



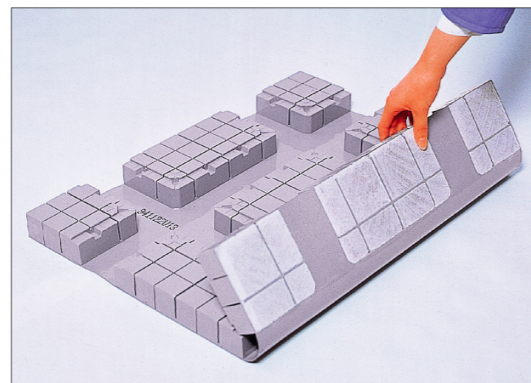
ACCESS FLOOR SYSTEM FOR INTELLIGENT BUILDINGS
MADE OF HIGH-STRENGTH LIGHTWEIGHT CONCRETE

Network Floor

Given First Prize at Intelligent Award in Japan organized by the Ministry of Construction
A Good Design product in Japan selected by the Ministry of International Trade and Industry



A Good Design product
selected by the MITI.



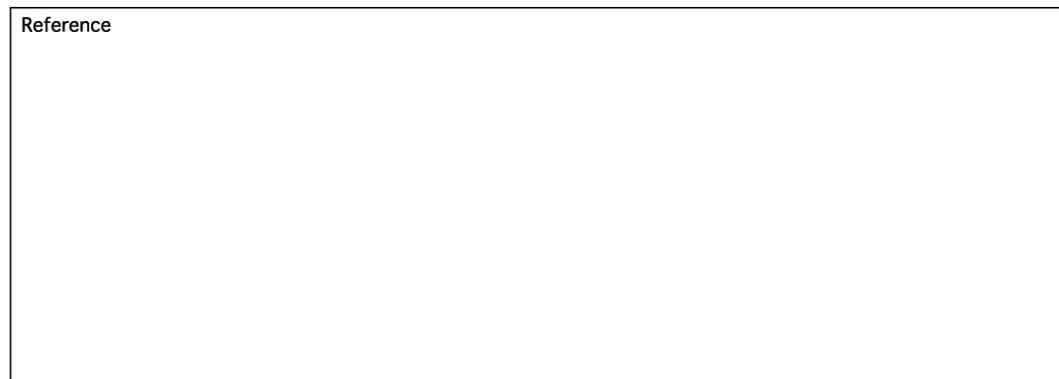
Access Floor System for Intelligent Buildings
KYODO KY-TEC CORP.

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● 20 patents granted. Specifications may be subject to alteration for improvements.
Videotape is available upon request.

Reference



No. NSC2409(社)



KYODO KY-TEC CORP.



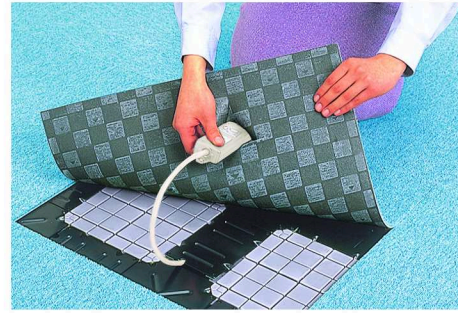
ISO9001

FEATURES OF NETWORK FLOOR [1]

1 Easy Cabling

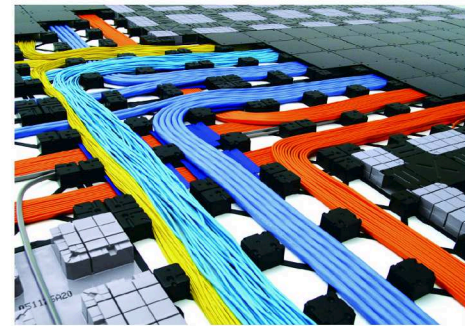
What is important for an access floor system is that the system allows easy installation of cables, re-location of outlets to other places and installation of additional outlets when making changes to the office layout.

- A combination of the Network Floor and in-floor sockets ensures this ease in putting down cables, relocating outlets and installing additional outlets, contributing to reducing costs for office layout change.



Easy cabling is indispensable in spots close to the wall, that being where OA (office-automation) equipment is, in many cases, installed.

- Our Network Floor satisfies the needs of easy handling of and easy access to the network cables without the need for tools, in areas close to the wall. Most similar products do not include this feature.



2 Cabling Capability

Any access floor system should have a cabling capacity that meets the demand for more than one computer terminal per person.

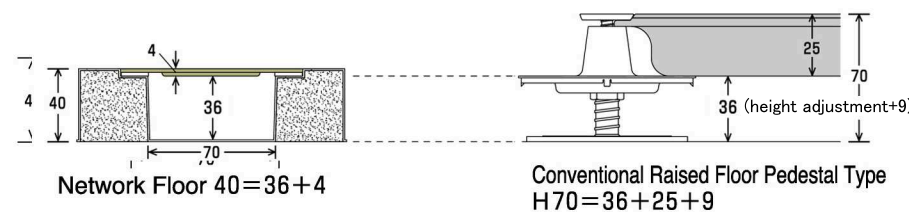
- The ample cabling capacity of the Network Floor ensures easy expansion of your OA system whenever needed.

3 Ample Height for Cabling

An access floor should have ample height for cabling so as to effectively accommodate numerous cables and LAN connectors.

