

Access Floor Products



- ConCore Panelspage 7
- All Steel Panelspage 8
- Steel System Understructure.....page 9
- Woodcore System.....page 10
- Aluminum Systempage 12
- Finishespage 14

Important Load Criteria and Key Features

CISCA Recommended Test Procedures for Raised Floors is the most widely accepted test methodology for raised floors in the United States. This document provides a standard methodology for all manufacturers to use when testing their products to determine the performance. When a raised floor system is specified to a performance criteria per CISCA the specification is stating the type of test method that must be used in order to evaluate if the raised floor system meets the said criteria.

In addition to CISCA test methods Tate lists performance characteristics using test methods similar to CISCA, but are used in international raised floor standards. We provide this information to help report the load performance of an installed system more accurately.

For Instance, Tate uses Design Load because CISCA's method for Concentrated load is conducted with the panel resting on steel blocks. In order to more accurately represent an installed

system Tate conducts CISCA Concentrated load tests with panels installed on their actual understructure. This test is called Design or Working Load defined as:

Design Load¹ is the safe working load that can be applied to the system using a one sq.in. indenter without experiencing permanent set. This test is conducted in conformance with CISCA Concentrated Load test method but with panel tested on actual understructure instead of steel blocks.

Safety Factor is another term used by Tate to indicate that the panel supported on actual understructure system can withstand a point load of no less than (2) two times its design load rating without failure when tested in accordance with CISCA Ultimate Load test method. Failure is defined as the point at which the system will no longer accept the load.

Safety Factor² is the multiple of the design load to the ultimate load.

	Key Features	ConCore System (Explanation and/or benefit)
Design Features	Panel Construction	Flat steel top sheet welded 156 times to a waffle shape bottom sheet then filled internally with lightweight cement.
	Recycled Content	49% recycled content. Over 15% post-consumer.
	Positive Engagement	Tate's PosiLock® pedestal head positions and retains panels in place without screws.
	Zinc Whiskers	All components of system are zinc whisker free.
	Combustibility*	Class A flame spread rating, and noncombustible compliant with ASTM E136-99.
	Corner Screws	Screws do not extend below panel underneath. Screws are designed with retention feature.
Performance	Finish Options	Almost unlimited factory laminated finish options. PosiTile® carpet & Integral Trim® edge for HPL.
	Walkability*	Quiet & solid underfoot with a sound transmission of 53 NNIC.
	Safety Factor*	System provides a safety factor greater than two during static point load tests meeting all international standards.
	Overload Protection	System yields gradually for built in safety.
	Panel Strength Options	5 interchangeable panel strengths, meet all the requirements of a modern office building.
Plenum	Cutout Strength*	System maintains design load and minimum safety factor strength when cut.
	Air Leakage*	Straight, die cut panel edges yield low and predictable panel seam air leakage rates.
	Plenum Divider	Attaches to pedestals maintaining underfloor access. Adjustable to meet any width requirement.
Service & Usability	Clean Air Plenum	Painted steel panels with tight seams minimize dust and debris entering the air delivery plenum.
	Industry Commitment	Tate is the oldest and largest manufacturer dedicated solely to the R&D and marketing of access flooring.
	Lifting & Handling	Easy to carry with one hand and can be removed with a suction cup lifter. Panels are 25% lighter than concrete panels.
	Shock Resistance	Fully encapsulated steel shell designed to resist damage when dropped.
	Cracking & Reuse	Steel panels are free from unsightly cracks which improve life cycle and reuse.
	Edge Design	Thin edge design eliminates adhesives from leaking between panels locking them place.
	Ease of Cutting	Steel panel filled with cement cuts without special blades.
	Attaching Walls	Screws and shot-pin can be driven directly into the panel without sacrificing it's integrity.

*Independently certified test reports are available upon request.

¹ For more information on design load visit Tate's website and click on Resources / White Papers.

