application
- Engineered to maintain access to underfloor services
- Panels can be removed and reconfigured as needed
- Eliminates the need for leveling compounds or backerboards
- Customized transitions are available
- Fast, easy installation reduces cost

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Architectural Finishes

Laminated Porcelain

Tate's line of laminated porcelain for ConCore® raised floor panels offers the ultimate combination of aesthetics and flexibility. With a variety of styles and colors to choose from, these tiles can enhance the architectural form and space of a building. The porcelain panels come in two primary designs: single-piece and multi-piece, and the factory-laminated porcelain access floor panels come with an edge banding that produces clean, even lines that give the appearance of grouted tiles.

Designs

The factory-laminated porcelain panels are available in two primary designs: single-piece and multi-piece, and come with an edge banding that produces clean, even lines that give the appearance of grouted tiles.

Single-piece

Multi-piece

Key Performance Characteristics

- Laminated to ConCore® access floor panels
- Available in single and multi-piece design
- Available in a variety of colors and styles
- Tiles designed to meet precise specifications
- Edge banding protects against chipping
- Easy to clean maintenance
- Supported by a bolted stringer system
- Single piece Porcelain must be on ConCore® 1500 or higher grade panel.
- Multi-piece Porcelain must be on a ConCore® 2500/3000

Kellogg School of Management, Northwestern University – Evanston, IL | Architect: KPMB | Finish: Multi-Piece Porcelain

Styles (for a complete listing of available colors in each style, please visit tateinc.com/Products/Finishes)


Cement


Metallic


Monolithic


Stone

Architectural Finishes

Laminated Terrazzo

The Terrazzo finish is laminated to a ConCore panel consisting of a flat steel top sheet welded to a formed steel bottom sheet filled with a highly controlled mixture of a lightweight cement infill. Used in conjunction with a bolted stringer understructure system, the resulting system is extremely durable and provides an easy to care for finish that can withstand excessive foot traffic.

Styles (for a complete listing of available colors and styles, please visit tateinc.com/Products/Finishes)


Twilight


Desert Sand


Shadow Grey

Malone Hall, Johns Hopkins University – Baltimore, MD | Architect:S/L/A/M Collaborative| Finish: Laminated Terrazzo

Key Performance Characteristics

- Available with recycled marble or natural marble
- Sealed and polished in the field after installation for a long lasting, durable finish
- Recycled Marble contains up to 70% post-industrial recycled material
- Supported by a Bolted Stringer system
- Laminated to a ConCore panel supported by a bolted stringer system (ConCore® 2000 or 2500/3000)

Architectural Finishes
Laminated Wood

Tate's wood panels offer a long-lasting and versatile finish that enhances the look of your application. The plank design is available in a variety of species and can be laminated to Tate ConCore® panels with a monolithic edge.

Design

Factory-laminated plank wood panels are available in a wide variety of species.

Plank

Key Performance Characteristics

- Available in a variety of species and colors
- Long-lasting natural architectural finish\
- Supported by a Bolted Stringer system
- Laminated to Tate ConCore® panel (All ConCore® grades acceptable)

350 Mission Street – San Francisco, CA | Architect: Gensler | Finishes: Plank Wood, Multi-Piece Porcelain and Carpet

Featured Plank Wood Species (for a complete listing of available colors in each species, please visit tateinc.com)


Dark Oak


Doussie


Teak


Walnut

Tate.

Architectural Finishes

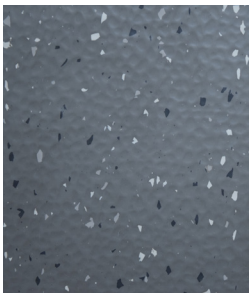
Laminated Resilients

Resilient tiles are a durable and easily maintained finish and are available in an almost unlimited selection of colors, patterns and textures. Tate works with leading commercial flooring manufacturers who offer a wide range of resilient finishes from linoleum and vinyl to rubber, LVT, HPL and ESD vinyl.

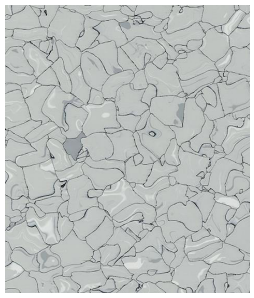
Resilient Finish Options


Linoleum


Vinyl


Rubber


LVT


ESD Vinyl

Santa Monica High School Discovery Building – Malibu, CA | Architect: HED and Moore Ruble Yudell | Finishes: Carpet and Resilient

Key Performance Characteristics

- Can offer specific acoustical, conductive and slip-resistant qualities
- Wide range of finish options with a variety of patterns and colors
- Factory laminated for perfect one-to-one alignment
- Supported by a bolted stringer system
- Linoleum, vinyl and rubber are laminated to Tate ConCore® or All Steel panels (All Steel 1250, ConCore® 1250 or 2500/3000 only)

Architectural Finishes

High Pressure Laminate (HPL)

High Pressure Laminates (HPL) are most frequently used in data centers, service corridors, closets and other areas that require a durable finish or specific performance characteristics. Tate factory laminates the HPL to the access floor panel, reducing installation time and cost.

HPL Finish Options

Cheyenne Gray

Beige Concord

Folkstone Grafix

Stone Grafix

Misty

Key Performance Characteristics

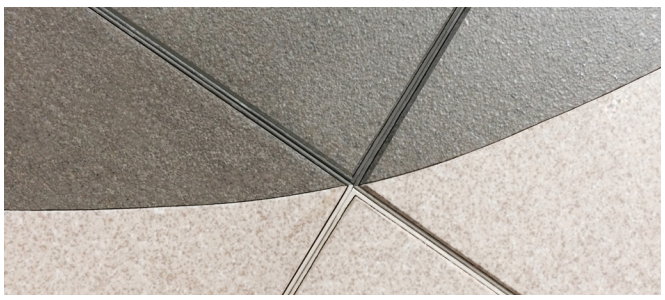
- Superior wear resistance
- Requires minimal maintenance - damp mop only
- Visually appealing with a wide range of color and finish options
- Standard floor covering solution for data centers and computer rooms
- HPL has low static generation and retention
- Electrical resistance (NFPA 99): 20 billion ohms max
- Tile surface withstands heavy rolling loads from server racks and cabinets
- Integral edge trim won't separate from panel due to handling or heavy rolling loads
- Supported by a bolted stringer system
- HPL is laminated to Tate ConCore® or All Steel panels
  (Any grade of panel can be used for HPL)

