

TOMBO™ BRAND

Apr. 2024

A raised-access floor system made of steel with a wooden core

NICHIAS NOA FLOOR™



Resources Recycling

Recycled material made, in principle, 100% of waste wood is used for particle board, which is the core of NICHIAS NOA FLOOR. We contribute to realization of a circular economy through effectively using construction waste.



Reducing burden on the environment and supporting sustainable life.

Made of Steel Wood Core

“NICHIAS NOA FLOOR™”



Lightweight Solution

Weight of NICHIAS NOA FLOOR was reduced by 36% compared with NICHIAS' conventional products. Total cost can be cut through reducing the weight of the building itself.



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*Product names with TM are trademarks of NICHIAS Corporation.

Carbon Fixation

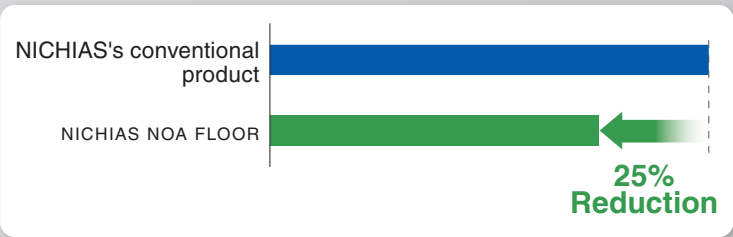
Carbon dioxide absorbed by wood can be fixed through using wood for the core. Since a large amount of construction materials are used, fixation has a great impact on reduction.

Amount of CO₂ fixed per NICHIAS NOA FLOOR: 5kg-CO₂



Reduction of CO₂ Emissions

NICHIAS NOA FLOOR is a product that reduces CO₂ emitted from the processes of raw material procurement to disposal by 25% compared with NICHIAS' conventional products.



Reduction of CO₂ emissions at the time of manufacturing: 10kg-CO₂/m²

NICHIAS NOA FLOOR™ is a light and environmentally friendly new raised-access floor system. The core material made from construction waste and other materials can be used to enable next-generation office building construction that is environmentally friendly.



**Procurement
of raw
materials**

1.

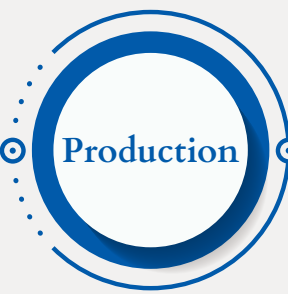
Uses recycled materials with little burden on the environment

The wooden material used as the core material of this product is, in principle, made up of 100%^{Note1} wooden chips molded from waste wood collected when demolishing residential housing.

The core material is made from material with little burden on the environment that is molded into a board form.

Recycled material is also used for the polypropylene resin parts that are mounted to the pedestals.

Note 1: It may vary according to the supply conditions of wood-based materials.



Production

2.

Manufacturing methods with little burden on the environment

By adopting a manufacturing approach that only uses electricity, no exhaust gas is produced. Nichias uses a manufacturing approach that has little burden on the environment.



Example of installation (installation of tile carpet)



Example of installation (without surface finishing materials)

* Be sure to use surface finishing materials.

Installation site

3.

Reduced labor with lightweight panels

By being 36% lighter than Nichias' existing product (NICHIAS SIGMA FLOOR*), it reduces the burden presented by covering facilities and installation work.

Making the system lighter has also reduced the burden placed on building frames.

* This product is discontinued.

Disposing

4.

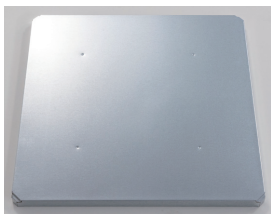

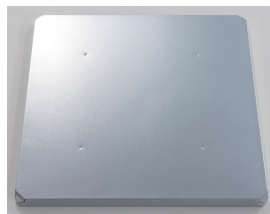
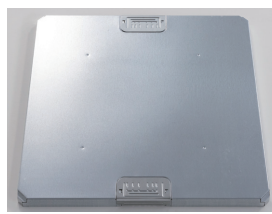
Enabling the use of waste materials collected from worksites

Nichias collects waste wooden materials such as covering plywood and formwork plywood from construction sites.

These materials can then be processed into wooden chips, made into recycled core material boards, and used again as NICHIAS NOA FLOOR at worksites.

