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Raised access flooring

The raised access flooring (RAF) is a system that was born from the need to hide the large number of installations such as telephone and electricity wiring, piping, air conditioning, etc... that are located in work areas, technical rooms, etc...

These installations are hidden under the system, as a “technical plenum” has been created with immediate and easy accessibility. It also lets us carry all the installations neatly.

System application areas

The use of raised access floor is highly recommended in those areas where there are a large number of elements running under the floor, with the advantage of having an easy and immediate accessibility.

Commercial applications: offices, libraries, museums, schools, shopping centres, etc.
Technical applications: telecommunications/electricity plants, control rooms, laboratories, data centres, etc.

Advantages

• Ability to hide away all types of ugly and dangerous cables, pipes etc under the floor.
• Improved installation efficiency in comparison to conventional floors (installation rate of about 40 m²/day).
• Easy to take with you when relocating offices.
• Option of rerouting services following installation of floor.
• Clean installation without the use of cement, avoiding the production of debris, dust, noise, etc.

Advantages over other raised access floor systems

• Able to withstand a high mechanical load.
• The potential for combining different structures, as required in each particular case.
• It has an excellent reaction to fire under laboratory testing.
• It has very low dimensiona tolerances, which allow for a perfect exchange of panels.
• Cores made of high-performance materials with very high densities.
• Compliance with UNE EN ISO 9001, guaranteeing quality controls during each stage of the manufacturing process.
• On the top surface, any 60 x 60 ceramic tile by Porcelanosa or other non-ceramic coverings (plastic laminate, linoleum, vinyl, granite, aluminium, steel, carpet, parquet etc) can be used.
• The pieces are protected by a plastic material edging, in order to prevent the tiles from spalling.
• A wide range of complementary products to ensure a good finish.
Panels

Panels with chipboard core.

They are made of chipboard with a high-performance resin binder. Available in a thickness of 38mm, they feature an aluminum, galvanized steel or plastic lower covering, thus offering slightly different properties to suit each individual case. The panels have a plastic surround to prevent the edges from breaking.

1. Covering piece
2. Edging
3. Lower covering
4. Wood core

Panels with calcium sulfate core.

It consists of a mineral soul of a single layer based on calcium sulfate of high density. Available in 30 mm thicknesses and with lower coating of aluminum or galvanized steel. As in the wood panels, the perimeter of all the panels has a plastic surround to prevent the edges from breaking.

1. Covering piece
2. Edging
3. Lower covering
4. Calcium sulfate core

Panel with ceramic core.

Formed by a core of high-density inert and inorganic material. Available in thickness of 15 mm. As in the wood and sulphate panels, the perimeter of all panels is trimmed with plastic in order to prevent parts from peeling. Ideal material for wet areas and/or humid areas as it is non-absorbent (water absorption of 0.05%).

1. Covering piece
2. Edging
3. Ceramic core
Available panel formats

Format 60x60 cm
Available in porcelain finish (any 59.6x59.6cm floor tile from PORCELANOSA Grupo) or non-ceramic, such as vinyl, plastic laminate, carpet, linoleum, etc.

Format 58x120 cm
Porcelain finish. Each panel contains 3 PAR-KER tiles (format 19.3x120 cm) from PORCELANOSA Grupo.
Structure

The structure is made up of pedestals and stringers, which support the floor covering and ensure the necessary height and rigidity.

Pedestals

100% galvanised steel structure. This pedestals dictate the floor height according to the project requirements. Each pedestal incorporates a series of plastic noise-reduction heads fitted with four positioning lugs.

One of the main advantages of the pedestal system is that it is fitted with a 14 mm threaded bolt that can be adjusted to accommodate different floor height requirements.

Stringers

Like the pedestals, the stringers are made entirely of galvanised steel. Their main function is to increase the strength of the floor. They are covered with special noise-reduction strips.

From the point of view of performance, it presents a high resistance to bending vertical load and / or eccentric, thanks to a screwed bolt M16 section, a tube of diameter 20 mm of thickness of 2 mm, internally calibrated to obtain a coupling with smaller tolerances and therefore less spaces and a direct connection between the screwed bolt of the disc base and tube, without need of interposing deformable plastic elements.

Depending on the configuration of both the panel and the structure, we can achieve a resistance to static loads up to 4,400 kg/m².
Binter Headquarters (Las Palmas de Gran Canaria - España)
Edificam Illes Headquarters (Calvià - Spain)
Urban development ministry building (Castellón - Spain)
Raised access flooring for exteriors

The raised access floor (RAF) system for terraces has been specially created to solve the aesthetic problem that exists with the slopes in terraces and to hide elements under the floor. By building a completely flat floor over the existing terrace floor, these slopes are conveniently hidden underneath. Height deviations are offset with height-adjustable plots and any accumulated water is drained through open joints on the newly paved surface and then channelled down the terrace's waterproofed slopes to the drain.

Advantages

- The system can be used to create a flat paved surface over sloping masonry floors with height deviations of up to 3%. Any height deviations over 2% will need to be corrected with mortar or with wedges.
- The creation of an air void under the newly paved surface generates a continuous flow of air through the pavement joints, which prevents the build-up of condensation and also produces an insulation layer.
- The under floor void, can also be used to house cables, pipes, etc.
- Easy to access this space under the floor (do not use P-404 to bond tiles and plots in areas where you need to access the services underneath and be able to have space to work on it).
- The plenum created by the floor elevation reduces the level of noise on the lower floor.
- The system is quick to install as the tiles and supports are installed at the same time.
- Advantages of PORCELANOSA Grupo pavement: Easy to clean, low dimensional tolerances, wide variety of finishes, hardness, etc.