Architectural Finishes

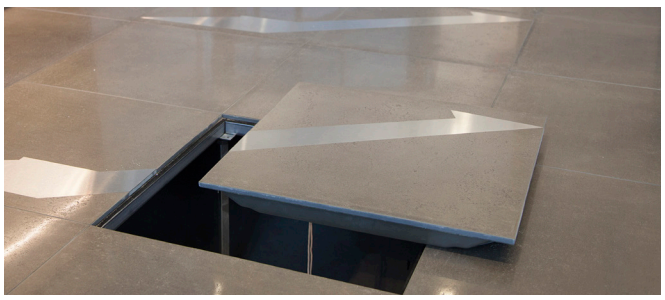
Custom Panels and Designs

Tate's state-of-the-art engineering and manufacturing capabilities allow us to customize our customers' projects even further. By combining Tate's more than 60 years of experience as an access flooring industry leader with your vision, you are guaranteed to capture the unique look and feel you need for your next project.

Custom Panel Options



Transition Panel



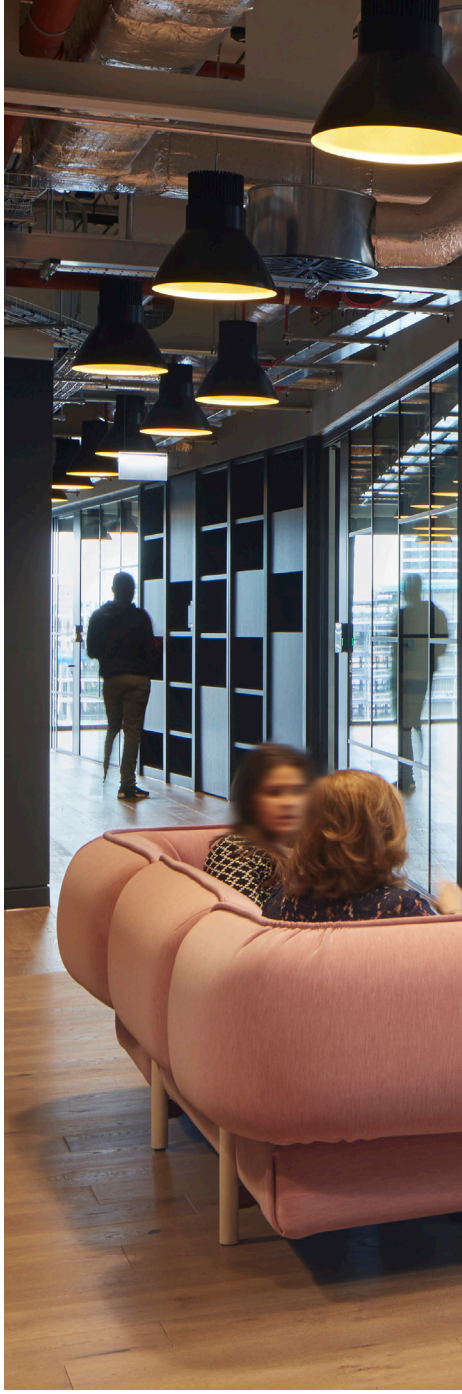
Inlay Panel

Salesforce East – San Francisco, CA | Architect: Skidmore, Owings & Merrill | Finishes: Plank Wood, Multi-Piece Porcelain and Carpet

Key Performance Characteristics

- Able to blend multiple finishes on single panel
- Customized inlays, designs, corporate logos and more
- Maintains accessibility, flexibility and reconfigurability

Architectural Finishes
Freelay Finishes



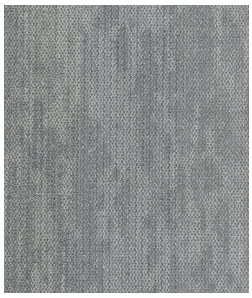
Tate offers a variety of Freelay finishes that can be applied in the field after installation. With a stylish assortment of colors available, compromising design for flexibility will never be an architectural obstacle again.

These Freelay finishes have an unlimited directional layout, making it easier then ever to replace a damaged tile or redesign your entire area without replacing the entire access floor panel. All of this without compromising access to the underfloor void.

Freelay Finish Options

Attiro Wood

Interlocking Water Tight



PosiTile Carpet

Key Performance Characteristics

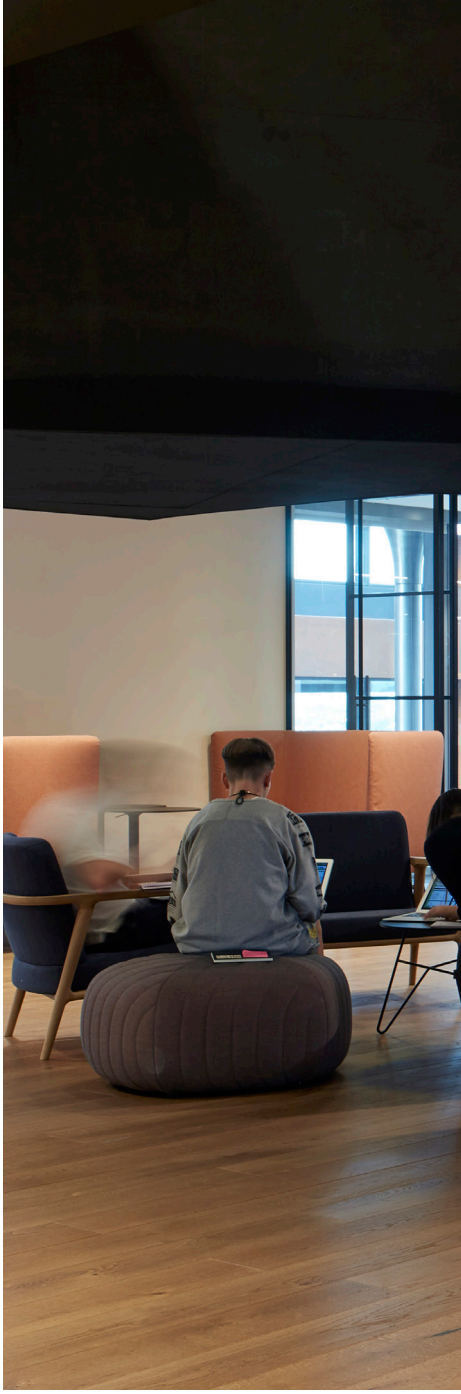
- Wide range of surface and finish options for any application
- Engineered to maintain access to underfloor services
- Panels can be removed and reconfigured as needed
- Eliminates the need for leveling compounds or backerboards
- Fast, easy installation reduces cost