Panel

Steel sheet protects the back and front sides using strengthened particle board as the core of the product. You can select from the two grades, 3,000 N and 5,000 N, depending on the permissible concentrated load (short time load).

Grade	3000N		5000N	
Panel Type	0	PK	0	PK
Appearance				

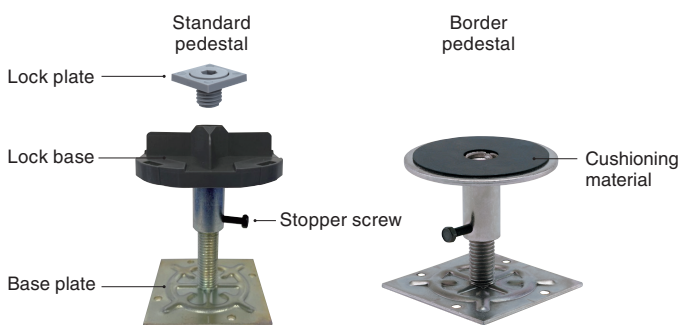
Panel specifications

Grade	Panel Type	Opening	Permissible concentrated load: Temporary load (N)	Permissible movable load: Fixed load (N)	Thickness (mm)	Size (mm)	Weight of panel (kg/panel)
3000N	0	None	3,000	2,000	21.3	Panel □498.5 Module □500	5.5
	PK	Included					
5000N Available soon	0	None	5,000	3,300	27.5	Panel □498.5 Module □500	7.0
	PK	Included					

*While there may be some small lines or marks on the product surface due to manufacturing reasons, this is not a problem in terms of the product's performance.
*The shape of the surface may differ depending on the lot.

Pedestal

For pedestals, standard pedestals and border pedestals are available. And the finished height ranges from 50 mm to 300 mm. Electro zinc plating (bright trivalent chromate) is used as the standard rust-proof treatment.



Pedestal type

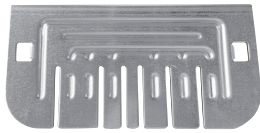
Finish height ^{Note1} (mm)	Standard pedestal	Border pedestal
50	75ENOA50N	75EN50
60	75ENOA60N	75EN60
80	75ENOA80NL	75EN80
90	75ENOA90NL	75EN90-120
100	75ENOA100NL	
125	75ENOA125NL	75EN150-200
150	75EiNOA150NL	
175	75EiNOA175NL	
200	75EiNOA200NL	E225-300
225	150ENOA225N	
250	150ENOA250N	
275	150ENOA275N	
300	150ENOA300N	

Note 1: This is a design specification number and unevenness must be considered when actually installing.

Cover Lids

PK-type cover lid with cutouts for wiring. Two types, for 3000 N is available and for 5000 N is available soon.

For 3,000 N
FK3-A



For 5,000 N
FK5-0



Available soon

Optional item

[Pedestal]

■ Security type

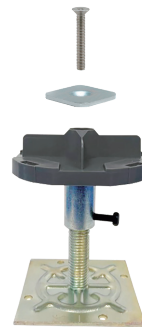
A system where a special screw is used to lock the panels.

The panel cannot be opened / closed with a normal screwdriver or hex wrench for added security.

■ Response to whisker

This is a pedestal that applied general nickel plating as part of the measures against zinc whisker Note 1.

Note 1: Whisker crystal with conductive property generated from zinc whisker/ electro zinc plating part. It is said to have an impact on computer devices.



Security type



Response to whisker

[Dedicated Up Outlet]

■ Up outlet of TERADA Co. Ltd. is compatible with PK panel.

Underfloor space required for installing the dedicated up outlet is 65 mm or above.