The external RAF is a type of over-raised pavement with special ceramic tiles that are arranged on plastic PVC plots of adjustable height, so that a hollow space is determined between the support and the floor tiles.

The elements that make up this system are as follow:

Panels for outdoor RAF

Porcelain tiles from PORCELANOSA Grupo.

There are two types of Outdoor RAF panels:

- Double piece: two porcelain tiles from Porcelanosa Grupo are adhered together with hot melt moisture reactive adhesive
- 20mm thick porcelain tile: produced by URBATEK

Outdoor RAF structure:

Three types of pedestals are available:

- Fixed Plot: a non-adjustable pedestal for the lowest heights. Available in 10, 15 and 20mm
- Normal, Ultra Plot: adjustable pedestals for heights higher than 30mm. Recommended for plank formats
- Stem: Adjustable height rod that allows adapting height of the plot to the needs of the pavement over-raised.
- Plot N: stronger pedestals for the most demanding situations

These pedestals, made of weatherproof plastic, support the Outdoor RAF panels, determine the system height and set the joint thickness between the panels. These elements consist of the following parts:

- Base: with a large diameter that distributes the weight of the system on the substrate
- Stem: adjustable height that allows adapting the height of the pedestals to the needs of the project
- Head: where the Outdoor RAF panels are laid, with 4 spacers which determine a joint width of 4mm

Butech also supplies the materials needed for the installation of this system:

- P-404: polyurethane adhesive to fix the structure to the substrate
- 5mm Flexible wedges: to absorb imperfections of the slab or to compensate more pronounced slopes
- Polyurethane foam: to adjust the perimeter panels so that the system is perfectly tight

Optional

- Levelling key for Plot N: to adjust the pedestal height once the panels have been placed, allowing the compensation of different levels

The total height of the plot can be adjusted for different adjustable heights.
Plots non adjustables (Basic Plot)

- **Type**: Non adjustable - pilled up
- **Material**: Polypropylene with mineral load
- **Colour**: Black
- **Compression resistance**: 8,000 kg/unit approximately
- **Dimensions**: 100 x 100 mm and Ø 115 mm
- **Heights**: 10 mm, 15 mm, 20 mm
- **Separation between tiles**: 4 mm

Plots adjustables (Normal Plot)

- **Type**: Adjustable
- **Material**: Polypropylene with mineral load
- **Colour**: Black
- **Compression resistance**: 750 kg/unit approximately
- **Dimensions**: Lower support base Ø 150 mm, Upper head Ø 92 mm
- **Thread type**: Double trapezoidal thread
- **Heights**: Minimum 30 mm, Maximum 670 mm
- **Slopes**: From flat to 2 %
- **Separation between tiles**: 4 mm

Plots adjustables (Plot N)

- **Type**: Adjustable
- **Material**: Polypropylene with mineral load
- **Colour**: Black
- **Compression resistance**: 2,800 kg/unit approximately
- **Dimensions**: Lower support base Ø 205 mm, Upper head Ø 150 mm
- **Thread type**: Double trapezoidal thread
- **Heights**: Minimum 30 mm, Maximum 670 mm
- **Slopes**: From flat to 3 %
- **Separation between tiles**: 4 mm

Plots adjustables (Ultra Plot)

- **Type**: Adjustable
- **Material**: Polypropylene with mineral load
- **Colour**: Black
- **Compression resistance**: 1,000 kg/unit approximately
- **Dimensions**: Lower support base Ø 150 mm, Upper head Ø 92 mm, Rest of the heights: Lower support base Ø 160 mm, Upper head Ø 140 mm
- **Thread type**: Double trapezoidal thread
- **Heights**: Minimum 100 mm, Maximum 670 mm
- **Slopes**: From flat to 2 %
- **Separation between tiles**: 4 mm
System accessories:
Step Clip

Made of the highest stainless steel quality, and essential to finish a floor with no perimeter wall or enclosure.

These clips have two components: upper clip, fixed to the pedestal head, and lower clip, which goes on a previously cut pedestal base.

The perimeter panels are easily installed with these clips.

For a correct installation, the pedestal base has to be cut as shown in the images.

Only compatible with Plot N.

The description of the Outdoor RAF panel refers only to the upper tile, which may differ from the lower tile in colour and aspect.

Cutting the 20mm thick Outdoor RAF panels exposes the internal section of the tile, which differs from the original non-cut side in colour and aspect.

SAP: 100253729
Private house (Conil · Spain)
Private house (Jerez de la Frontera - Spain) Architect: Pedro Reguera González
Private house (Sant Boi de Llobregat - Spain)      Architect: Nexe arquitectura  Photography: Simon Garcia | arqfoto.com
Building rooms and suites for Robinson Club Cala Serena (Mallorca - Spain)

Architect: Francisco Galmés and Clara Mansergas. G+M Arquitectes
How to get a budget of a butech system?

- Come to one of our stores/distributors, where you will be attended by our professionals, who will show you the products that best suit your needs.
- To provide you with the best service, you should provide us the plans of the project and fill a study sheet customized to your product.
- Once delivered the plans and the sheet correctly completed, from the Technical Department of butech, a first budget will be done.
- In less than 15 days, the same professional who attended you will deliver the budget.
- In case of acceptance, and if you wish, you will receive the visit of one of our technicians for the preparation of the final budget.

Projects completed

RAF Projects

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RAFx Projects

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PORCELANOSA Showrooms