- Our Network Floor with its minimum floor height provides ample height for laying cables. The cabling height of Network Floor 40, for example, is equivalent to that of a pedestal type OA floor with a floor height of 70 mm.

Network Floor 40



4 Easy and Flexible Installation of Sockets

It should be easy to install sockets anywhere on an access floor without any special tools.

- The Network Floor, though made of concrete, is specially designed to be able to be cut with a knife. This makes it possible to install cabling appliances anywhere by cutting the concrete mat, and without blocking cable paths.



5 Speedy Installation

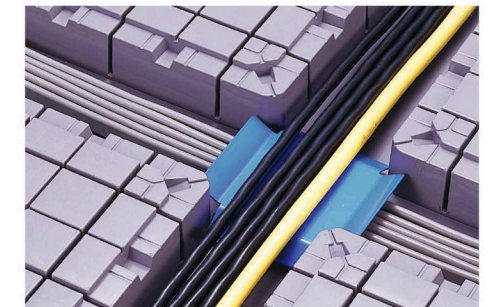
An important point for an access floor system, particularly in case of renovation, is how speedily it can be installed in one day.

- With the Network Floor, it requires only laying mats on the floor. The borders of the mats can be cut with a knife. The required time for installing the Network Floor is only one-third that for a conventional raised floor. Installation at the weekend enables users to begin using the new office on Monday morning.

6 Cable Separation

The ability to prevent interference between different kinds of cables is a prerequisite for any access floor system.

- The Network Floor features multi-cabling paths that arrange power, telephone and data lines in separate spaces, and is therefore optimized for applications which use non-shielded paired cables such as LAN.



7 Floor Height

In the construction of new buildings as well as in the renovation of existing buildings, it is important that possible influences on floor height should be minimized.

- Network Floor has a floor height as low as 40 mm (47mm with carpet tiles), minimizing any oppressive sensation caused by effectively lowering the ceiling. From the very outset, the gentle slope of the Network Floor does not cause any inconvenience when opening and closing doors of already existing fixed cabinets.

8 Weight

There are times when access floors are required to be relatively light in weight to minimize the floor load of the building.

- Network Floor, which has a weight of 30 kg/m² (type "40") or 33 kg/m² (type "40Plus"), is the most lightweight of any concrete access floor.

FEATURES OF NETWORK FLOOR [2]

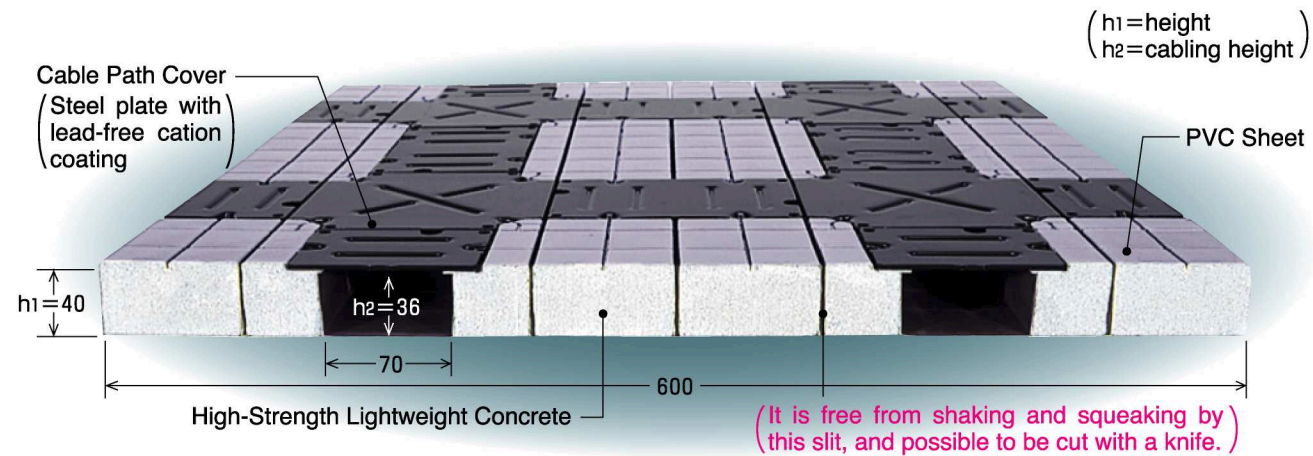
9 Walking Comfort

Access floors shouldn't shake or make hollow sounds, and should make people feel as though they were walking on an ordinary floor.

- Network Floor's expert construction allows the flexible concrete mat to be fitted perfectly to the floor surface. In making people feel like they are walking on an ordinary floor, it is superior to any other raised floor. In addition, the Network Floor is quite free from shaking and squeaking sounds resulting from aging floor slabs and moving wiring, as is the case with most raised floors.



Cross Section of Base Mat Made of High-Strength Lightweight Concrete



10 Selected and Recognized by Public Agencies

Public agencies' approval is important. This assures users of the product's reliability and safety.

- Only Network Floor, among other similar products, has won both the Good Design Award sponsored by the Japanese Ministry of International Trade and Industry, due to its superior design and function as an access floor system, and the 1st prize in the Japanese Intelligence Award sponsored by the Ministry of Construction. In addition, Network Floor has been certified by the Public Buildings Association that administers the criteria used for public buildings in Japan.