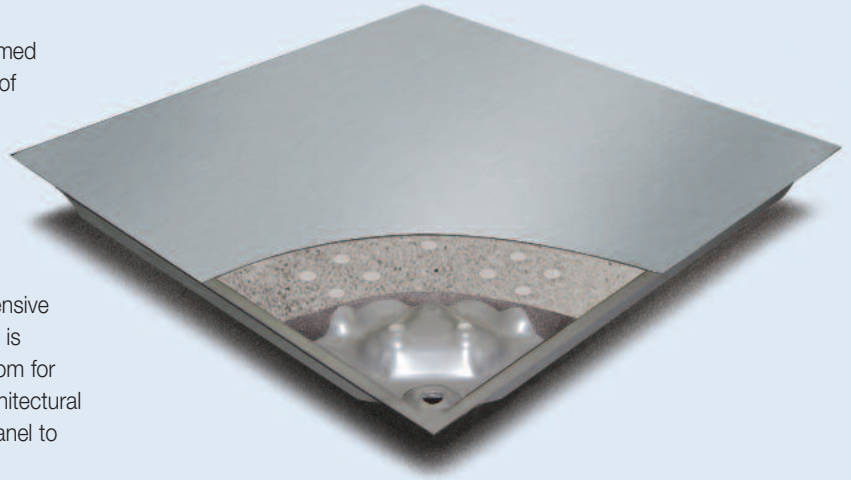
² The UK's PSA MOB PF2 PS/SPU for raised access floors, the Australian Standard AS 4154-1993 for access floors and The European Standard for Access Floors EN 12825:2001 all require a min safety factor based on point load tests.

ConCore® Panels

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

Applications

With five standard load performance grades and an extensive selection of understructure supports and floor finishes, it is recommended that you visit our website: www.tateinc.com for further information on product details, finish options, architectural details, system specification, and selecting the proper panel to meet the needs of your specific application.



Library: Champaign Public Library, Champaign, IL, 122,000 ft²

Municipal Government: Johnson County Sunset Drive, Olathe, KS, 136,000 ft²², LEED Gold

ConCore® Performance Selection Chart

System Performance Criteria* (Tested on Actual Understructure)							
Panel	Understructure	System Weight (lbs/ft ²)	Static Loads		Rolling Loads		Impact Loads (lbs)
			Design Loads ¹ (lbs)	Safety Factors ² (min 2.0)	10 Passes (lbs)	10,000 Passes (lbs)	
ConCore® 1000	PosiLock®	8.0 (39kg/m ²)	1000 (4.4kN)	PASS	800 (3.6kN)	600 (2.7kN)	150 (68kg)
ConCore® 1250	PosiLock®	8.5 (42kg/m ²)	1250 (5.6kN)	PASS	1125 (5.0kN)	875 (3.9kN)	150 (68kg)
ConCore® 1500	PosiLock®	9.0 (44kg/m ²)	1500 (6.7kN)	PASS	1250 (5.6kN)	1000 (4.4kN)	150 (68kg)
ConCore® 1000	Bolted Stringer	9.0 (44kg/m ²)	1000 (4.4kN)	PASS	800 (3.6kN)	600 (2.7kN)	150 (68kg)
ConCore® 1250	Bolted Stringer	10.0 (49kg/m ²)	1250 (5.6kN)	PASS	1000 (4.4kN)	800 (3.6kN)	150 (68kg)
ConCore® 1500	Bolted Stringer	10.5 (51kg/m ²)	1500 (6.7kN)	PASS	1250 (5.6kN)	1000 (4.4kN)	150 (68kg)
ConCore® 2000	Bolted Stringer	11.5 (56kg/m ²)	2000 (8.9kN)	PASS	1500 (6.7kN)	1250 (5.6kN)	150 (68kg)
ConCore® 2500	Bolted Stringer	12.0 (59kg/m ²)	2500 (11.1kN)	PASS	2000 (8.9kN)	2000 (8.9kN)	150 (68kg)
ConCore® 3000	Bolted Stringer	13.0 (63kg/m ²)	3000 (13.3kN)	PASS	2700 (12.0kN)	2400 (10.7kN)	200 (91kg)

*All tests are performed using CISCAs Recommended Test Procedures for Access Floors with the exception of Design Load

1. Design Load is tested using CISCAs Concentrated Load test method on actual understructure instead of steel blocks. Design Load is determined by taking the lesser value of ultimate load divided by two or the point at which permanent damage begins to occur (yield point).

2. Safety factor is the multiple of Design load to the Ultimate Load. International standards and Tate recommend a minimum of 2.

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 sheet. Manufactured to exacting tolerances, these non-combustible rigid, solid panels deliver the ultimate in strength and durability with the convenience of lightweight construction.