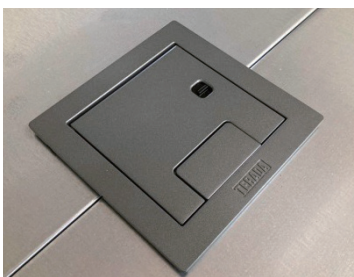
Mountable up outlet



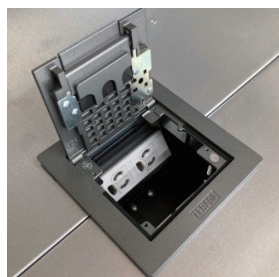
CEC70000



CEE70000



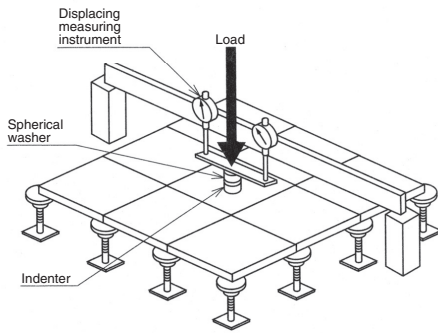
Lid closed



Lid open

Example of panel installation

Static Load Test



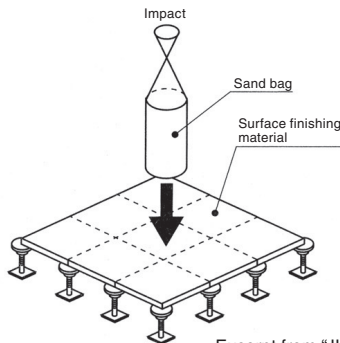
Excerpt from "JIS A 1450:2021"

■ Standard to be complied with: JIS A 1450:2021

■ Test method: Support the four corners of the panel with the specified pedestal and put the specified load of $\phi 50$ load mass. Measure the deformation amount and residual deformation at the time of applying the predetermined load.

Grade	Specified load	Loading point	Deformation at the time of a predetermined load	Residual deformation
3000N	3000N	Weakest part	5 mm or less	3 mm or less
5000N	5000N			

Impact Test



Excerpt from "JIS A 1450:2021"

■ Standard to be complied with: JIS A 1450:2021

■ Test method: Support four corners of the panel with the specified pedestals, strike it with a sand bag with a base diameter of 190-cm and weight of 20 kg from a height of 40 cm, and measure the residual deformation.

Grade	Loading point	Residual deformation
3000N	Weakest part	3 mm or less
5000N		

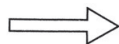
Rolling Load Test

■ Standard to be complied with: JIS A 1450:2021

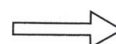
■ Test method: Apply a load of 1,000 N to the urethane-coated caster (diameter of 150 mm, width of 40 mm, and hardness of 85 HS or more) and run the test 10,000 times (reciprocating 5,000 times).

Grade	Loading point	Residual deformation
3000N	Weakest part	3 mm or less
5000N		

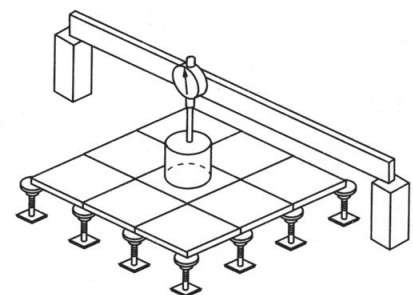
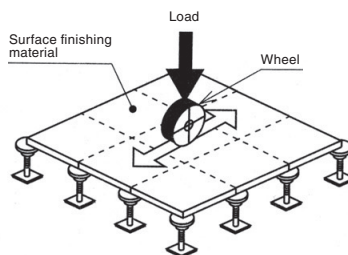
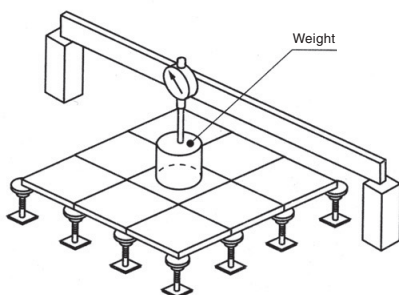
Zero point setting (before loading)



Loading

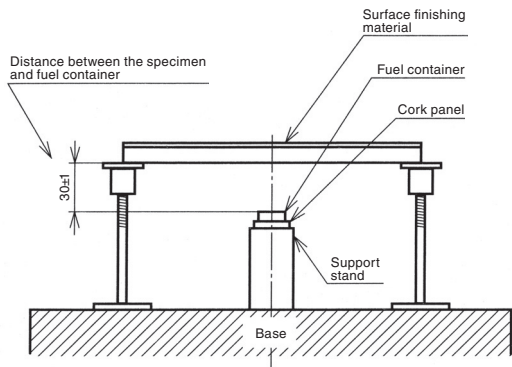


Deformation measuring (after loading)