11 An Excellent Reputation

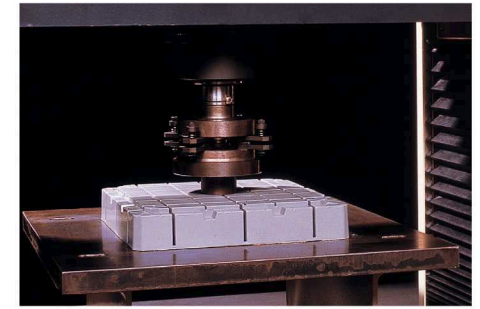
For users to select an access floor with confidence, the product's actual installation record is an important point.

- Network Floor's installation record has exceeded 15,000,000m² (as of Sep. 2021): an outstanding figure compared with that of other raised floors.

TESTING AND EVALUATION METHODS

● Resistance to Concentrated Load

Network Floor was measured for strength by applying a concentrated load of a specified value per 50mm diameter to the center of the concrete mat and of the cable path cover. The cable path cover's resistance to concentrated load is 5000N (510kgf). Therefore, in case of four-legged office furniture or equipment, Network Floor can withstand a load of 2,040kgf (510kgf × 4 legs).



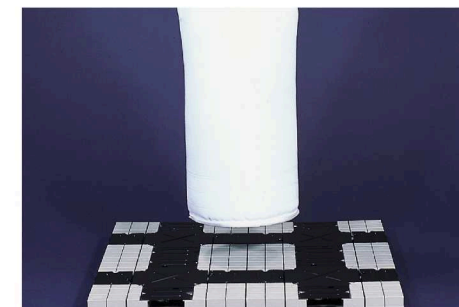
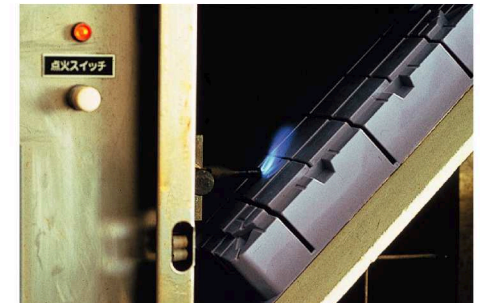
● Resistance to Dynamic Load

Network Floor was tested for dynamic load in actual conditions, laid over with carpet tiles, for situations where heavy furniture such as wheeled chair, computer, cart or carrier actually moves over it. Using a cart, a load of 75kg/wheel (i.e. with four wheels, a total load of 300kg) was applied to the Network Floor. In this case, it can withstand 250,000 passages of the cart on the same track. Using a chair, a load of 20kg/wheel (i.e. with four wheels, a total load of 80kg: allowing for the weight of a person seated on it) was applied to Network Floor. In this case, it can withstand 1,000,000 passages of the chair on the same track.

● Flame Resistance

As the result of tests conducted by TÜV SÜD PSB Pte Ltd, the Network Floor is classified as Class 2 according to British Standard BS476: Part 4 (Non-combustibility test for materials).

The concrete mat of the Network Floor, made of a composite material that is a combination of incombustible concrete with a plastic surface material, has a flame resistance equal to or higher than the values of conventional concrete floors surfaced with plastic tiles. Therefore, Network Floor can be used with confidence for high-rise buildings. In addition, Network Floor prevents cables from being burned by the spread of fire thanks to the insufficiency of oxygen supply.



● Impact Strength

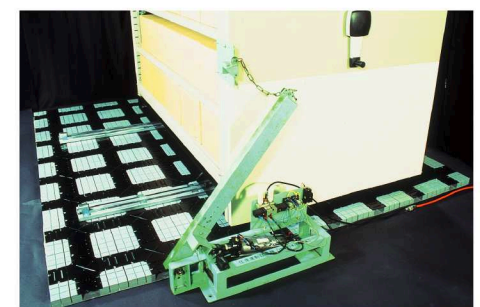
Impact strength was tested by applying an impact load to the center of the Network Floor's concrete mat and cable path cover under actual conditions with the carpet tiles laid over it equivalent to a person jumping down from the top of the desk, or to office equipment falling onto the Network Floor.

(1) a 30kg sand bag falling naturally from a height of 0.25m.

In both cases, the Network Floor showed no change in load resistance, proving that it can sufficiently withstand impact.

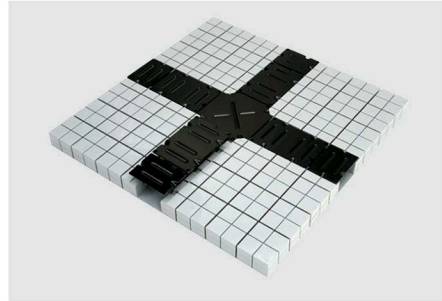
● Vibration and Impact Strength

With a mobile library placed on Network Floor, it was measured for resilience against the vibrations and shocks generated by the movement and stopping of the library. The mobile library was moved back and forth on rails simply laid on the surface of the Floor with a maximum allowable live load of 2 tons, at a speed of 10 seconds per cycle of forward and backward movement. In such a case the Network Floor can withstand 250,000 passages of forward and backward movement of the library. This figure proves that the Network Floor possesses sufficient strength for a service life of 50 years, assuming that one year is 250 days and 20 daily passages of forward and backward movement of the library.