Panel Features

- The safe working load or design load for the panels are equal to the concentrated load
- Lightweight for ease of handling
- Excellent grounding and electrical continuity
- Full range of factory applied finishes
- Completely non-combustible
- Interchangeable with Concore, Perforated, and Grate panels
- Available in 24" and 60cm sizes
- Zinc whisker free

Applications

With three standard load performance grades and complete interchangeability with ConCore, Perforated and Grate airflow panels, these panels coupled with an extensive selection of understructure supports and floor finishes are suitable for a wide range of applications from typical data/computer centers to telecommunication rooms, mission critical facilities, electronic assembly areas, and general purpose equipment applications.



Casino: Starlight Casino, Queensborough, BC, 100,000 ft²



Renovation: Engberg Anderson Design Partnership, Milwaukee, WI, 18,800 ft², LEED Gold

All Steel Performance Selection Chart

System Performance Criteria* (Tested on Actual Understructure)							
Panel	Understructure	System Weight (lbs/ft ²)	Static Loads		Rolling Loads		Impact Loads (lbs)
			Design Loads ¹ (lbs)	Safety Factors ² (min 2.0)	10 Passes (lbs)	10,000 Passes (lbs)	
All Steel 1000	Bolted Stringer	6.0 (29kg/m ²)	1000 (4.4kN)	PASS	400 (1.8kN)	400 (1.8kN)	150 (68kg)
All Steel 1250	Bolted Stringer	7.0 (34kg/m ²)	1250 (5.6kN)	PASS	500 (2.2kN)	500 (2.2kN)	150 (68kg)
All Steel 1500	Bolted Stringer	8.5 (42kg/m ²)	1500 (6.7kN)	PASS	600 (2.7kN)	600 (2.7kN)	150 (68kg)

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

1. Design Load is tested using CISCA's Concentrated Load test method on actual understructure instead of steel blocks. Design Load is determined by taking the lesser value of ultimate load divided by two or the point at which permanent damage begins to occur (yield point).

2. Safety factor is the multiple of Design load to the Ultimate Load. International standards and Tate recommend a minimum of 2.

Understructure Systems

for ConCore and All Steel Systems

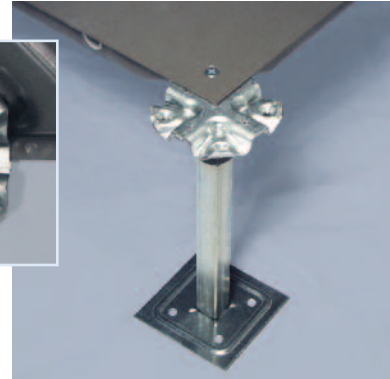
PosiLock®

Understructure Features

- 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 optimum 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 6"-16" (15cm-40cm).



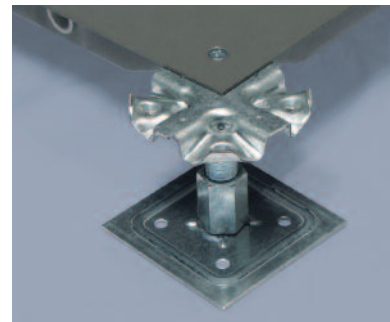
Panel engagement feature viewed from underside



Low Finished Floor Height PosiLock®

Understructure Features

- Available in floor heights from 2⁷/₈" to 4" (7cm-10cm).
- PosiLock® design provides self-engagement and positioning of floor panels.
- 2⁷/₈" (7cm) finished floor height is ideal for renovation applications while providing enough space under the floor to allow for easy cable management.
- Excellent for classroom renovations and the creation of training areas.
- Easily levels uneven floors.

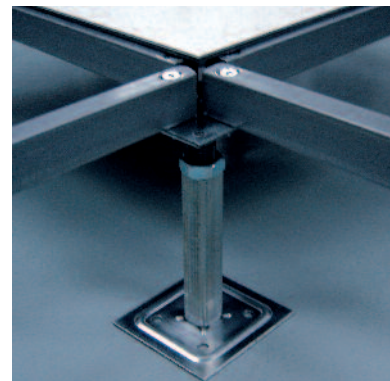


PosiLock® pedestal for low floor height systems

Bolted Stringer

Understructure Features

- Designed for computer rooms, data centers, industrial applications, and heavy rolling load areas.
- Allows floors to be built over 24" (60cm) high.
- Panels can be 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.
- All components are free of electro-zinc, a potential source of zinc whiskers.
- Typical floor heights from 12"-36" (30cm-90cm).



