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The JVP 4x4 Raised Access Floor's Installation & Use Guide

general Index

- a) PRECAUTIONS
- b) SUITABLE SITE CHARACTERISTICS
- c) LAY-OUT TRACING
- d) INSTALLATION
- e) PROTECT THE FLOOR WHEN MOVING EQUIPMENT
- f) HANDLING
- g) SAFETY
- h) MAINTENANCE
- i) REMOVING AND REPLACING PANELS SAFELY
- l) MOVING HEAVY EQUIPMENT
- m) MODIFICATION / DISPOSAL INSTRUCTIONS
- n) CLEANING INSTRUCTIONS
- o) RECOVERY AND RE-USE
- p) RECYCLING

This part of the manual is intended as a basic guide for installing your floor.

installation index

- a) PRECAUTIONS
- b) SUITABLE SITE CHARACTERISTICS
- c) LAY-OUT TRACING
- d) INSTALLATION

Installation of access floor JVP 4x4 panels with stringerless substructure.

a) PRECAUTIONS

In order to prevent accidents and avoid damage to the floor, access by all persons except the floor installation crew should be prohibited during the installation phase.

Ensure that no part of the floor installation is:

- Used as a workshop or as a platform for storage of equipment and materials.
- Trafficked within 48 hours (subject to temperature and humidity levels) following the use of adhesives.
- Permitted to be used by other trades until the main contractor has accepted responsibility for the installation.
- Left unprotected. It is highly recommended that, as a minimum, protective materials such as Megafilm or hardboard with taped joints be applied to the raised floor, prior to access being permitted to other trades. This will deter abuse and reduce the likelihood of damage to the surface finishes of the panels whether they be steel, paint, vinyl or carpet.
- Subjected to static or dynamic loads, which exceed those for which it is designed.

b) SUITABLE SITE CHARACTERISTICS

Before to start with the installation is necessary to check that the site would have suitable characteristics to receive all the materials required for installation:

- Suitable storage site, and installation area having a temperature between 5° and 35°C with relative humidity between 40 and 75%,
- Haulage equipment or adequate service access to bring or move the material, even into various floors
- The rooms where the access floor will be installed should have a proper subfloor finishing which have to be very smooth, coplanar and levelled.
- Ensure that the subfloor is clean before installation commences and that cleanliness is maintained throughout the installations.
- Metallic substructures must be installed only on dry and already hardened slabs, with relative Humidity <70%, absolute Humidity measured on the slab surface < 1%, pH < 9,5, standing water on the subfloor must be avoided as it could cause electro-chemical corrosion on the galvanized components of the panels and pedestals.

Only a recognised raised access flooring company should carry out the installation of the JVP 4x4 Raised Access Floor!

c) LAY-OUT TRACING

To allow a faster installation and good results is always advisable to trace out the position of the panels before to start with the installation.

d) INSTALLATION

Installation of the access floor system has to be made in accordance with the a.m. conditions.

The slab in the area where the system has to be applied must be properly cleaned with a vacuum cleaner, and especially if the subfloor void will be used as an air supply duct (for air conditioning system), an anti-dust paint is recommended.

Once the lay-out of the panels has been decided, the installation can start.

1. Start from two walls that have to be as much as possible right-angles. Fasten two wires keeping them as tight as possible at the distance from the wall shown in the installation drawings, and calculate their perpendicularity (Pythagora's theoreme).
2. Assemble the pedestal (base+head+ gasket), adapting them approximatively at the height required by the design measurements.