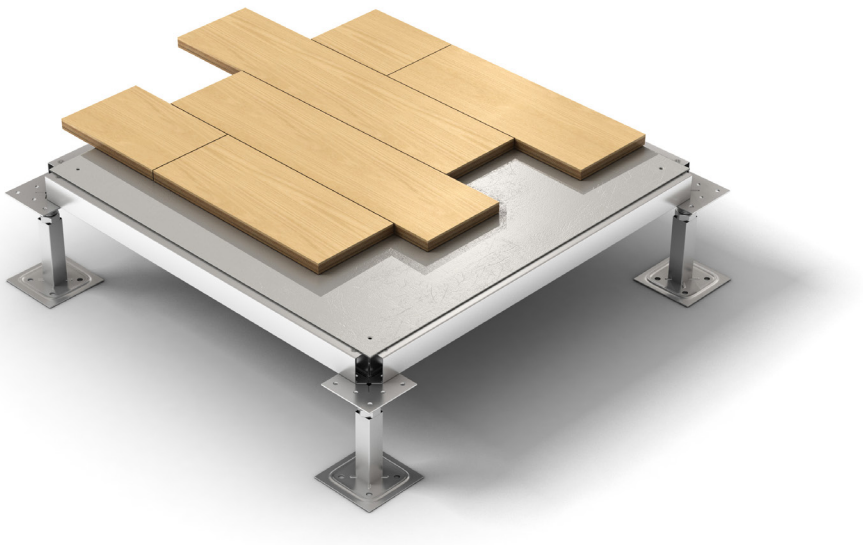
Architectural Finishes

Attiro®

Freelay Hardwood Planks

Tate's magnetic freelay wood plank solution (Attiro) combines all the beauty of engineered wood with the ease of an access flooring system. The magnetized system creates a traditional staggered plank style wooden floor without compromising access to the underfloor void.





Attiro® Staggered Plank Layout

Bloomberg Headquarters – London, England | Architect: Foster + Partners | Finishes: Attiro® Magnetic Backed Wood

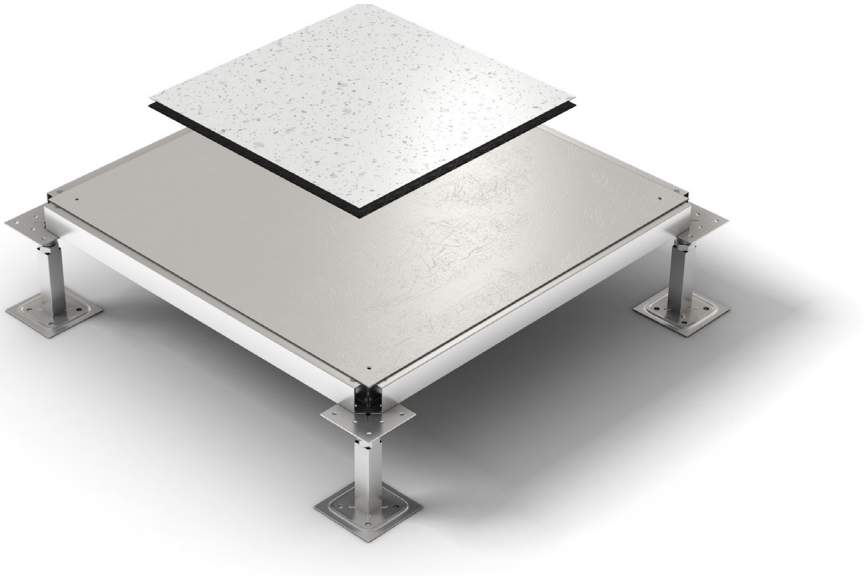
Key Performance Characteristics

- Available in multiple shades to suit any taste and interior
- Beautiful brushed finish with a wax oil lacquer
- Eliminates previous limitations on design and accessibility
- Durable, easy to maintain and can be walked on immediately after installation
- Available on PosiLock or Bolted Stringer/Cornerlock Combo Understructure systems.
- Works with Tate ConCore panel (ConCore® 1000, 1250 or 1500)

Architectural Finishes

Interlocking Water Tight Tile

The field-applied, interlocking Freestyle BioLock tiles are installed over the raised floor panels to create a water-tight finish. A proprietary releasable seam sealer can be applied to the interlocking tiles to create a watertight seal. Since the product is releasable, the tiles can be lifted as needed to access the underfloor plenum. The tiles are compatible with PosiLock and bolted stringer systems.



SelecTech Raised Floor Finishes

Interlocking system for easy access to underfloor services

Seam sealer for watertight installation

Key Performance Characteristics

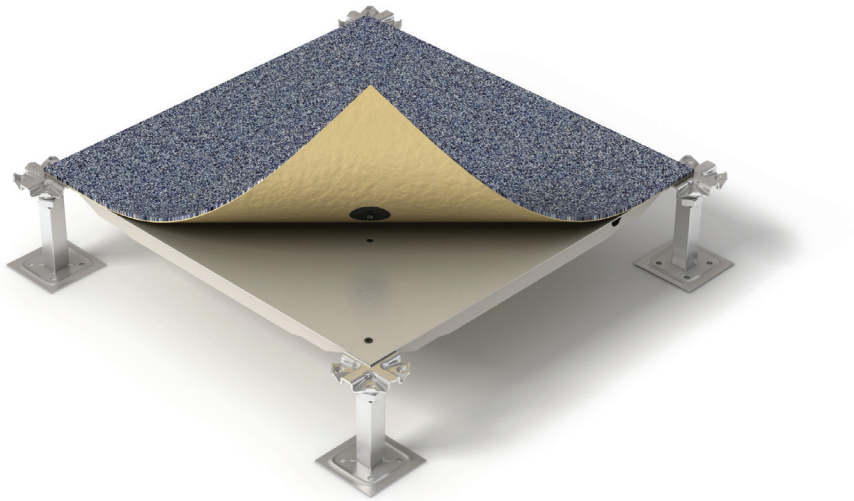
- Hidden interlocking system
- ESD options: conductive and static dissipative
- 100% recyclable
- Made with up to 70% recycled content
- Made in the U.S.A.
- Watertight option
- Available in a wide range of textures and colors
- Available on PosiLock or Bolted Stringer/Cornerlock Combo Understructure systems.
- Compatible with any panel grade.