Zinc Whisker Free Pedestals

Seismic Pedestals

Understructure Features

- Available with standard and fillet welded base assembly.
- Steel pedestal head provides optimum strength.
- Seismic force-resistant pedestals are available that limit or eliminate the need for special bracing.
- Vertical supports ranging from 16 gauge 7/8" (2.2cm) galvanized tubing to Schedule 40 pipe.
- Pedestals can accommodate finished floor heights over 36" (90cm).
- Easily levels uneven floors.



Woodcore Panels

Woodcore panels consist of high density composite wood core glued to and encased in hot dipped galvanized formed steel sheets eliminating the risk of zinc whiskers. These panels are ULC Listed for flame spread and smoke development and provide excellent rigidity, durability, and acoustic performance.

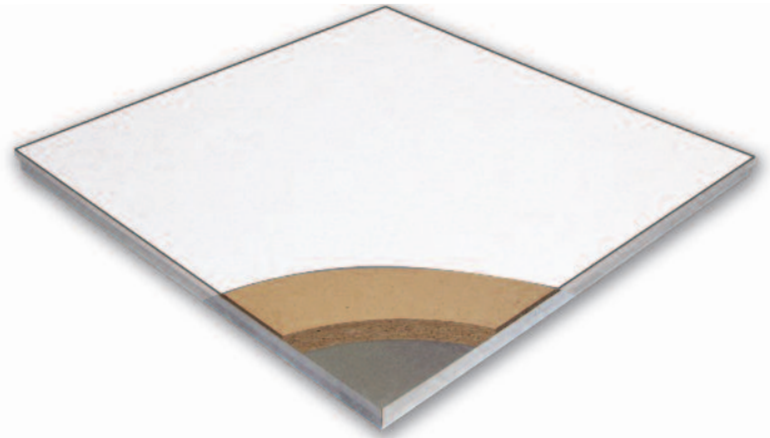


Tate's Woodcore panels and components are made in Canada.



Panel Features

- Mechanically attached air seal gasket available.
- FSC Certified woodcore & FSC Certified woodcore with no added urea formaldehyde are available upon request.
- High strength to weight performance.
- Full range of factory laminated finishes.
- Finishes available with Integral Trim® edge.
- Internally grounded.



Woodcore panels are available with several understructure support systems and numerous factory laminated finishes. Fully interchangeable steel perforated and die cast aluminum grates are also available. Together they meet the needs of a wide range of applications from office environments to data centers, telecommunication, and mission critical facilities.



Owner Occupied: ABSA, Edmonton, AB, 21,500 ft²



Government: Calgary Water Centre, Calgary, AB, 183,000 ft²

Woodcore Performance Chart

System Performance Criteria* (Tested on Actual Understructure)							
Panel	Understructure	System Weight (lbs/ft ²)	Static Loads		Rolling Loads		Impact Loads (lbs)
			Design Loads (lbs)	Safety Factors (min 2.0)	10 Passes (lbs)	10,000 Passes (lbs)	
WC5000	CornerLock	6.9 (34kg/m ²)	1000 (4.4kN)	PASS	1000 (4.4kN)	700 (3.1kN)	150 (68kg)
WC5000	Snap-Tite/Bolt-Tite	7.4 (36kg/m ²)	1000 (4.4kN)	PASS	1000 (4.4kN)	700 (3.1kN)	150 (68kg)
WC5000	Heavy Duty Stringer	7.6 (37kg/m ²)	1250 (5.6kN)	PASS	1250 (5.6kN)	875 (3.9kN)	150 (68kg)
WC6000	Heavy Duty Stringer	8.3 (41kg/m ²)	1500 (6.7kN)	PASS	1500 (6.7kN)	1050 (4.7kN)	150 (68kg)

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

1. Design Load is tested using CISCA's Concentrated Load test method on actual understructure instead of steel blocks. Design Load is determined by taking the lesser value of ultimate load divided by two or the point at which permanent damage begins to occur (yield point).
2. Safety factor is the multiple of Design load to the Ultimate Load. International standards and Tate recommend a minimum of 2.