Excerpt from "JIS A 1450:2021"

Combustion Test

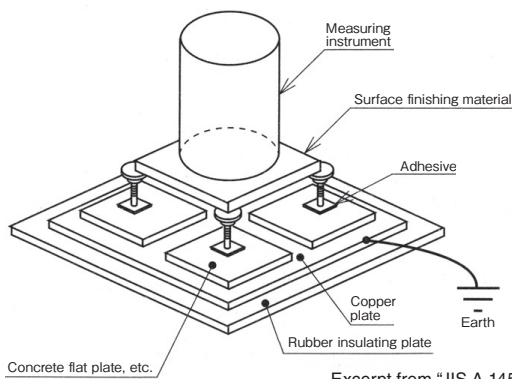


Excerpt from "JIS A 1450:2021"

- Standard to be complied with: JIS A 1450:2021
- Test method: Fuel is burnt below a panel, and the time is measured from when the fuel is burnt out until when flames on the panel disappear.

Grade	Afterflame time
3000N	0 seconds
5000N	

Electrostatic propensity test

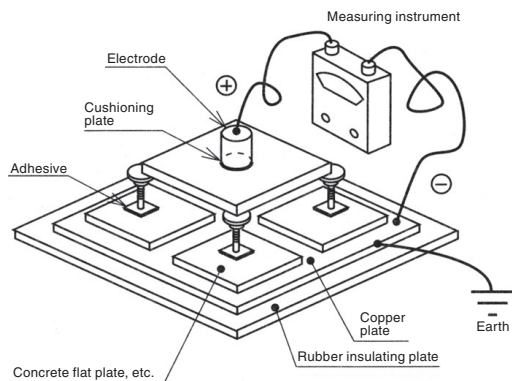


Excerpt from "JIS A 1450:2021"

- Standard to be complied with: JIS A 1450:2021
- Test method: The maximum charge potential between the panel top and ground, and the time for reduction by half are measured using a measuring instrument specified in JIS A 1455. The U value is determined using the formula specified in JIS A 1455.

Grade	Panel surface	U value
3000N	Tile carpet 6.5 mm	0.6 or more
5000N		

Leakage Resistance Test

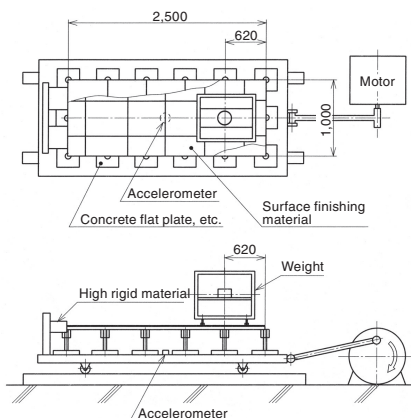


Excerpt from "JIS A 1450:2021"

- Standard to be complied with: JIS A 1450:2021
- Test method: Resistance between the panel top and ground is measured.
- Measurement conditions: applied voltage: 500V; temperature: 20±5°C; humidity:30±10% RH

Grade	Panel surface	Leakage resistance (Ω)
3000N	No surface finishing materials	1.0 x 10 ⁶ or more
5000N		

Vibration Test



Excerpt from "JIS A 1450:2021"

- Standard to be complied with: JIS A 1450:2021
- Test method: Put the bob with the designated weight on the test subject and vibrate it with a sinusoidal wave of 1 G, 2 Hz, 3 wave.

Grade	Weight of bob	Assessment
3000N	200 kg	No panels shall fall off
5000N	350 kg	

Construction of Border Section

- The border section of the NICHIAS NOA FLOOR can be stored by cutting the homogeneous materials.
- Remove burrs from the cross section and coat the section with aluminum tape.
- For the side connecting with the wall, make clearance of 2 to 4 mm or put the backing agent on the panel side as needed.
- Cut panels with a circular saw or a band saw.
- If the width of the border is 150 mm or less, remove a row of panels and cut two panels. Keep the panel width 150 mm or more (refer to the figure below). Bearing capacity of the cut panel will be reduced, so reinforcement pedestals should be installed as needed. To prevent rattling, install the reinforcement pedestals with a space of about 1 mm from the back surface of the panel.