Tate.

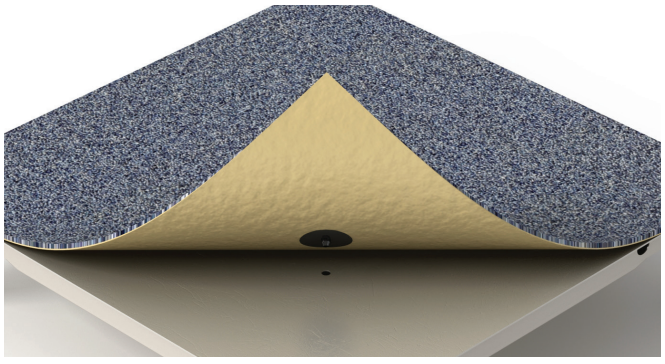
Architectural Finishes

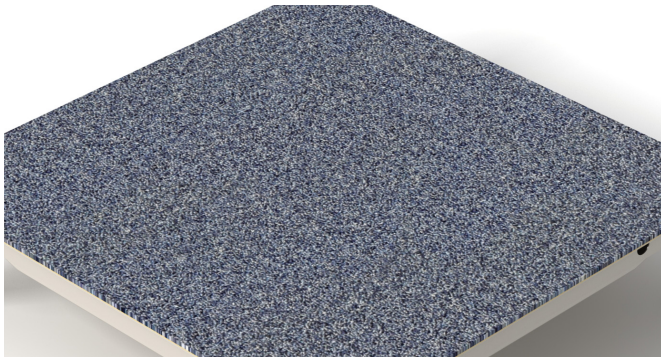
PosiTile® Carpet

Each PosiTile® carpet module is engineered to match one-to-one with Tate ConCore® and All Steel access floor panels. The combination of carpet and panel preserves the flexibility of the Underfloor Service Distribution system and allows for the reuse of carpet tiles during layout changes. PosiTile® maintains easy accessibility and reduces waste.



PosiTile® Ultrasonically Welded Button



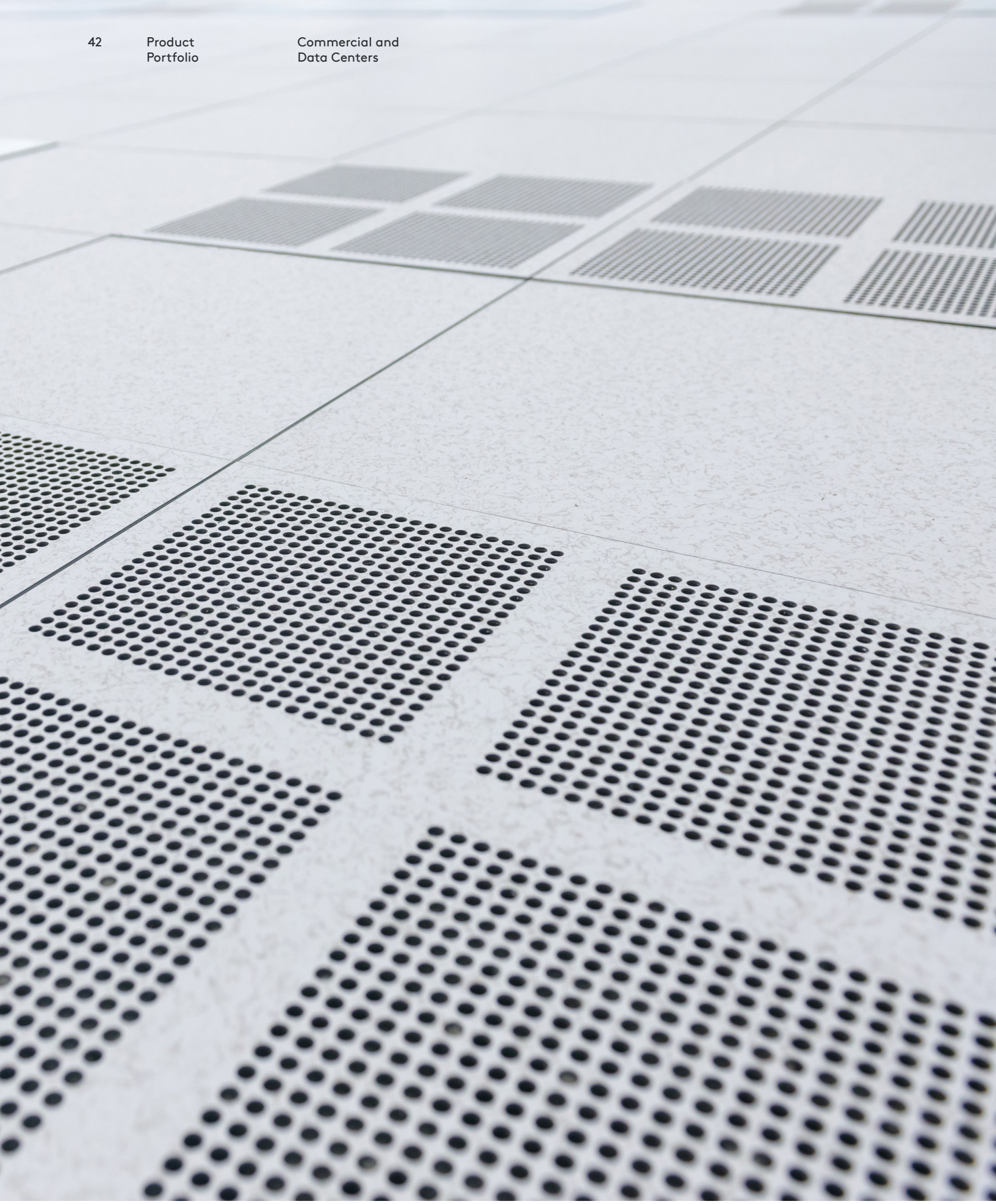


Jupiter Township Water Treatment Facility – Jupiter, FL | Architect: Song + Associates | Finishes: Carpet and Porcelain

Key Performance Characteristics

- Reduces move time
- No additional attic stock
- Eliminates waste due to churn
- One-to-one fit with ConCore® and All Steel access floor panels
- Supported by a PosiLock or Bolted Stringer system

Tate.



