RAF Exterior Information Sheet

Date: 08.01.2019

RAF EXTERIOR

RAF Exterior is designed for generating flat surfaces without slope, in order to expand the use of terraces and allow a greater variety of designs. The speed and efficiency of the drainage of the water accumulated on this type of floor depends on the size, texture, and slope of the plates that make up the floor. In the case where RAF Exterior cannot evacuate 100% of the water accumulated on its surface, we shall proceed to cleaning and drying it with auxiliary means, especially in climates where there is a risk of frost.

The floor drainage is carried out through the open joints between the plates of the raised floor, so they shall be kept clean of any element that may block the water flow.

RAF Exterior is a type of raised flooring consisting of special porcelain tiles laid on height-adjustable plastic pedestals, thus creating a void between the supporting structure and the tiled floor. The system comprises the following:

The floor tiles consist of double layer porcelain stoneware tiles bonded together with water resistant hot melt adhesive. Manufactured to a suitable thickness to provide excellent loading capacities for raised flooring. The technical specification is as follows:

- Format: 596 x 596mm
- Thickness: 23mm approx.
- Water absorption: < 0.5%.
- Loading Capacity: > 3kN.
- Chemical resistance: UA.

Although the porcelain stoneware tiles are manufactured to a suitable thickness to withstand the above loading capacity, heavy impact or falling objects may still damage the tiles.

The plots, manufactured from a weather-resistant plastic material, support the ceramic tiles and also determine the height of the system and width of the joints between tiles .

The height can easily be adjusted by an intermediate piece (rotating), to obtain the required height, even when the main base and support above are fixed. This is marked with the slope correction (1%, 1.5%, 2% or 3%) and the fitter should position the built-in corrector (adjusted) towards the drainage channel; the adjusted corrector indicates the maximum slope, which is why it must point towards the drain.

The upper clip on the support can be cut for easy adjustment of the finished surface near corners or walls .

The pedestal technical specification is as follows:

- Manufactured by thermo-injection moulding.
- Colour - Black.
- Base material: Polypropylene with calcium carbonate surface.
- Technical Stability (-25º C +120º C).
- Dimensional stability.
- Average mechanical compression (up to 1.200 kg/unit) .
- Resistant to aqueous solutions of inorganic salts, acids and alkalis.
- Resistant to most organic solvents such as alcohol, esters and ketones.
- Resistant to commercial detergents and bleach.
- Resistant to micro-organisms, by not providing a breeding ground for these.
- Will not puncture impermeable membranes or thermal insulation.

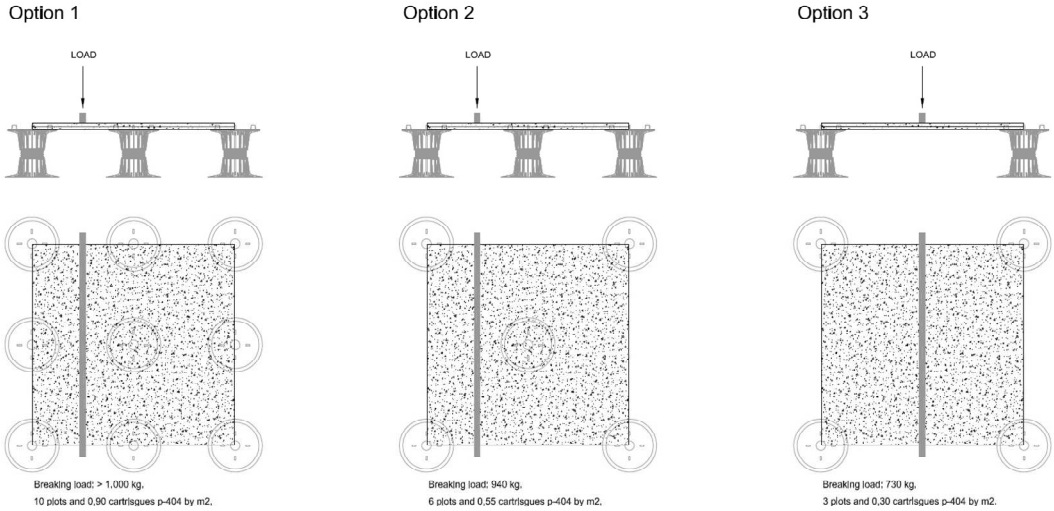
butech BUILDING TECHNOLOGY, S.A.
Ctra. Vila-real - Puebla de Arenoso (CV-20), Km. 2,5 · Apartado de Correos 297 · 12540 Villarreal, Castellón - ESPAÑA.
Teléfono (+34) 964 53 62 00 · Fax: (+34) 964 53 00 34 · E-mail: butech@butech.es · www.butech.es