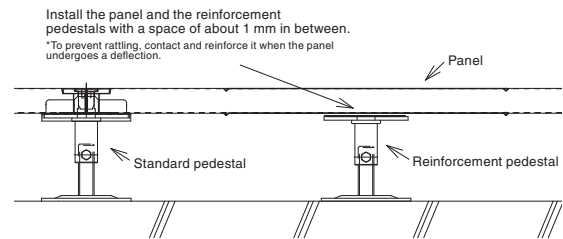
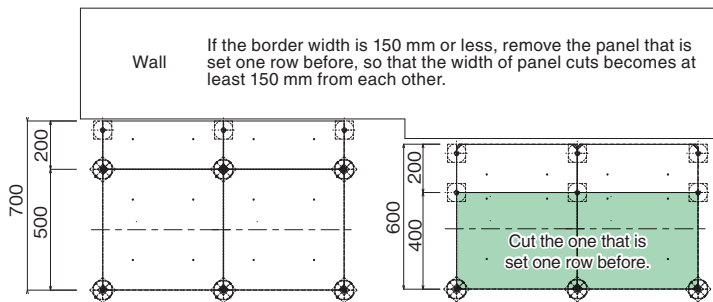
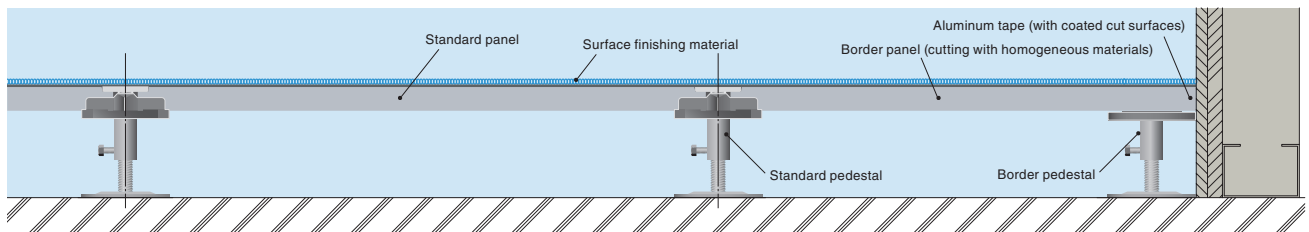


Figure of the standard cross section

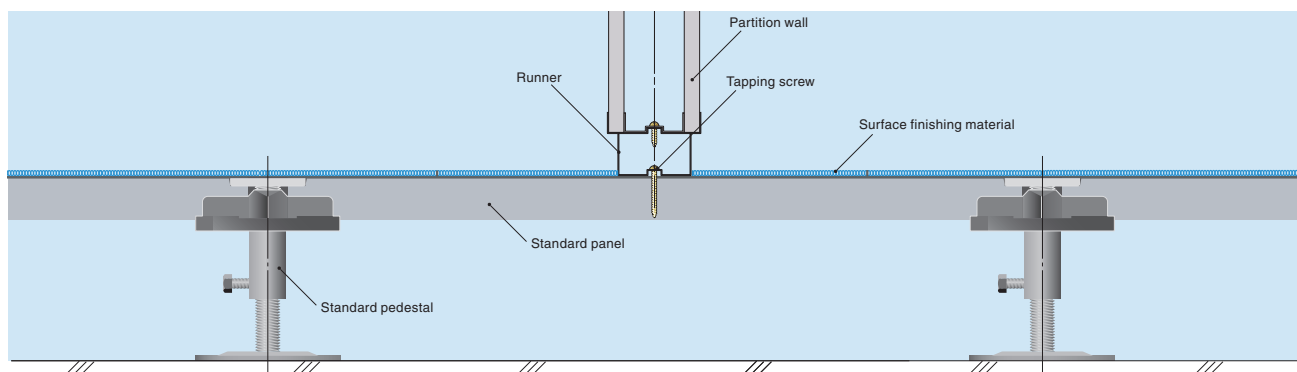
Figure of the standard cross section is as follows.