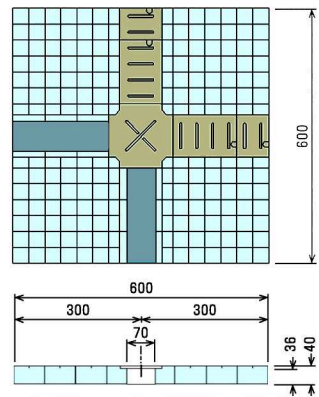


Network Floor 40 Variations and Parts

Base Mat "40" Plus



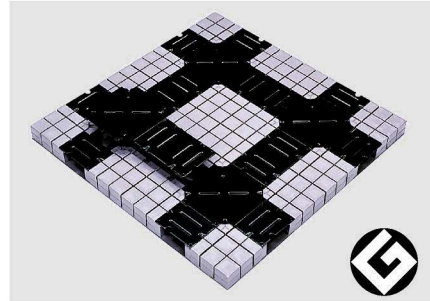
Used as major component. Cut with a knife and mount outlets and HUB for LAN.



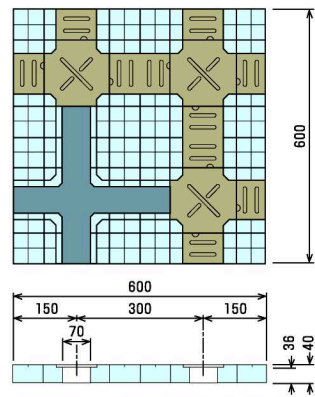
DIMENSION	ITEM NO.	ORDER UNIT
40"×600"×600"	PM4071	3 PCS.

(WITH CABLE PATH COVER)

Base Mat "40"



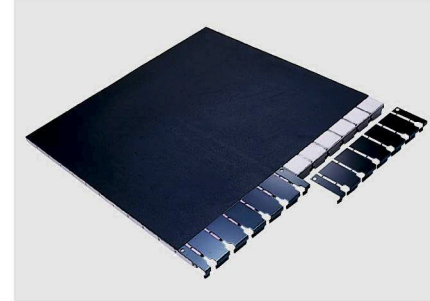
Used as major component.



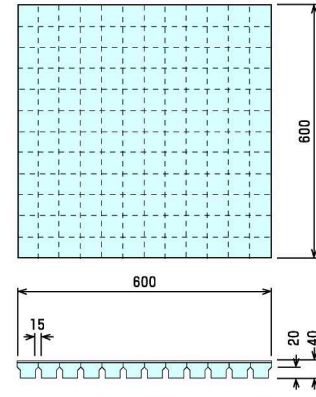
DIMENSION	ITEM NO.	ORDER UNIT
40"×600"×600"	HM4071	4 PCS.

(WITH CABLE PATH COVER)

Border Mat "40", Border Cover "40"

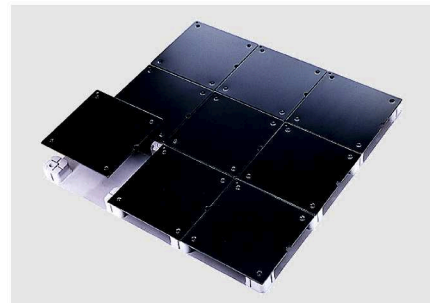


Cut with a knife and used at border of wall.

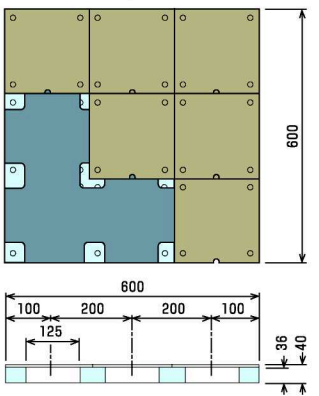


PARTS NAME	DIMENSION	ITEM NO.	ORDER UNIT
Border Mat 40	40"×600"×600"	BM4011	3 PCS.
Border Cover 40	40"×80"×300"	BC4015	10 PCS.

Feed-in Mat "40"



Used at cable entrance and as main line. (Steel and Concrete)



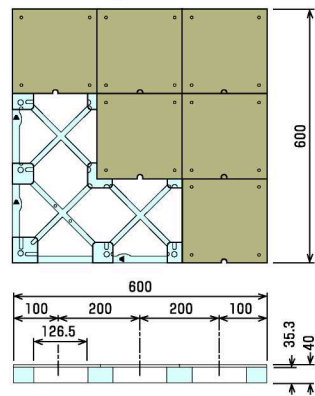
DIMENSION	ITEM NO.	ORDER UNIT
40"×600"×600"	FM4123	1 PC.

(WITH CABLE PATH COVER)

Feed-in Mat "40N"



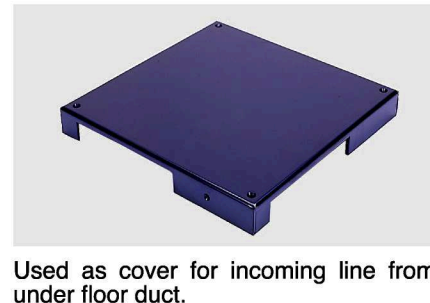
Quick Installation Type (Steel and Plastic)



DIMENSION	ITEM NO.	ORDER UNIT
Noncombustible Polypropylene 40"×600"×600"	FM4126	1 PC.

(WITH CABLE PATH COVER)

Feed-in Box "40"



Used as cover for incoming line from under floor duct. (Steel Plate 3.2t)

TYPE	DIMENSION	ITEM NO.	ORDER UNIT
L	40"×373"×448"	JC4073	1 PC.
S	40"×299"×299"	JC4074	1 PC.

