TECHNICAL CATALOG 2019

FLEXIBILITY, TECHNOLOGY, QUALITY AND STYLE

APPTEC
RAISED FLOOR SYSTEM

www.apptec.it

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INTRODUCTION

Apptec provides this manual a part of its long-term commitment to a supportive, interactive relationship with its valued customers. We believe that it contains all the information needed to select, plan, install and maintain a modern raised floor system. In addition our technical staff stands ready to answer questions regarding any aspect of its fine product line.

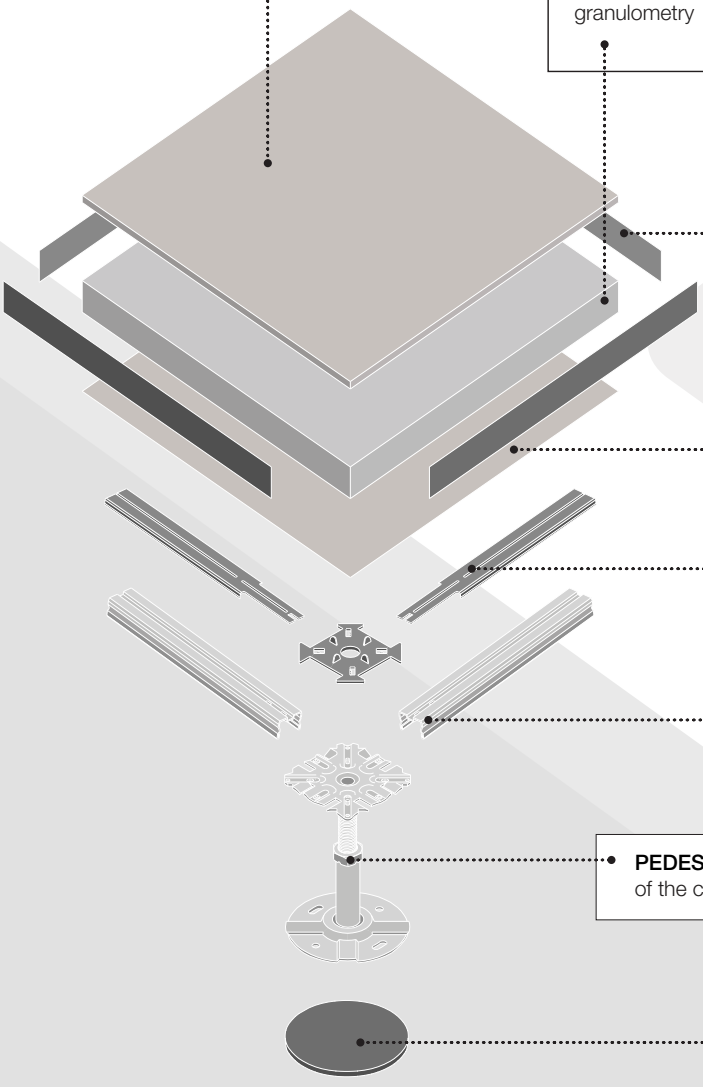
THE RAISED FLOOR

As new computer and communication technologies have revolutionized the workplace, means and methods for distributing services have likewise undergone significant advancements. Gone are the days of permanent walls and ceilings and the inflexible floor plans they created. Modern office and commercial environments can be modified quickly and efficiently without the high costs involved in old-fashioned “hard-wired” cable, duct and plumbing schemes. The modular raised floor systems allow project planners to incorporate unlimited flexibility into workplace design, providing for virtually any type of future modification as well as unforseen changes.
The raised floors, available in the widest selection of top finishes in the industry, not only reduce time and costs in the original construction phases, but become even more cost-effective over time due to their ease of maintenance and durability.

COMPONENTS

TOP FINISH: HPL laminate, pvc, rubber, linoleum, moquette, parquet, cotto, gres, natural marbles and granites, recomposed marbles and granites.