- The pedestals are marked with the slope to be corrected (1%, 1.5%, 2% or 3%) and the fitter should position the distinctive corrector (adjusted) towards the drainage channel; the adjusted corrector indicates the maximum slope and, due to this, must point towards the drain.
- The upper support clips can be cut for easy installation of the tiles near corners or walls.
- Not resistant to oxidising substances such as nitric or sulphuric acids, or to halogenated hydrocarbon solvents such as petrol.
- Surfaces suitable for the installation of pedestals: Compacted mortar screeds, chlorinated rubber primers, butyl fabrics, protected bitumen roof underlays, PVC and TPO membranes, overlapped at edges.
- Installation is prohibited:
    - Completely for animal facilities such as pig farms, etc.
    - In places where there is traffic (cars, trucks, etc.).
    - On gravel, cellular concrete, directly on the ground and unprotected bitumen membranes.
- In case of using this system in hospitality, sanitary, educational, commercial, administrative or public facilities, please contact the Butech Technical Department and ask for an installation report.

INSTALLATION

The layout of the RAF Exterior tiles is determined by the position of the pedestals. These are positioned, as a minimum, under the four corners of the tiles, but can be placed in other positions, depending on the format.

The number of pedestals and P-404/m^2 depends on the format chosen and the mechanical strength required.



Before installing RAF Exterior, we recommend checking that the anchoring system chosen for the system does not affect the waterproofing of the substrate.

The pedestals should be bonded to the supporting surface with polyurethane adhesive (P-404). The tiles should also be bonded to the pedestal with this adhesive, to avoid bending.

This system can be adapted to the individual client's requirements. Taking into account the relevant project data, butech can adapt RAF Exterior to different factors on each project.

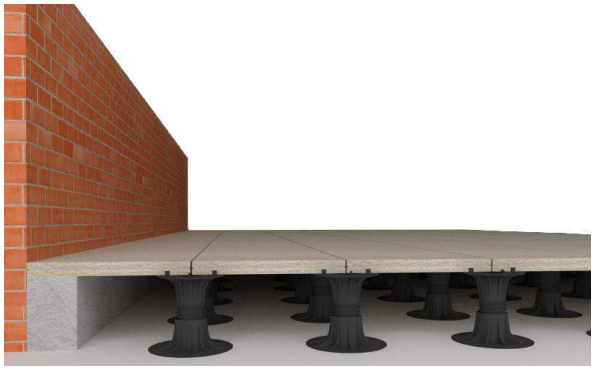
From butech we recommend locking the head and the base of the pedestals mechanically through either screws or fastener nails in order to get them fixed without any movement.

This ensures the system has good stability and allows greater flexibility in tile layout design; it is possible to design layouts with different formations.

The plots shall be installed on a substrate or laying base, which shall be dimensionally stable and non-deformable, without risk of cracking and movements due to the mortar setting. In the case of roofs, we recommend installing a waterproofing system with a 3% maximum slope.

It is recommended to immobilize the head and the base of the pedestals mechanically, by means of a screw or nail, to fix them avoiding any possible movement.

Perimeter installation can be carried out either by recessing the pedestals or by using supporting masonry.



butech advises the application of polyurethane foam around the perimeter to prevent future movements RAF Exterior.

Select the pedestals with a base matching the slope of the support. The mark on the base of the pedestal must be facing the drain in order to compensate the slope.

Fix the pedestals to the support with butech P-404 (polyurethane) applied by a circular thread around the base of the plot. Do not use any type of fixing that could damage the waterproofing system. Approximately, the coverage of P-404 is 9-11 plots per cartridge.

Do not use wedges or adjustment elements that do not allow full contact between the base of the plot and the substrate
Apply P-404 between the head of the pedestals and the external RAF panels.

This type of terrace system removes the need for a mortar screed and later tiling using cement adhesive. It also avoids problems which may arise from traditional fixing by direct bonding, or due to thermal variations, structural settlement or poor installation of the flooring. Additional advantages are convenient accessibility to the void at all times to repair existing waterproofing, easy installation without the need for skilled labour, reduction in noise transmission, and thermal insulation of any room below the terrace or decking which is constantly ventilated since the joints between tiles remain open 4mm to allow drainage of water .

Technical Department
butech building technology S.A.