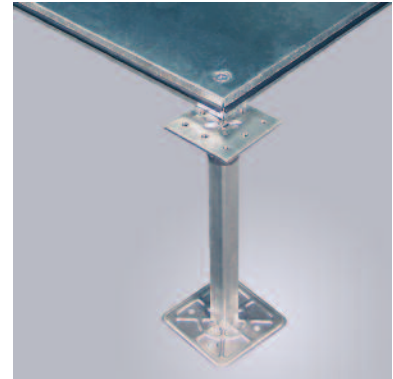
Understructure



Snap-Tite and Bolt-Tite Stringer understructure system used primarily for gravity held panels with Integral Trim® edge in computer room or equipment rooms. This system allows for quick and easy access to the underfloor area.



Heavy Duty Stringer The heavy duty stringer is designed for installations requiring additional design and rolling load capacities. Panels are gravity-held in the understructure for fast removal and replacement.



Cornerlock understructure system with the air seal gasket mechanically attached to the panel. Used primarily for office environments with modular carpet tile.



Renovation: Christman Headquarters, Lansing, MI, 20,000 ft²

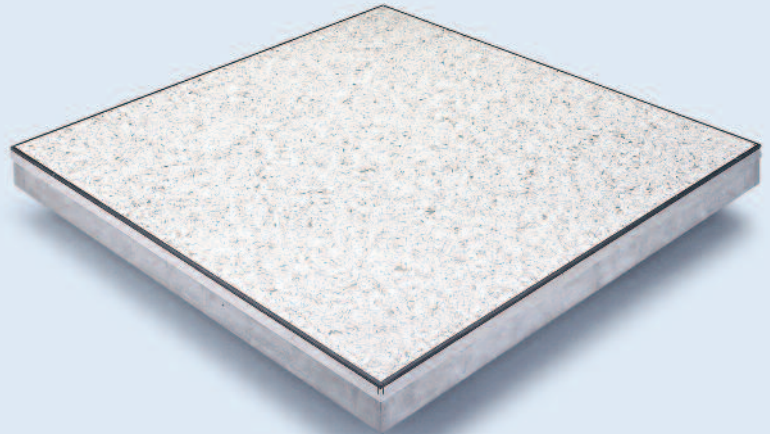
Aluminum Panel Floor Systems

Floating Floors® by Tate

Available in two strengths - FF1250 and FF3000

Solid Panel

- Die Cast aluminum panels meet class A fire rating.
- Available with a wide selection of conductive and static dissipative coverings or coatings.
- Contains no ferrous materials to disrupt magnetic fields.
- Panel-to-pedestal contact ensures continuous conductivity.
- Excellent rolling load performance.
- Lightweight for ease of handling.
- Conductive gasket ensures continuous conductivity.



Floating Floors Performance Selection Chart

System Performance Criteria* (Tested on Actual Understructure)							
Panel	Understructure	System Weight (lbs/ft²)	Static Loads		Rolling Loads (lbs)		Impact Loads (lbs)
			Design Loads* (lbs)	Safety Factors* (min 2.0)	10 Passes (lbs)	10,000 Passes (lbs)	
FF 1250 Solid Panels	All	6.50 (32kg/m²)	1250 (5.6kN)	Pass	1000 (4.4kN)	1000 (4.4kN)	150 (68kg)
FF 1250 Perforated Panels	All	6.50 (32kg/m²)	1250 (5.6kN)	Pass	1000 (4.4kN)	1000 (4.4kN)	100 (45kg)
FF1250 Grates	All	7.25 (35kg/m²)	1250 (5.6kN)	Pass	1000 (4.4kN)	1000 (4.4kN)	150 (68kg)
FF 3000 Solid Panels	All	7.60 (37kg/m²)	2250 (10.0kN)	Pass	2000 (8.9kN)	2000 (8.9kN)	200 (91kg)
FF 3000 Perforated Panels	All	7.40 (36kg/m²)	2000 (8.9kN)	Pass	1500 (6.7kN)	2000 (8.9kN)	100 (45kg)

*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 the multiple of Design load to the Ultimate Load. International standards and Tate recommend a minimum of 2.

Understructure



Stringerless System

Interchangeable Panels

Bolted Stringer System



Federal Government: United States Census Bureau,
Suitland, MD, 1,000,000 ft²



Developer/Multi-Tenant: Cadillac Fairview,
RBC Centre, Toronto, ON, 1,130,000 ft²