CORE: PT: panel made of high density chipboards and resins. Thickness: 30 mm e 38 mm. PS: inert panel made of calcium sulphate. Thickness: 30 e 34 mm; also available, only for stoneware top finishes 12 e 18 mm. MONOTEC: panel made of composite material made up of inert materials with mixed granulometry and organic polymers. Thickness: 23 mm, 25 mm and 30 mm including top ceramic or stone covering.



PERIMETER EDGE: ABS shock absorber

BOTTOM FINISH: Plastic laminate - aluminium sheet 0,05 mm - melamine paper sheet - waterproof plastic sheet - galvanized sheet 0,5 mm - galvanized steel tray 0,5 mm

GASKET: In anti-ribbed polythene, with air tightness and powder

STRINGER: In galvanized steel with open or closed section profile

PEDESTAL: Galvanized steel with 4 spokes for connection of the crosspiece

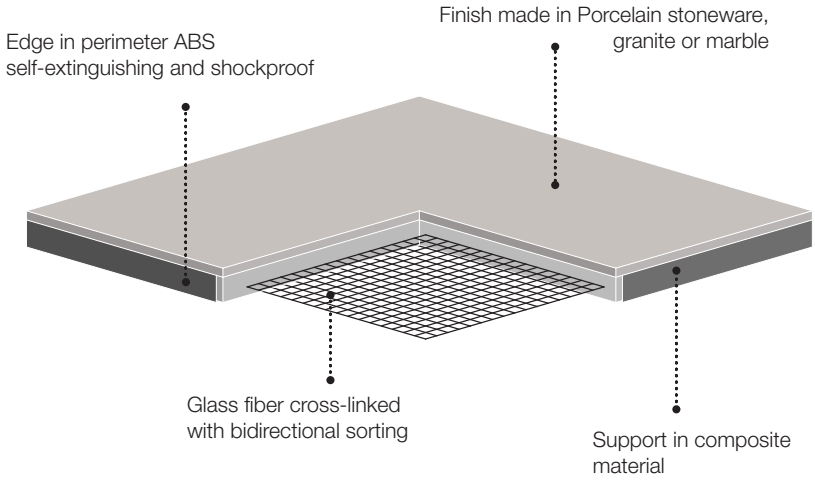
ACOUSTIC PAD: Composed of a layer of expanded polyethylene coupled with a layer of rubber with a density of 5 kg/mc

THE ADVANTAGES

From a rigid layout, which could only be modified through long lasting and expensive changes, we have moved to a modular system, which is easily linked up and connected at any point, easily accessible and rapidly modifiable by few interventions limited in space, time and costs.

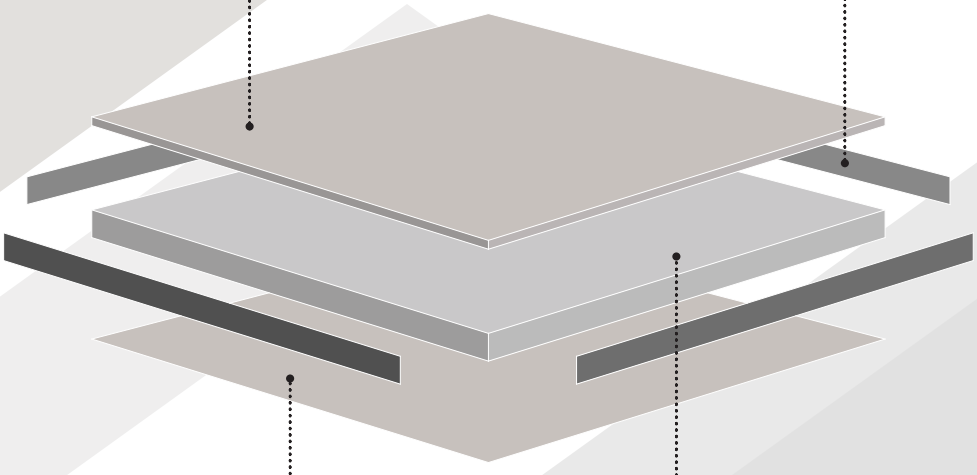
Raised floors allow to customize and modify the space without mason works. They allow to reduce time/cost of laying and maintenance, to spread intervention over the time, to easily install the connection systems and to offer a wide variety of finishing materials.