03

Airflow Panels & Controls

Custom Solutions for Your Unique Challenges

Tate is a leading manufacturer of data center solutions, and our manufacturing process allows for the customization of containment and structural ceiling products to fit the needs of your specific facility. Tate offers application engineering, as well as design and specification assistance to develop the solution your data center needs.

Our world-class manufacturing plants have the flexibility to create modular solutions quickly with up-front cost optimization and Tate's in-house engineering team has the experience and industry knowledge to design the best solutions and guide your project from concept to completion.

Whatever your challenges might be, Tate is the single-source solution builder your data center needs.

Leverage Our Experience

When it comes to data center solutions from Tate, you have options. Our application engineering support and custom manufacturing capabilities give you the ability to pick and choose a tailor-made solution that is the perfect fit for your data center.

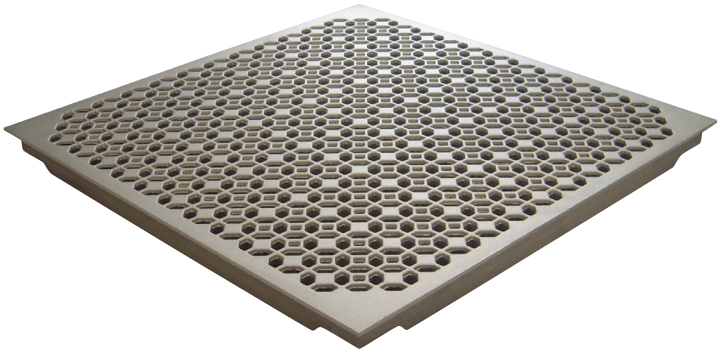
And the best part is that, even though Tate's containment and structural ceiling systems are designed to fit your exact specifications, they are still fully compatible with all of Tate's other data center products such as access flooring, airflow panels and controls and more.

Airflow Panels & Controls

GrateAire® Panels

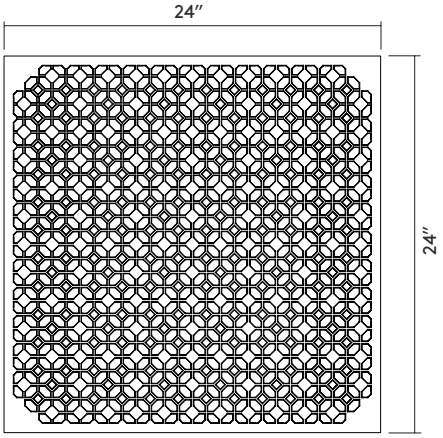
Aisle Level Containment Vertical Airflow Panels

Tate's aluminum GrateAire® offers high volume airflow for physically contained aisles with high heat densities. With 56% open area, the lightweight aluminum panel is ideal for areas that need high airflow and load capacity.

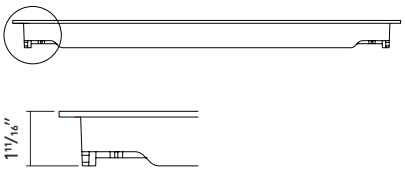


Profile

Top View



Side View



Key Performance Characteristics

- GrateAire® die-cast aluminum panels are compatible with any 24″ bolted stringer system
- Class A flame spread rating
- High rolling load capacity (1000 lbs / 800 lbs)
- Available with top surface adjustable slide damper or opposed blade damper
- Available with an unpainted textured surface or epoxy powder coatings
- Interchangeable with Tate's full line of laminated raised floor panels in a stringer system
- Available with Fog Grey anti-static powder coat finish

GrateAire® Load Performance Chart

Airflow Panel	Under-structure	System Weight (lbs/sqft)	Static Loads (lbs)			Rolling Loads (lbs)		Impact Load (lbs)	Airflow Volume (CFM@ 0.10″ H_2O)	Open Area (%)
			Design Load	Safety Factor	Ultimate Load	10 Passes	10,000 Passes			
GrateAire	Bolted Stringer	6.47 (31.59 kg/m^2)	1000 (4.4 kN)	Min. > 2	>2000 (8.9 kN)	1000 (4.4 kN)	800 (3.6 kN)	100 (45 kg)	2340	56

All tests are performed using CISCA's Recommended Test Procedures for Access Floors with the exception of Design Load.

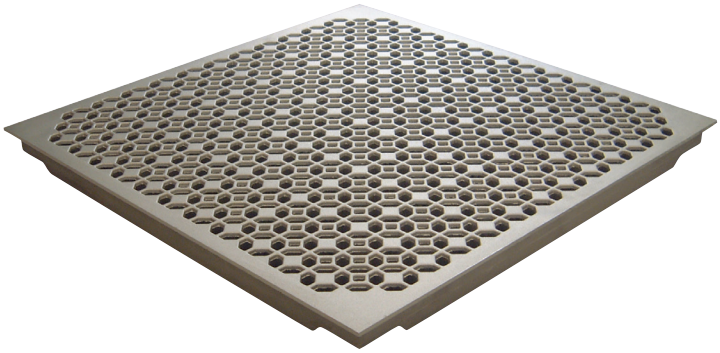
1. System Design Load is based on permanent set ≤ 0.010″ and is verified by loading panels in accordance with the CISCA concentrated load method but with panels installed on actual understructure instead of steel blocks. (Testing on blocks does not represent performance of an actual installation.) Ultimate, Rolling and Impact Load tests are performed using CISCA Test Procedures.
2. Safety Factor is Ultimate Load divided by Design Load.
3. Rolling Load ratings are per-panel load ratings.