Examples of other installation and connection structure

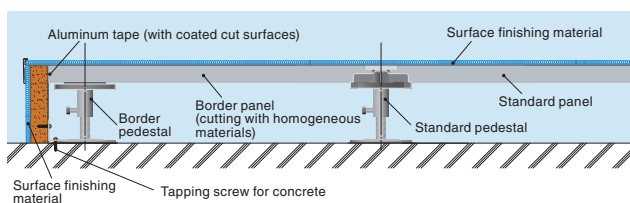
Partition Wall (separately constructed)

You can make a pilot hole on the NICHIAS NOA FLOOR to fasten with wooden screws.

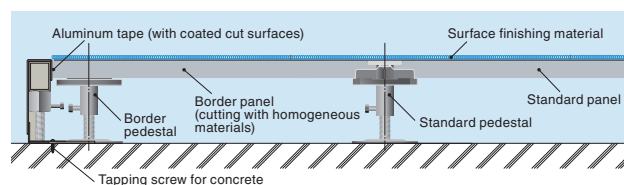


You cannot install the flame-resistant partition wall on NICHIAS NOA FLOOR.

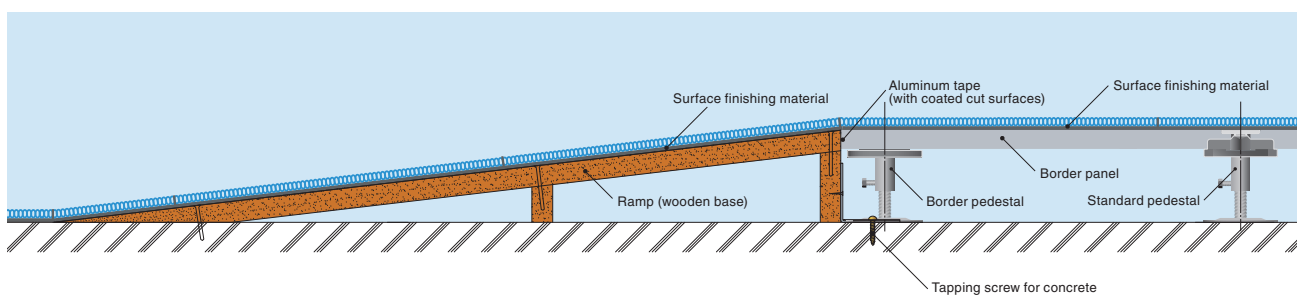
Rising frame (wooden base)



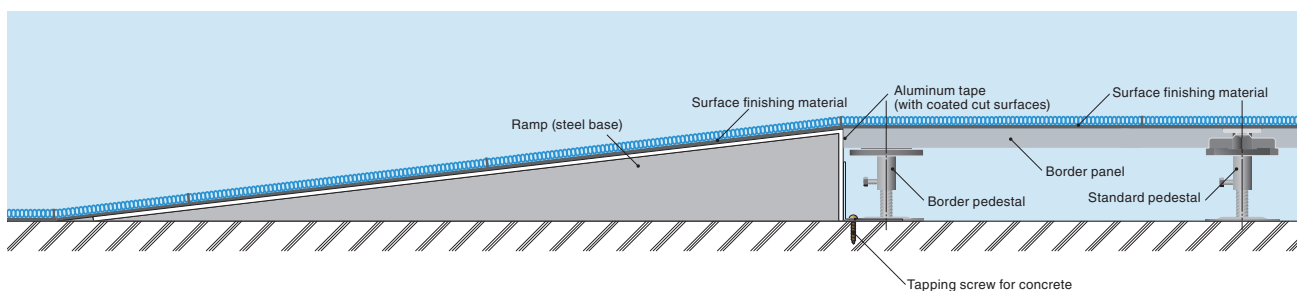
Rising frame (stainless steel)



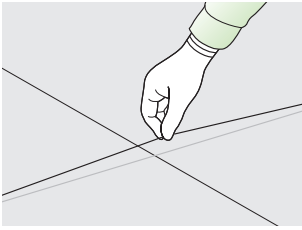
Ramp (wooden base)



Ramp (steel base)



Installation procedures



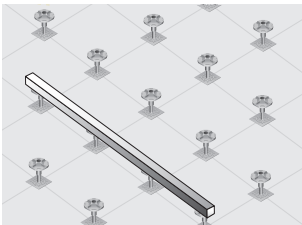
STEP1

Based on the building standard marks and construction drawings, put layout marks on the floor.



STEP2

Adjust the height of the pedestals to be used as the reference using tools such as a leveler.