3. Using suction cups suitable for the safe lifting of the panels, begin installation by placing the first panel on four supports, positioning one corner at the intersection of the two previously tensioned alignment strings. Ensure that the alignment strings are always properly tensioned and do not encounter obstacles that could alter their direction.
4. Always using only suction cups suitable for safe lifting, proceed by installing two parallel rows of panels and supports, correctly aligned by following the guide strings. This operation will be facilitated by the exclusive JVP 4x4 "positive location" self-centering system, consisting of reference notches between the base of the panel and the gasket. While carrying out these operations, always ensure that the base of the supports is properly covered with adhesive and in perfect contact with the slab surface. To correct and absorb any minor surface irregularities, deform the bases of the supports by firmly striking the heads with a rubber mallet.
5. In the case of a corner-lock system, fasten the panels to the pre-drilled holes in the heads of the supports using self-tapping trilobate screws, aligning them with the countersunk holes located at the four corners of the panels.
6. Proceed with the installation of the panels, aligning them with the previous installed rows of panels
7. Adjust the structure height, following the indications of the customer.
Verify the flatness using a laser or an optical theodolite or a rigid levelling rod (keeping a length equal to five modules i.e.: 3mt), and with a spirit level proceed with levelling of all other pedestals.
8. Proceed by placing two parallel rows of panels and pedestals, carefully following the longer wire.
This operation will be facilitated by the positive location system.
On doing this operation, remember to fix the base of the pedestals to the slab, making sure that their base will be perfectly in contact with the slab.
9. Complete operation with perimeter applications:
place the pedestal, verify the height and flatness, and fix pedestal to the slab;
cut the gasket tabs parallel to the perimetral wall to allow a correct placing of the panels along the wall, and place the perimetral tiles, which have been previously cut on size.
If forecasted, protect the cut perimeter side of the panels with a self-adhesive aluminium tape
If forecasted, install self adhesive perimetral gasket to compensate the gaps between the cut perimetral panels and the vertical structures.
10. Do not walk on the access floor if perimetral panels have not been yet installed, and if glue for fixing have not yet completed its polymerization process.

This part of the manual is intended as a basic guide for maintaining your floor.

maintenance index

- e) PROTECT THE FLOOR WHEN MOVING EQUIPMENT
- f) HANDLING
- g) SAFETY
- h) MAINTENANCE
- i) REMOVING AND REPLACING PANELS SAFELY
- l) MOVING HEAVY EQUIPMENT
- m) MODIFICATION / DISPOSAL INSTRUCTIONS
- n) CLEANING INSTRUCTIONS

Maintenance & Use of access floor JVP 4x4 panels with stringerless substructure.

The raised access floor provides a void for cables, ducts and other underfloor services. Each floor panel can be lifted with the correct lifting device, so that extra services can be easily installed, or existing ones re-routed.

The installed raised access floor needs to be handled in a manner appropriate to its design. The following advisory information will facilitate its use and save time and unnecessary expense.

e) PROTECT THE FLOOR WHEN MOVING EQUIPMENT

Adequate precautions, including the use of spreader plates, must be taken during the installation of materials and equipment.

Types of Protection Available and Which to Use.

The type of floor protection can only be determined by assessing the following factors:

- Gross weight.
- Distribution of the gross weight.
- Size and type of the wheel, castor or moving skate.

Various covering protections may be used depending upon the above. Typical materials are:

- Hardboard sheet.
- Plywood sheet.
- Various thickness of chipboard.
- Various thickness of steel or aluminium sheet.

f) HANDLING

Before attempting to gain access to the underfloor void consult any drawings indicating the positions of under floor trunking, services and fire barriers.

It is important that panels are removed and replaced by lifting and lowering in the horizontal plane.

Do not remove panels by using a 'hinged action' or by 'levering' with screwdrivers or similar. Take care not to dislodge headcaps, gaskets or shims.

Do not remove pedestals from the sub floor.

Care should be taken to avoid damaging neoprene infill on perimeter panels. If the neoprene is dislodged it can be re-glued with a proprietary adhesive.

If the work under floor has penetrated the fire barriers they should be re-cut to fit neatly around the obstruction.

Awkward shapes may need the addition of supplementary fire bags.

Proper panel lifting devices should always be employed; the use of screwdrivers, chisels etc. to prise up panels will result in damage to the panel edge and any surface covering.

Panels should be carefully lifted and replaced in their original orientation.

According to the type of surface material, it may be found that withdrawing and repositioning of panels is accomplished more easily by the use of two lifting devices, which allows the weight and balance to be more easily controlled.

Each panel should locate, without the use of force, into its proper position. If it fails to do so, remove it and investigate the reason.

Do not force panels into position!

g) SAFETY

Openings in panels should not be left unguarded.

Panels should not be removed and left out of position unnecessarily.

Panels should be lifted in rows and never in blocks.

When panels have been removed in rows, it is advisable to leave single panels in position at approximately 3m centres, i.e. leave every 5th panel in place. It is strongly recommended that no more than 5 panels are removed in a single row and that at least two complete rows are left between each row of panels removed. Only remove the minimum number of panels, avoiding long continuous runs of forming islands of panels or pedestals. With panels out of position, extra care must be taken, especially if equipment is being moved.

Do not remove the whole floor!

Never leave pedestals isolated, as they are liable to displacement or damage. Lifting panels only in alternate rows overcomes these problems.