Airflow Panels & Controls

Heavy Duty GrateAire® Panels

Aisle Level Containment Vertical Airflow Panels

Tate's Heavy Duty aluminum GrateAire® offers high volume airflow for physically contained aisles with high heat densities. With 56% open area, the lightweight aluminum panel is ideal for aisles that need high airflow and extra static and rolling load capacity.

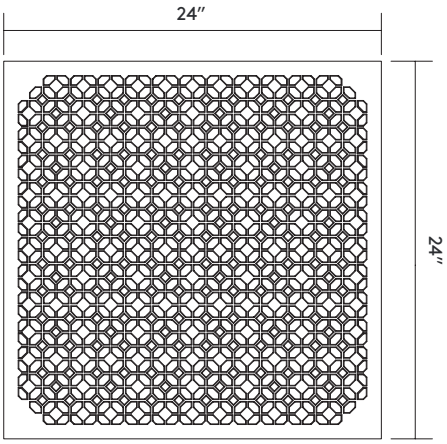


Key Performance Characteristics

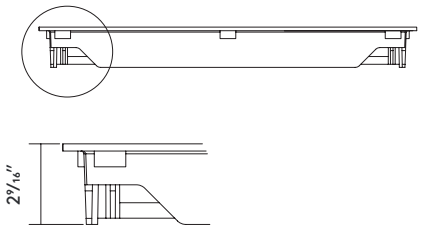
- GrateAire® die-cast aluminum panels are compatible with 24″ bolted stringer system
- Class A flame spread rating
- High rolling load capacity (2700 lbs / 2400 lbs)
- Available with top surface adjustable opposed blade damper
- Available with Fog Grey anti-static powder coat finish
- Interchangeable with Tate's ConCore 2500, 3000 and 4000 laminated panels

Profile

Top View



Side View



Heavy Duty GrateAire® Load Performance Chart

Airflow Panel	Under-structure	System Weight (lbs/sqft)	Static Loads (lbs)			Rolling Loads (lbs)		Impact Load (lbs)	Airflow Volume (CFM@ 0.10″ H_2O)	Open Area (%)
			Design Load	Safety Factor	Ultimate Load	10 Passes	10,000 Passes			
Heavy Duty GrateAire	2″ Deep Bolted Stringer	8.46 (41.31 kg/m²)	3000 (1360 kg)	Min. 1.67	5000 (2270 kg)	2700 (1225 kg)	2400 (1090 kg)	150 lbs (68 kg)	2340	56

All tests are performed using CISCA's Recommended Test Procedures for Access Floors with the exception of Design Load.

1. System Design Load is based on permanent set ≤ 0.010″ and is verified by loading panels in accordance with the CISCA concentrated load method but with panels installed on actual understructure instead of steel blocks. (Testing on blocks does not represent performance of an actual installation.) Ultimate, Rolling and Impact Load tests are performed using CISCA Test Procedures.
2. Safety Factor is Ultimate Load divided by Design Load.
3. Rolling Load ratings are per-panel load ratings.

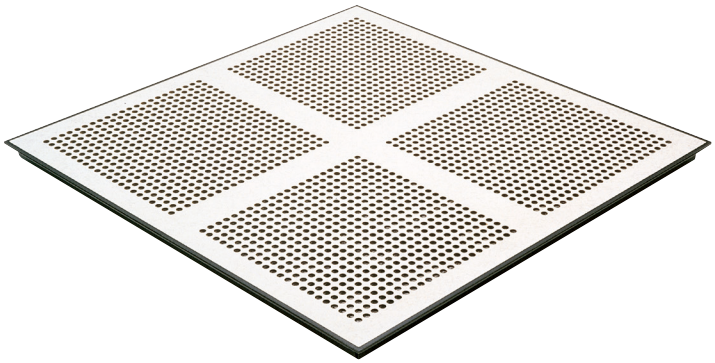
Tate.

Airflow Panels & Controls

Perforated Panels 25%

Aisle Level Containment Vertical Airflow Panels

Tate's perforated steel panels are available with a 25% open area. They represent the most economical approach to supplying air in a contained cold aisle.

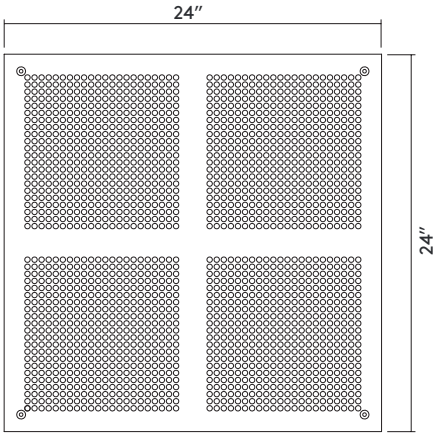


Key Performance Characteristics

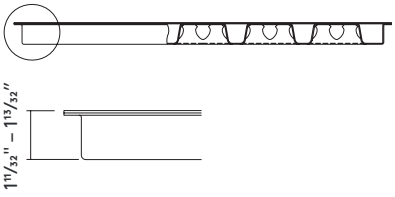
- Compatible with 24" or 60 cm Bolted Stringer systems
- Available with top surface adjustable slide damper
- Available with laminated tile or powder coated finish
- Laminated finish includes high pressure laminate or ESD vinyl
- Interchangeable with laminated ConCore® and All Steel panels in a stringer system
- Bare Panel weight is 5.5 lbs/ft^2
- Capable of supporting a static design load of 1,250 lbs. (5.6 KN)
- Airflow volume (Open damper) = 280 CFM min.

Profile

Top View



Side View



Airflow Panels & Controls

DirectAire® Panels

Strong, Efficient, High Capacity Directional Airflow Panels

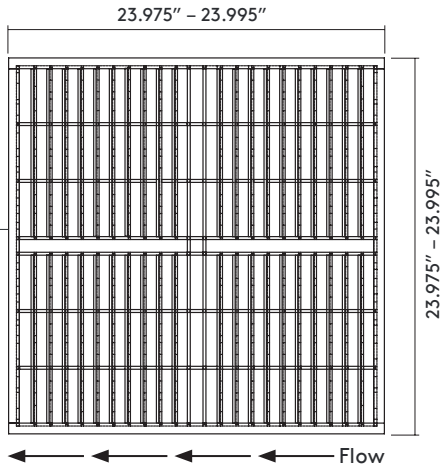
Ideal for creating a virtual containment system, the steel DirectAire® panel directs the airflow toward the server rack to significantly reduce bypass air. DirectAire is designed to evenly distribute airflow across the full height of a standard 42U rack. DirectAire X2 is designed to divide the airflow evenly in two directions to provide even distribution to racks on both sides of a cold aisle.