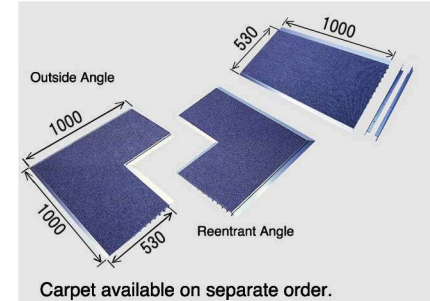
Device Cover "40" & L Cover "40P"



Used for mounting socket-outlets, telephone terminals, etc. in the BaseMat40Plus with L Cover. (Steel Plate 3.2t)

TYPE	DIMENSION	ITEM NO.	ORDER UNIT
L	36"×142"×230"	NC4072	10 PCS.
L Cover	40"×149"×47"	LC4071	10 PCS.

Long Ramp "40"

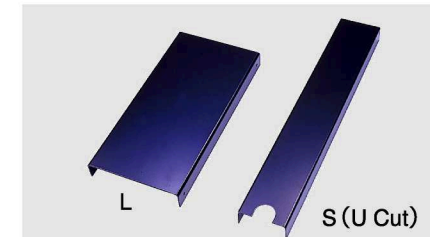


Carpet available on separate order.

TYPE	DIMENSION	ITEM NO.	ORDER UNIT
1000	40"×530"×1000"	LS47001	1 PC.
Outside Angle	40"×530"×1m×1m	LS47002	1 PC.
Reentrant Angle	40"×530"×1m×1m	LS47003	1 PC.
Edge Cover	40"×500"	SE46401	1 SET

(Aluminum)

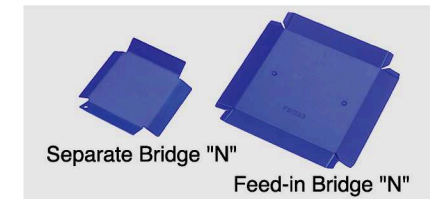
Feed-in Channel "40"



Used as cover for incoming line from border of wall to mat. (Steel Plate 3.2t, 2.3t)

TYPE	DIMENSION	ITEM NO.	ORDER UNIT
L	40"×198"×400"	FH4643	6 PCS.
S(UCUT)	40"×98"×600"	FH4663	10 PCS.

Separate Bridge "N" and Feed-in Bridge "N"

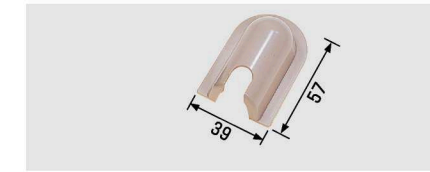


Used to prevent interference of power line and data lines where they intersect. (Noncombustible Polypropylene)

PARTS NAME	DIMENSION	ITEM NO.	ORDER UNIT
Separate Bridge N	1.5"×100"×100"	HB0071	30 PCS.
Feed-in Bridge N	1.5"×155"×155"	FB0123	10 PCS.

* Separate Bridge "N" is used for base mat and feed-in bridge "N" for feed-in mat

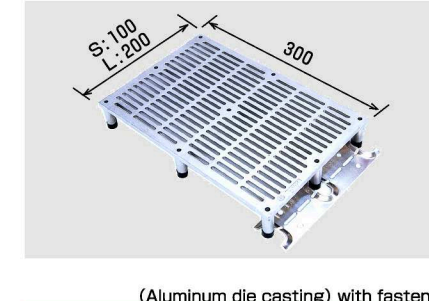
Outlet Cap "N"



Used when drawing cable from Carpet Tile.

COLOR	ITEM NO.	ORDER UNIT
White	CA0604	10 PCS.

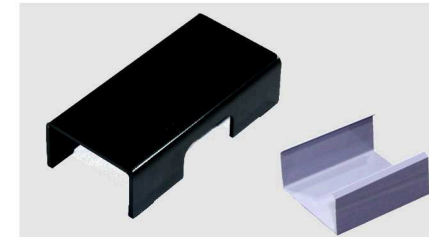
Grille "40"



(Aluminum die casting) with fastener

TYPE	DIMENSION	ITEM NO.	ORDER UNIT
Fixed Type	46"×100"×300"	GL4636	1 PC.
Leveling Type	46"×100"×300"	GL4637	1 PC.
Fixed Type	46"×200"×300"	GL4634	1 PC.
Leveling Type	46"×200"×300"	GL4635	1 PC.

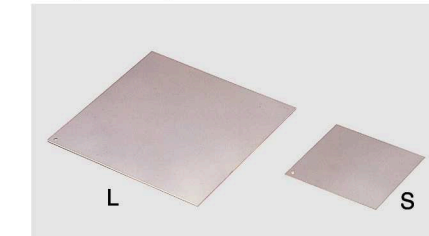
Wiring Channel "40P"



Used as feed-in box and additional cable path.