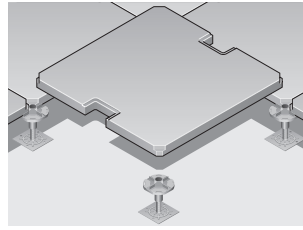
STEP3

Adjust the height of the other pedestals to the reference pedestal using tools such as a long bar, and tighten stopper screws.



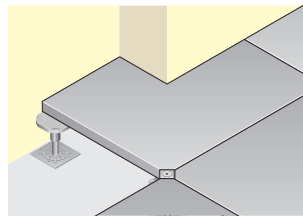
STEP4

Apply adhesive to the bottom of the base plate of the pedestal with a lock base attached, and set the pedestals based on the layout marks.



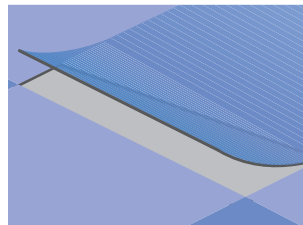
STEP5

Lay the panel and tighten it with the lock part material, immediately after bonding the pedestal to the layout.



STEP6

Install the connection parts such as border panels.

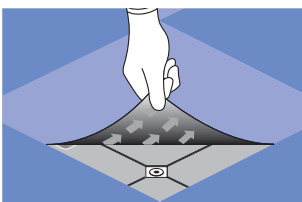


STEP7

Install parts such as the tile carpet. Amount of carpet bond to be applied, recommended by NICHIAS: 30 to 60 g/m² (peel-up type)

*Follow the construction specifications of each manufacturer. Also, be careful not to apply too much carpet bond as it may result in panel surface and tile carpet damage due to excessive viscosity.

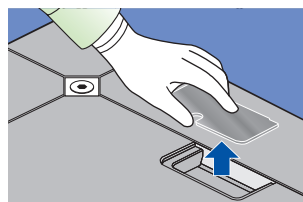
Maintenance



1

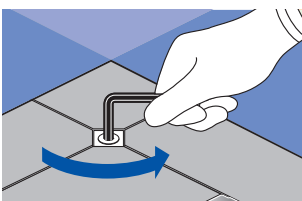
Peel back a corner of the surface finishing materials (such as tile carpet) with your fingertips, and remove the surface finishing materials that cover the panel you want to open or close.

*Surface finishing materials have a direction in which they are applied, so record the positions and directions for when putting them back.
*Be sure to wear gloves.



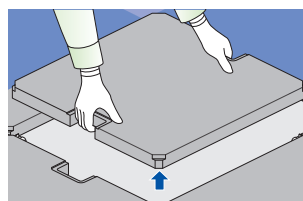
3

Remove the cover lid. (Be careful not to lose it.)
*Hold up the 5,000 N panel with the panel lifter and remove the cover lid.



2

Remove the lock part with a hexagon wrench (lock plate and lock screw). Be careful not to lose the lock parts.



4

Lift the panel straight up with both hands. Use lifting aids such as a sucker as needed.

*Surface finishing materials have a direction in which they are applied, so record the positions and directions for when putting them back.
*Be sure to wear gloves when you hold panels, because you may be injured with burrs of steel sheet.

Precautions

- ⚠ Warning**
 - 🚫 Do not drop heavy objects or subject the product to excessive impact. Doing so could damage the panels or cause them to break off.
 - 🚫 Do not machine the panels or pedestals without permission. Doing so will weaken them and could damage the panels or cause them to break off.
 - ⚠ When carrying in, moving, or installing furniture, cover the stipulated areas and carry out the work at a calm pace. The panels may become damaged by subjecting them to an excessive load or impact.
 - ⚠ When installing the fixture, make sure that the area for installing the adjuster is larger than $\phi 50$ mm and the load applied to one panel is less than the permissible movable load (*Refer to Page 6).
- $$\text{[Formula for calculating the weight of fixture that can be loaded]} = \frac{\text{Permissible movable load of a panel}}{\text{Number of adjusters per panel}} \times 3$$
- ⚠ Do not leave the panels removed for wiring work, etc. unattended. Doing so could cause a visiting third party to be unexpectedly injured. Take safety measures such as demarcating the area where the panel was removed.
- ⚠ Caution**
 - ⚠ Do not use the floor panels without a cover lid. Doing so could cause an unexpected injury such as one's foot getting into the uncovered hole.
 - ⚠ When handling panels and pedestals, wear gloves to prevent being cut.
 - ⚠ When laying panels, be careful not to get your hands caught between the panels.
 - ⚠ Do not carry panels while holding them with the panel lifter used when attaching/detaching the panels. The panels may fall and cause an unexpected injury.
 - ⚠ When processing panels after confirming with NICHIAS, please wear protective gloves and a dust mask.