Key Performance Characteristics

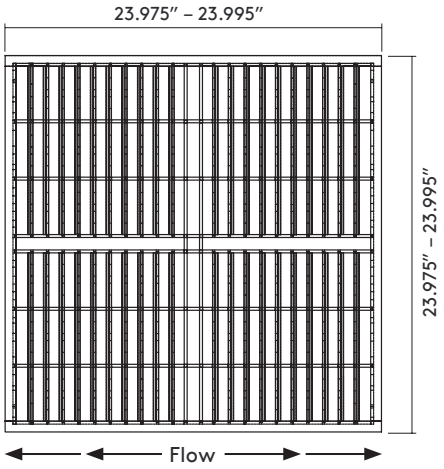
- Reduce capital expenditures on cooling infrastructure by up to 40%
- Save up to 40% in annual fan energy without the use of containment
- 68% open area provides 2,850 CFM @ .1" H2O
- All steel construction
- 2,500 lbs design load
- 1,500 lbs rolling load capacity
- Available in 24" panel size
- Available with Smoke Grey anti-static powder coat finish
- Available with single-zone or multi-zone opposed blade damper, or with PowerAire Quad fan unit

Profile

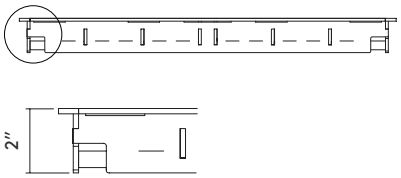
Top View - DirectAire



Top View - DirectAire X2



Side View



DirectAire® Load Performance Chart

Airflow Panel	Under-structure	System Weight (lbs/sqft)	Static Loads (lbs)			Rolling Loads (lbs)		Impact Load (lbs)	Airflow Volume (CFM @ 0.10" H_2O)	Open Area (%)
			Design Load	Safety Factor	Ultimate Load	10 Passes	10,000 Passes			
DirectAire®	Bolted Stringer	14.0 (68.35 kg/m²)	2500 (11.1 kN)	Min. > 2	>5000 (17.76kN)	1500 (6.67 kN)	1500 (6.67 kN)	200 (91 kg)	2850	68
DirectAire® X2	Bolted Stringer	14.0 (68.35 kg/m²)	2500 (11.1 kN)	Min. > 2	>5000 (17.76 kN)	1500 (6.67 kN)	1500 (6.67 kN)	200 (91 kg)	2850	63

All tests are performed using CISCA's Recommended Test Procedures for Access Floors with the exception of Design Load.

1. System Design Load is based on permanent set ≤ 0.010" and is verified by loading panels in accordance with the CISCA concentrated load method but with panels installed on actual understructure instead of steel blocks. (Testing on blocks does not represent performance of an actual installation.) Ultimate, Rolling and Impact Load tests are performed using CISCA Test Procedures.
2. Safety Factor is Ultimate Load divided by Design Load.
3. Rolling Load ratings are per-panel load ratings

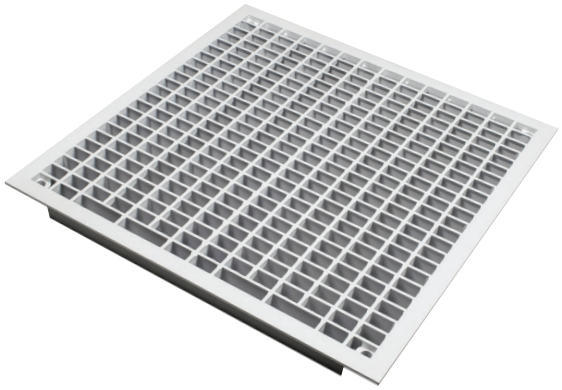
Tate.

Airflow Panels & Controls

DirectAire® AL Panels

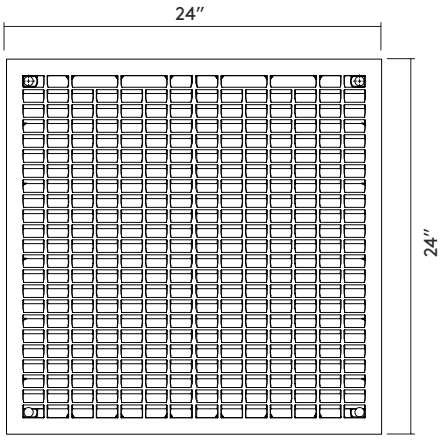
Strong, Efficient, High Capacity Directional Airflow Panels

The DirectAire® AL is an all aluminum airflow panel that provides the same directional airflow benefits of the steel DirectAire. This allows the panel to provide similar cooling capacities with a panel that is 40% lighter.

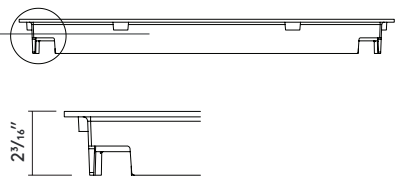


Profile

Top View



Side View



Key Performance Characteristics

- Die-cast aluminum construction
- 40% lighter than a steel DirectAire
- 60% open area provides 2,775 CFM @ .1″ H2O
- 1,500 lbs design load
- 1,250 lbs 10 pass rolling load capacity
- Available in 24″ panel size
- Available with Fog Grey anti-static powder coat finish
- Available with single-zone or multi-zone opposed blade damper, or with PowerAire Quad fan unit

DirectAire® Al Load Performance Chart

Airflow Panel	Under-structure	System Weight (lbs/sqft)	Static Loads (lbs)			Rolling Loads (lbs)		Impact Load (lbs)	Airflow Volume CFM @ 0.10″ H_2O	Open Area (%)
			Design Load	Safety Factor	Ultimate Load	10 Passes	10,000 Passes			
DirectAire® AL	Bolted Stringer	7.9	1500 (6.7 kN)	Min. > 2	>2500 (13.3 kN)	1250 (5.6 kN)	1000 (4.4 kN)	150 (68kg)	2775	60

All tests are performed using CISCA's Recommended Test Procedures for Access Floors with the exception of Design Load.