BEWARE LIVE CABLES. TAKE CARE TO AVOID DAMAGE TO SERVICES

Cordon off or otherwise protect cut-outs in panels. Identify with hazard tape.

Before re-locating panels, ensure that stringers (if any) are in place, the pedestals are firmly fixed to the sub floor, and are upright. Check that the pedestal cap (if any) is correctly aligned and free from dust and debris. See that any electrical continuity devices are properly in position.

Damaged or worn surfaces should be considered for repair or replacement without delay.

When forming apertures in the floor it is advisable to protect the cut edges of the aperture by way of a proprietary grommet or floor box that can shield the user from exposure to any sharp edges. Even when using a grommet or floor box should never put one hand into the void through a cut aperture, always remove the panel to get a view of any object that may cause injury in the void eg. Live cable, sharp debris. Always wear protective gloves when placing one hand into a grommet.

It is recommended that a periodic inspection of the JVP 4x4 Raised Access Floor system is carried out on an annual basis by an experienced and authorised raised access flooring company!

h) MAINTENANCE

The amount of maintenance likely to be required will depend on function and the type and volume of traffic across the floor.

Check the substructure whenever the opportunity presents itself. To prevent small problems becoming serious, adjustments and repairs should be actioned as quickly as possible. The remedy may be as fast and simple as changing standard panels in high traffic areas with others, which are in more remote positions. Should a panel show any sign of instability, investigate and rectify.

The effect of cut-outs on panel strength.

Panels with holes cut in them are inevitably of reduced strength. The amount by which the strength of a panel is reduced will depend on the shape and the position of the cut out and its dimensions.

There are so many potential combinations of hole size and position that it is not possible to issue general information; rather each configuration needs to be considered on its merits. The situation is complicated by the fact that the cut panel may or may not have to be load bearing on a permanent or on a transient basis.

Holes are cut in panels normally for cable entry or ventilation. Cable entries are normally under machines and vents are more commonly in exposed positions.

Cable Entry.

It is normal practice that the cut-out will be under a cabinet, close to where the legs (and therefore weight) happen to be. It is not recommended that the weight of heavy equipment is imposed on panels containing cut-outs. In particular, there should be no excessive weight close to the cut-out itself. If it is unavoidable that the

weight and the cut-out position are close together, it may be recommended that an extra pedestal(s) should be installed to transfer the weight axially down the pedestal(s) to the subfloor.

Ventilation

Holes may be required for ventilation devices such as square, rectangular or circular grilles or diffusers.

In order to minimise risk of panel failure, cut-outs should be positioned so that there is at least 100mm between the cut-out and the panel edge. Care should be taken to avoid overloading the strip of panel remaining between the cut-out and the panel edge.

Brush Seals

If you wish to prevent unintended air loss from the floor cavity through any cable entry opening(s), consider fitting brush seals. These will allow the routing of cables and, at the same time, *reduce air leakage*.

General.

Caution should be exercised in placing panels containing cut-outs in areas which are likely to be heavily trafficked by rolling loads. When equipment is being moved or manoeuvred, spreader plates should be used.

i) REMOVING AND REPLACING PANELS SAFELY

Always use the correct lifting tool and ensure the lifting tool is in good condition and fit for the purpose. It is recommended that 2 panel lifters are used. Place the lifters diagonally across the panel and ensure that there is effective grip of suction.

Test the grip by pulling on the handles before starting to raise the panel.

Raise the panel in a horizontal plane so that it will clear adjacent panels without jamming and without the use of excessive force.

Once the panel is lifted clear of the floor surface rotate it through 45° and rest it on the surrounding panels.

Some panels do not have a smooth soffit. Take care to avoid scratching or indenting adjacent panels by placing one panel on another.

Remove the lifting tools from the panel surface. Now lift and move the panel by holding the sides.

Before replacing a panel ensure that the substructure is properly fixed, aligned and free of debris.

Replace the panel using 2 lifting tools and offer it gently into the opening. It may need gentle foot pressure to press it home but should not be forced. If a panel will not go into place without resort to force, remove it again and investigate.

Failure to observe and implement the correct procedure may result in damage to the flooring system.

Damage to the flooring system will, in turn, affect its future performance and the longevity/warranty of the system.

II) MOVING HEAVY EQUIPMENT

Ensure that all panels are in position and properly fitted. Investigate any rocking panels or irregularities, which might indicate a loose pedestal or pedestal head.

Overlay the route to be transited with protective covering. Secure it so that it cannot move horizontally. It is particularly important to prevent movement which could create a gap between boards, allowing the pallet truck or bogey to impact on the raised floor surface.