General Precautions

Design Precautions

- Do not use for applications other than raised access floor systems.
- Do not use them in an uncovered state, as doing so may cause the panels to be damaged or get dented, wear or stains due to aging, or an accident in which someone trips or sprains their ankle.
- Finishing with a long sheet may cause the joints to stand out. Do not use long sheets.
- If the room is not used for a long time after the panels are installed, condensation may occur under the panels. Ventilate the room and under the floor regularly.
- For furniture that is repeatedly subject to loads or vibrations such as heavy-duty mobile racks and rotary presses, mount it on a frame or the like directly on a concrete slab, and isolate it from the panels.
- If you installed partitions or doors on the panels, the panels may suffer deflection and cause problems. If you require reinforcement for the panels, etc., please contact Nichias.

Installation Precautions

- Follow the instructions in the catalog when installing.
- Consider attaching and detaching the panels when wiring, and lay the carpet in a block-like pattern with each piece deviating by 70 mm or more.
- Use approximately 30 to 60 g/m² of carpet bond when installing the tiled carpet. If you apply too much bond, it may get into the joints of the panels, making them difficult to lift up and/or put back, or cause a creaking sound to occur from the panels. Also, the carpet may get damaged when attaching or detaching the panels.
- When storing panels, pedestals, and auxiliary materials, store them somewhere where they will not be exposed to water. Exposure to water may cause rust to develop.
- When transporting heavy objects or construction materials by trolley, to avoid applying excessive local loads, lay down wooden board coverings along the route that the trolley will pass according to the criteria shown in the table on the right.
- Do not drag the panels together as doing so could leave marks.
- Be sure to fix the stopper screws on the pedestals to prevent the panels from rattling.
- Secure a gap of about 2 mm so that the border panels near the wall do not rub against the wall. In corridors and other walkways, take measures to prevent displacement such as screwing and installing backup materials. Protect the cross section with aluminum tape.

Heavy items	Covering method
300 kg or less	Around 2 mm of plywood board or plastic sheet coverings
Over 300 kg and under 500 kg	9 mm wooden material covering
Over 500 kg and under 1,000 kg	21 mm wooden material covering

Precautions for Carrying In and Installing Heavy Furniture

- When moving or transporting heavy objects, to avoid applying excessive local loads, lay down wooden board coverings, such as the ones indicated in the table above, along the route.
- Furniture which may fall over should be fixed to the concrete slab or a durable wall and not fixed to the panel or pedestals.
- If a load is concentrated on one panel, lay an iron plate or frame on the panel to distribute the load.

Precautions when Opening and Closing the Panels Such as When Doing Wiring Work

- When removing a panel, install the lock parts (plate and base) and cover lid back as they were beforehand.
- When removing a panel, return the panel to its original orientation to prevent rattling.
- Please contact one of our sales representatives when a modification or replacement of floor materials is required due to a layout change or wiring work.

Cleaning Precautions

[In case of tile carpet]

- As part of daily maintenance for the tile carpet, clean with a large industrial vacuum cleaner or household vacuum cleaner.
- As part of periodic maintenance, conduct powder cleaning.
- Make sure that water or chemicals are not spilled on the panels.
- Ask a cleaning company or the surface finishing material manufacturer for methods on powder cleaning and stain removal.
- As part of daily operations, clean them with a vacuum cleaner or wipe dry with a mop, etc.
- As part of regular operations, polish them by buffing or cleaning them with a cleaner. If the dirt is not removed, remove the wax that is applied, using a separating agent.
- Do not allow water, cleaners, separating agent, and waxes to enter joints during cleaning.
- Use an antistatic wax for flooring materials, as general waxes may interfere with the antistatic effect.

Disposal Precautions

- Comply with all federal, state and local regulations.

Note





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