DIMENSION	ITEM NO.	ORDER UNIT
10"×75"×150"	WH4611	1 SET

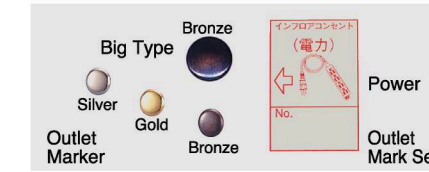
Repairing Plate



Used as plate to stop up under floor duct openings. (Steel Plate)

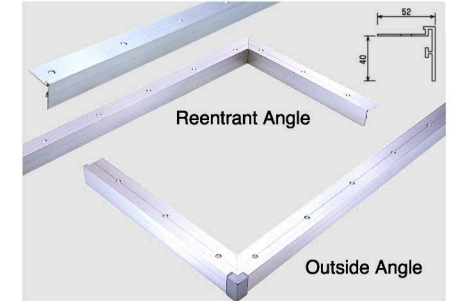
TYPE	DIMENSION	ITEM NO.	ORDER UNIT
L	1.6"×250"×250"	PL0621	10 PCS.
S	0.6"×150"×150"	PS0612	10 PCS.

Outlet Marker and Mark Seal



PARTS NAME	APPLICATION/COLOR	ITEM NO.	ORDER UNIT
Outlet Marker (Put on carpet)	Silver(Power)	MK060S	10 PCS.
	Gold(Telephone)	MK060G	10 PCS.
	Bronze(Data)	MK060B	10 PCS.
	Bronze(Large)	MK061B	10 PCS.
Outlet Mark Seal (on Network Floor)	Power	CS060P	10 PCS.
	Telephone	CS060T	10 PCS.
	Data	CS060D	10 PCS.

Nosing "40"



(Aluminum)

TYPE	DIMENSION	ITEM NO.	ORDER UNIT
2000	40"×10"×2000"	AK47501	1 PC.
Outside Angle	40"×10"×2000"	AK47502	1 PC.
Reentrant Angle	40"×10"×2000"	AK47503	1 PC.

Large Cut Out Cover "40"



Used as cover for outlet large quantity cables.

DIMENSION	ITEM NO.	ORDER UNIT
Out Out 30"×40"	HK0071	1 PC.

Load Bearing Plate



Used where heavy furnitures and safes weighing more than 1 ton are placed. (Steel Plate)

DIMENSION	ITEM NO.	ORDER UNIT
10"×200"×200"	PW0622	1SET (4 PCS.)

Undersheet and Glue for Undersheet and Releasable Adhesive



PARTS NAME	DIMENSION	ITEM NO.	ORDER UNIT
Undersheet	1m"×100m"	US1002	1 ROLL
	1m"×200m"	US2001	1 ROLL
Glue for Undersheet	3 kg /CAN	SB0301	1 CAN
	18 kg /CAN	SB1801	1 CAN
Releasable Adhesive	3 kg /CAN	PB0306	1 CAN
	18 kg /CAN	PB1806	1 CAN

SPEEDY INSTALLATION

Network Floor is of simple floor laying type, so it can be installed more simply and more speedily than any other Raised floors. Existing offices can be changed to an intelligent type in a short time.

[Installation Procedure for Network Floor "40" (Same for "29")]

1. Carry-in



Use elevator and carry in component parts using a cart.

2. Floor Cleaning



Remove outlets and caps, and finish floor surface so as to be free from projections or local unevenness (to a degree that permits to lay plastic tiles on floor). Then clean floor surface by cleaner.

3. Layout and Marking



[Releasable Installation of Mats] 4. Lay undersheets



For existing buildings, use this method in principle.

Mat Laying Type is the most suitable type for re-using.

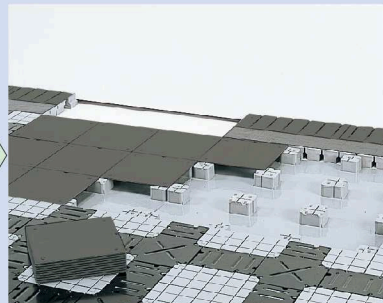
Network Floor is Mat Laying Type, therefore after removal, it can be re-used without damaging the floor surface.

5. Base Mat Laying



Base mats are completely fitted to floor surface by merely laying them on it.

6. Feed-in Mat Laying

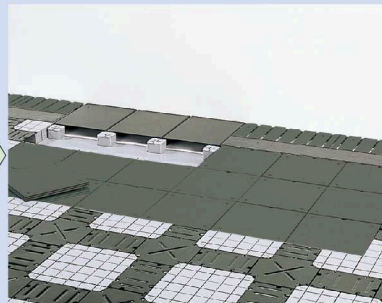


Use mats with big cabling capacity at cable entrance and as main line.

7. Cable Path Cover Installation



8. Feed-in Channel Installation



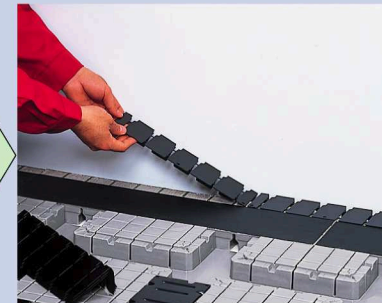
Cut and install at cable entrance from wall.

9. Border Mat Laying



Cut to dimension with a knife.

10. Border Cover Installation



Use cover for dimensional adjustment between wall and border mat. Border cover allows cable to be drawn out along the wall.

11. Carpet Tile Laying



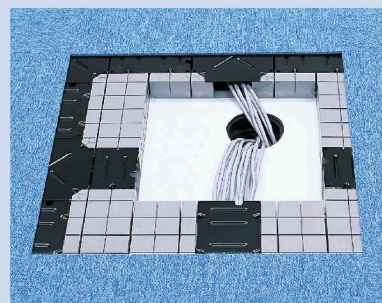
After cabling is complete, apply specified peel-up bond by roller and lay carpet tile. Then put outlet markers.