Avoid impact loads!

Shunt loads which impose a sideways force should also be avoided, especially at and close to perimeters. It may be advisable, when perimeters are exposed on one or more sides (a loading bay, for example) to install a restraining system to enhance stability. Such enhancement could consist of additional pedestal base fixings, horizontal bracing of pedestals fixed at some point to the structure, diagonal bracing and screwing panels to pedestal heads.

Heavy loads on castors and small wheels should not be run across grilles, perforated panels, panels with service outlet boxes or grommets and other panels with cut-outs.

If in doubt, always consult with a representative of a recognised Raised Access Flooring Company for advice when heavy items of equipment are being moved on to, and across, the raised floor.

The floor surface may be damaged or indented by hard wheels, castors etc. when combined with heavy loads. An overlay will help prevent this.

**Only a recognised raised access flooring company should carry out modifications to the
JVP 4x4 Raised Access Floor!**

m) MODIFICATION / DISPOSAL INSTRUCTIONS

If panels need to be removed for access, or any damaged panels need to be replaced, follow the maintenance and cleaning instructions outlined in section i) **REMOVING AND REPLACING PANELS SAFELY**.

For disposal of floor panels and components, refer to section o) **RECYCLING**.

n) CLEANING INSTRUCTIONS

Underfloor void.

Whenever panels have been removed for access, the cavity should be checked for cleanliness. Vacuuming is the most appropriate method.

If a floor sealer has been employed previously, any cracking or flaking should be noted so that repair work can be scheduled.

At all times, the utmost care should be taken, as there are likely to be live cables and expensive fibre optics in the floor void.

Vinyl panels.

Vinyl covering, which has been bonded to access floor panels is likely to have static control properties. Do not impair these by using sealing compounds, polishes etc.

Do not in the first place allow the vinyl surface to become dirty or stained and discoloured. There are serious limitations on methods to be used for cleaning due to the nature of the services in the void.

Normal methods for the initial clean and long term maintenance of vinyl floor coverings are generally unsuited to raised floors simply because the surface is not water tight. You cannot use a bucket and mop.

- All surplus dust and debris should be removed by sweeping with a soft broom.
- Under no circumstances should liquids be used on the floor in a way which would damage the adhesives used in panels or in quantities which could seep between panels and on to services (mostly electrical) in the void below.
- This limitation therefore precludes the use of mop and bucket methods of cleaning the floor, with or without detergent added to the water.

- If necessary panels must be lifted, one by one, and bench-cleaned by hand.
- The floor covering may become indented or lined by the wheels, castors or feet of static or moving objects. It is strongly recommended to protect against damage by overlaying the floor with a suitable sheet material when equipment is being manoeuvred.

Carpet panels (Needlepunch carpet).

Barrier Matting.

Soil within the carpet will abrade the carpet fibres and accelerate the ageing process. Over 80% of carpet soiling is applied directly to the floor via foot traffic.

The long-term appearance of any installation will therefore be substantially improved by the use of an effective barrier system at the exterior entrances. In order that these barriers remain effective in removing soil, it is essential that they be regularly cleaned in accordance with the manufacturer's instructions relative to traffic density.

Pattern Staining.

Where a differential pressure exists between the floor cavity and the room there is a danger of "edge-staining" because the floor can seldom be 100% airtight.

The risk of discoloration at panel edges will be reduced by ensuring that the cavity and the room are kept as clean as possible. Circulating air must be filtered effectively.

Do not wash or wet the carpet!

Routine Maintenance.

Vacuum the carpet frequently, daily if possible, preferably with a machine that has a separate power driven brush head and an airflow of at least 38 litres per second. Needlepunch carpet, by virtue of its extra-dense construction will tend to hold soil more tenaciously than pile carpet and so the vacuum cleaner must be effective to extract the dust.

Spot, Spillage, Stain Removal.

Deal with the problem quickly. The sooner it is tackled, the easier and more effective the cleaning will be. 350 0415 F: 0870 350 0425 Version 1.5

Blot up excess liquid with absorbent material and scrape up solids with a flat tool such as a blade or spatula. Ensure that you have the correct cleaning substance for the type of stain and one which will not "bleach" the colour out of the cloth. Do not spread stains. Work carefully from the edges to the centre. Always dry off as quickly as possible to prevent dust and dirt settling on the damp area.

Periodic Cleaning.