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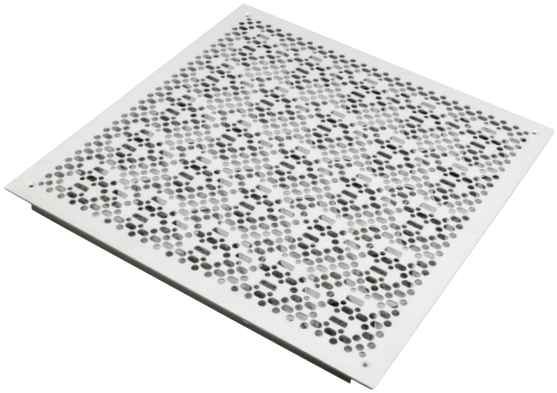
2. Safety Factor is Ultimate Load divided by Design Load.
3. Rolling Load ratings are per-panel load ratings.

Airflow Panels & Controls

DirectPerf® 32% Panels

Cool the Same Load as Vertical Plume Panels with Half the Airflow

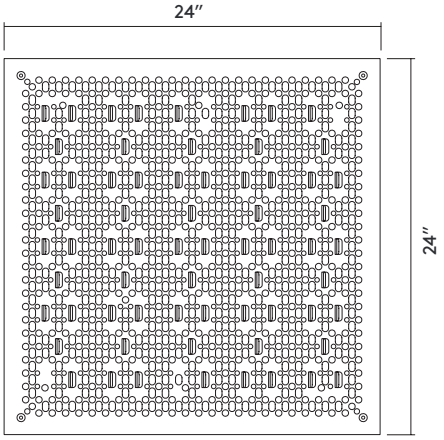
In uncontained spaces, directional airflow provided by a DirectPerf 32% panel provides nearly the same cooling capacity as a standard 56% open area grate using about half the airflow.



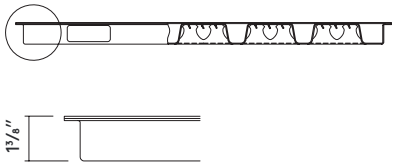
1285 CFM @ .10″ H2O

Profile

Top View



Side View



Key Performance Characteristics

- Same kW cooling capacity as GrateAire
- 32% open area delivers 1,285 CFM @ .1″ H2O when installed without a damper
- Directional airflow achieves an 88% capture index
- Can save over 40% in annual fan energy without the use of containment
- Easily integrates into an existing 24″ and 60 cm raised floor system
- Compatible with 24″ or 60 cm Bolted Stringer systems
- Bare Panel weight 4.875 lbs/ft^2
- Capable of supporting a static design load of 1,250 lbs (5.6 KN)
- Available with Smoke Grey anti-static powder coat finish
- Available with single-zone opposed blade damper

Airflow Panels & Controls

Manual Airflow Controls

Manual Zone Control for Diverse and Partially Loaded Racks

Slide Damper

Tate's slide damper is used to manually control airflow under a perforated panel. The slide damper is mechanically attached to the panel to provide airflow control.

Manual Damper for use with Perf Panels

Key Performance Characteristics

- Easily adjustable from above without panel removal
- Mechanically attached to panel for easy underfloor access

Opposed Blade Damper (OBD)

Tate's Single-Zone Opposed Blade Damper offers a dramatic airflow improvement over traditional manual slide dampers. It features a nearly infinite range of adjustments and very little airflow resistance. Easy access through the panel's surface allows for quick adjustment of airflow balancing to IT hardware.

Opposed Blade Damper for use with DirectAire®, DirectAire® AI, DirectPerf 32%, GrateAire® and Heavy Duty GrateAire Panels

Key Performance Characteristics

- Provides more airflow at 100% open than slide dampers
- Easily adjustable from above without panel removal
- Drop-in design is for use with DirectAire® and allows for easy retrofits under airflow panels
- Field-mounted design available for DirectAire AI, DirectPerf 32%, GrateAire and Heavy Duty GrateAire panels

Dual-Zone Opposed Blade Damper

The Dual-Zone Opposed Blade Damper allows the user to control the airflow through each half of a panel independently so that racks on opposite sides of the aisle can receive the right amount of cooling for the load in the rack.

Dual-Zone Opposed Blade Damper for use with DirectAire® X2 Panels

Key Performance Characteristics

- Provides more airflow at 100% open than slide dampers
- Easily adjustable from above without grate removal
- Drop-in design allows for easy retrofits with DirectAire® X2 in a Tate bolted stringer system

Multi-Zone Opposed Blade Damper

Tate's Multi-Zone Opposed Blade Damper enables the airflow delivery to be balanced based on the specific load in the rack. The damper allows data center operators to individually adjust airflow to three zones within the rack – top, middle and bottom.

Multi-Zone Opposed Blade Damper for use with DirectAire®, DirectAire® AI or DirectPerf 32% Panels

Key Performance Characteristics

- Reduces cooling energy usage
- For use with full or partial loaded racks
- Provides the most granular airflow control available
- Easily adjustable from above without panel removal
- Drop-in design allows for easy retrofits under airflow panels
- Field-mounted design available for DirectAire, DirectAire AI and DirectPerf 32%

Airflow Panels & Controls

PowerAire® Quad

Fan Assisted Airflow Controls

The PowerAire® Quad fan is equipped with 4 fans connected in parallel to provide built-in redundancy. This unit is only 4" deep making it ideal for retrofit situations with finished floor heights as low as 7.5". This unit can cool up to 16 kW of supported IT load per PowerAire® / DirectAire® combination.

Key Performance Characteristics

- Zero maintenance
- Installation can be carried out by IT staff
- Multiple control options available
- User programmable set point
- EC fan technology is variable from 0-100%
- Available in 100-120 V or 200-240 V power options
- Viewable peak temp for walk-through check of racks
- Available Auto Transfer Switch offers A/B power feed
- 24" and 60 cm raised floor compatible

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Tate components are proudly made in the U.S.A.

Tate®