[Installation of Optional Parts]

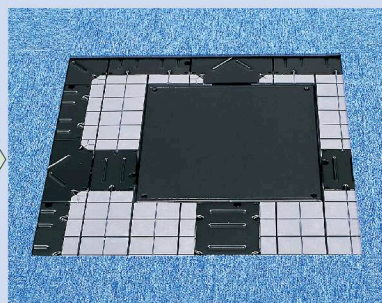
12. Ramp Installation



13. Feed-in Box



Use feed-in box when drawing cable from existing under floor duct junction. Cut the concrete mat with a knife.



Completion of installation the feed-in box.

[Cable Installation]

1. Cabling in advance



Install power, telephone and data cables prior to laying carpet tile. These can be installed from above floor surface.

2. Completion



Overall Work Schedule

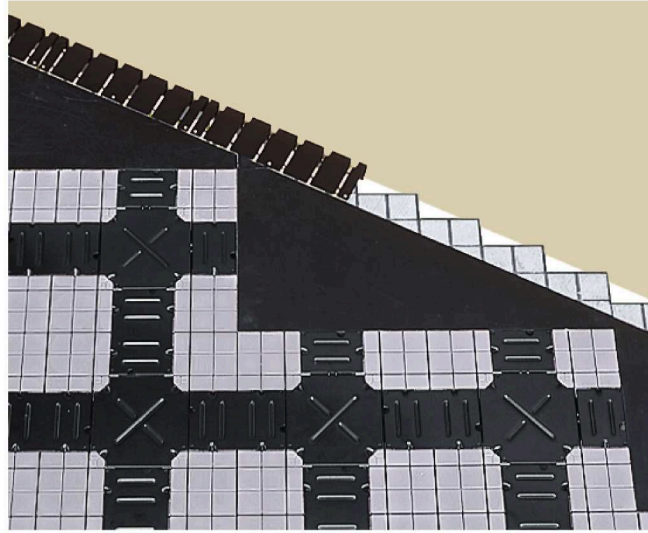
(Model Case of Renovation of Existing Building)

Case of 200m² Office :

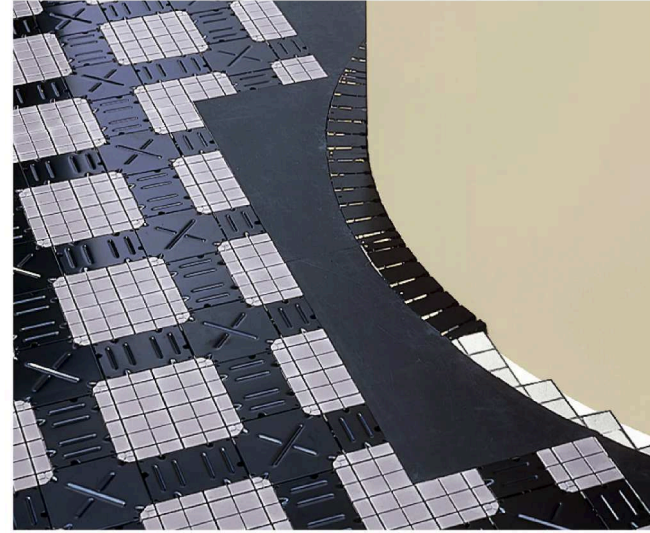
- Preparation on preceding day (starting in evening):
 - (1) Removal of power, telephone and data cables.
 - (2) Carrying out furnitures, computers, documents, etc.
- 1st day:
 - (3) Installing Network Floor.
 - (4) Reinstalling power, telephone and data cables.
 - (5) Laying carpettile.
- 2nd day:
 - (6) Carrying in and reinstalling furnitures, computers, etc.
 - (7) Drawing out power, telephone and data cables, installing Trailing sockets.
 - (8) Carrying in documents.
 - (9) Completion of intelligent office.