It may become necessary to clean the complete carpet in which case a "dry powder" method is recommended. This involves the application of a proprietary compound brushed into the carpet and vacuumed off. A specialist contractor normally carries out such intermittent cleaning.

Shampooing and hot water/steam cleaning are not recommended on account of the amount of moisture involved.

Loose Lay Carpet Tiles.

Loose lay carpet tiles should not be wet-shampooed unless the application is able to remove all the moisture, which is used in the process. Residual moisture will eventually migrate into the panels and potentially result in swelling, de-lamination and corrosion.

Bare steel.

Clean by sweeping or vacuuming.

Do not wash the bare steel panels!

Any superficial stains may be removed using a fine water mist spray and wiping immediately with a dry cloth. Any surface's stains on the galvanised sheet metal can be removed using plastic or wooden spatulas for excessive stain's build-up, followed by spraying pure pulverised water or mixed with very light solvents, to be removed immediately using dry microfibre cloths absorbent microfibre cloths.

No cleaning treatment should be applied to any surface before having carefully analysed the technical data sheets and the requirements derived therefrom, which are issued by the Manufacturer!

o) RECOVERY AND RE-USE

The panels for JVP 4x4 systems are designed to ensure a very long technical life cycle, up to what is stated in the product guarantees and data sheets.

This is ensured using component materials and production technologies with adequate tested performance, which continues over time.

Considering their exclusive use, right from the first installation in closed rooms, never exposed to external atmospheric agents and constantly kept under controlled humidity and temperature conditions, assuming certain compliance with the rules described in this manual and constantly, the panels of the JVP 4x4 systems are ready to guarantee constant performance also in further sites, obviously after adequate reconditioning

To enable the reconditioning and reuse of the panels, they must be safely removed, following in reverse order the specific instructions contained in the previous section d) INSTALLATION, in detail points 3, 4 and 5.

The operation will consist in their individual manual removal from the sites of original laying, with appropriate stacking on suitable pallets;

- in the discarding of each panel that has been reduced to size by perimeter cuts, to be sent directly for recycling in accordance with point p) RECYCLING;
- in the transport to suitable places able to guarantee hygrothermal conditions equal to those prescribed in point b) SUITABLE SITE CHARACTERISTICS;
- in the careful cleaning in accordance with point n) CLEANING INSTRUCTION above and in the visual analysis, piece by piece, of each individual panel, discarding any unit that shows traces of oxidation passing through or swelling with a change in thickness, as well as any folds on the sheet metal that could indicate an excessive load previously sustained;
- in the selection by different type and relative load and performance class, possible thanks to the complete traceability, ensured by the analysis of the unique printed code with which each panel is equipped, all of which is always guaranteed for components, quality and production method by a unique, unchangeable register;
- in the re-stacking on suitable pallets, for subsequent transport to the new site.

The actual re-use of JVP 4x4 panels must in any case be approved by the technicians and planners of the new building site, combining under their sole responsibility the objective evaluations carried out on the re-used panels with the performances indicated in the JVP technical data sheets!

p) RECYCLING

Only once it has been established that the components of its raised floors cannot be reused in whole or in part, JVP guarantees their complete recyclability by correctly following the notes below.

The pedestals, being realized in galvanized steel (body) and pp polypropylene (gaskets), are as first instance reusable; as second instance the components could be manually separated as pure steel and pure pp and consequently recycled as they are, without needing any further separation or conditioning.

The panels, being realized in galvanized steel capsule glued to a chipboard or inert calcium sulfate & fibers core: as first instance could be reused, and as second instance they need firstly to be disassembled and consequently to be recycled component by component.

The glue, water base vinyl, used to bond the components is in a negligible quantity and could be recycled together with the core's component.

There are two systems in order to separate the galvanized steel capsule from the body core of panels:

- the first, mainly manual, is to cut along the edge of the steel capsule and then to peel it out from the body; then, the metallic components are given to the steel's foundry companies who are specialized to recycle them by melting, the chipboard components are given to the chipboard producers to be recycled and the calcium sulphate are given to the construction companies for creating the sub-stratus for new roads and/or building's foundations: these procedures are granted by the ISO EN 14001 certificate;
- the second, mainly mechanical, is to grind all together the panels in a proper grinding machine, and then to separate the steel parts from the body parts by a magnetic filter; then, the metallic component are given to be melted to the steel's foundry specialized companies, the chipboard components are given to the chipboard producers to be recycled and the calcium sulphate are given to the construction companies for creating the sub-stratus for new roads and/or building's foundations.