EXAMPLE OF INSTALLATION

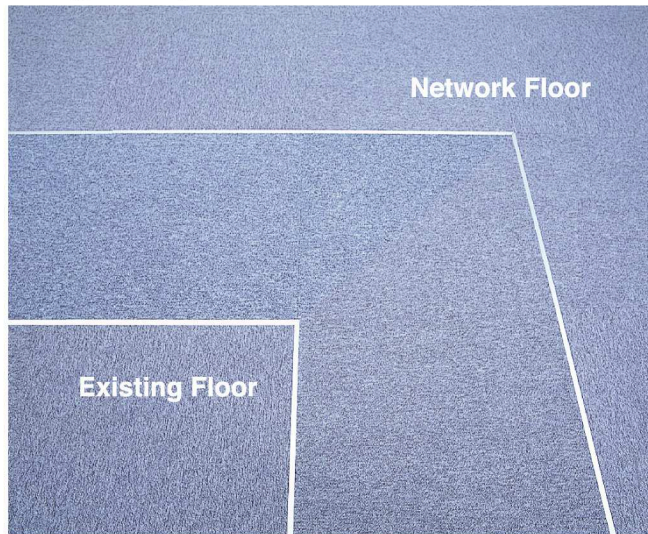
Diagonal Wall



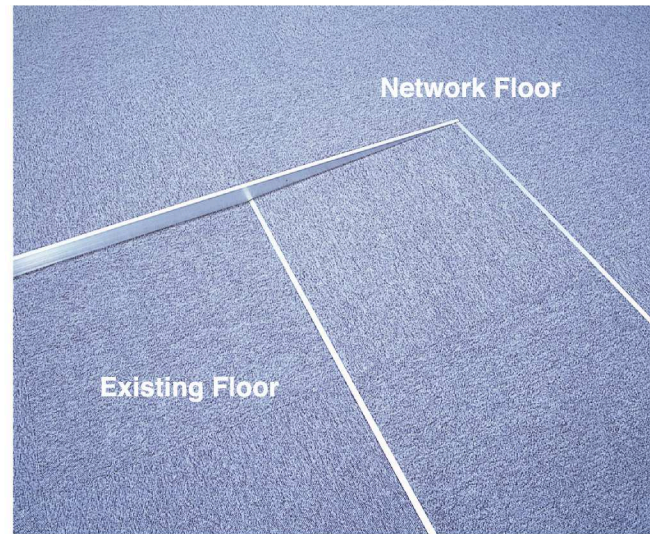
Curved Pillar



Long Ramp 40 Reentrant Angle



Long Ramp 40 and Nosing 40



Installation of Partition Panels (Installation on the Network Floor)



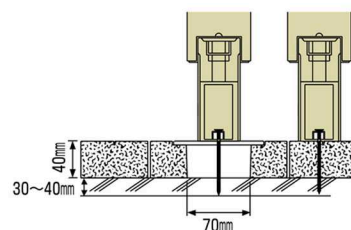
Partition panels can be installed anywhere on the Network Floor.

How to Install Partition Panels

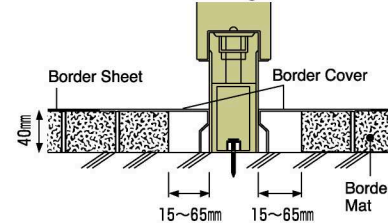
Partition panels can be installed directly on the Network Floor, either on its concrete base mats or cable path covers. This feature ensures easy cabling and maximizes flexibility when it comes to changing the system layout when needed. Panels on the Network Floor are fixed with anchor bolts (tapping screws for concrete) fastened into holes drilled on the floor slab of the building.

Partition panels can also be set onto the building floor if necessary, before the Network Floor is installed. This goes for LGS (light gauge steel) partition panels as well.

(Installation on the Network Floor)



(Installation on building floor)



SPECIFICATIONS AND PERFORMANCE

1. Specifications

Network Floor 40

Concrete Mat	Base Mat "40Plus"	Base Mat "40"	Feed-in Mat "40"	Border Mat "40"
Material	High-strength lightweight concrete and molded PVC sheet			
Size	40(H) × 600(W) × 600(L)mm			
Effective cabling space per mat (600mm)	36(H) × 70(W) × 1 channels per mat = 2,520mm ² per mat	36(H) × 70(W) × 2 channels per mat = 5,040mm ² per mat	36(H) × 125(W) × 3 channels per mat = 13,500mm ² per mat	20(H) × 15(W) × 12 channels per mat = 3,600mm ² per mat
Distance between cable paths	600 mm	300 mm	200 mm	50 mm

Cable Path Cover	Center Cover	Straight Cover
Material	Steel plate with lead-free cation coating	
Size	147(W) × 147(L)mm	98.5(W) × 147(L)mm
Thickness	2.3 mm ^t	

2. Performance

Weight	"40Plus" 33 kg/m ² (with cable path cover)	"40" 30 kg/m ² (with cable path cover)
Resistance to concentrated load	(1)International Building Code compliance : 6250lb/1.97ft square to ICC ES AC151 Deformation : Less than 600mm/360=1.67mm (2)Japanese Standard compliance : 5000N (≒510kgf)/50mm dia Deformation : Less than 5mm , Permanent Deformation : Less than 3mm	
Resistance to dynamic load	(1) Assuming a cart load of 300kg (75kg per wheel of hard synthetic rubber) : Capable of withstanding 250,000 passages. (2) Assuming a chair load of 80kg (20kg per wheel) : Capable of withstanding 1,000,000 passages.	
Resistance to uniformly distributed load	(1) Concrete mat : 10 ton / 200mm × 200mm (2) Cable path cover : 5 ton / 200mm × 200mm (Test was made using a 10 mm ^t , 200mm × 200mm load-bearing plate.) ITEM NO (PW0622)	
Flame resistance	(1)International Building Code compliance : Class A(Base Mat) , Class B(Border Mat) to ICC ES AC151 (2)British Standard compliance : Class 2 (top rating) to BS476 Part4 (Non-combustibility test for materials) (3)Japanese Standard compliance : Certification No. 61002, having passed the surface test for quasinoncombustible materials and the test of hazardous gas emissions, specified in the Ministry of Construction's announcement no.1231 of 1976.	
Impact strength	Assuming natural falling of a 30kg sand bag from 0.25m height	: No change in impact strength
Vibration and impact strength	Assuming a mobile library with a 2 ton live load to move back and forth : Capable of withstanding 250,000 passages of forward and backward movement.	
Certification	Public Building Association, Intelligence Award and Good Design Award.	

Cross section of Base Mat Made of High-Strength Lightweight Concrete

● Base Mat "40"