It is an extremely versatile system which gives the designer great freedom of action.



PEIMETER EDGE: it is a profile generally applied with glue or mechanically fixed on the edge/surface delimiting the thickness of the panel with finishin function, water tightness of the system and protection of the panel coating. Apptec realizes the edges of the schockproof ABS panels.

TOP FINISH: complete the panel in terms of aesthetics iin relation to the needs of users or the intended use of the premises. It also contributes to the achievement of pre-established mechanical, chemical, physical, comfort and safety performances.



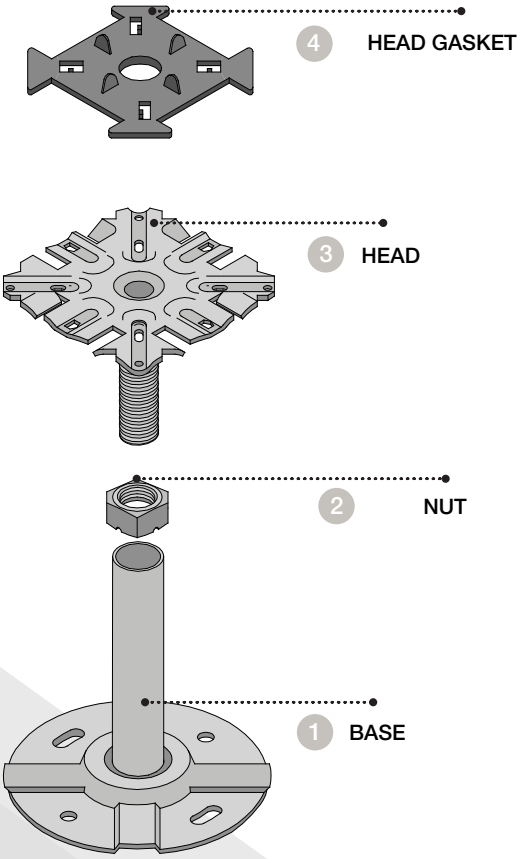
CORE: (standard size 60x60 cm): it is the structural core that distributes the loads of the raised floor.

BOTTOM FINISH: it is the functional layer of the lower surface of the panel. Improves the physical-mechanical characteristics. It can be made of plastic laminate, 0.05 mm aluminium sheet, melamine paper sheet, waterproof plastich sheet, 0.5 mm galvanized sheet or 0.5 mm galvanized steel tray.

THE STRUCTURES

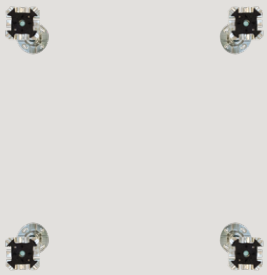
STRUCTURE SAS

It is composed exclusively of pedestals which allow a height adjustment from 35 mm to 1030 mm. The pedestals are arranged in a 600 x 600 mm grid, and include:



1 BASE

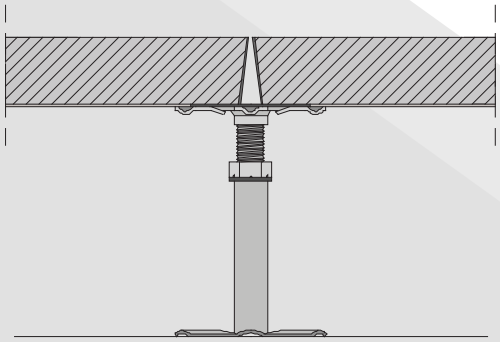
The element that rests on the slab, composed of a metal plate 90 mm in diameter and 1.8 mm thick, sheared to obtain the necessary rigidity and to guarantee excellent grip to any glue. A 2 mm M16 tie rod 30 to 200 mm long, is applied by arc weld.
The weld is performed to ensure the two elements are perfectly joined. A nut with anti-backoff notches allows the pedestal to be adjusted.



SAS GRID STRUCTURE

3 HEAD

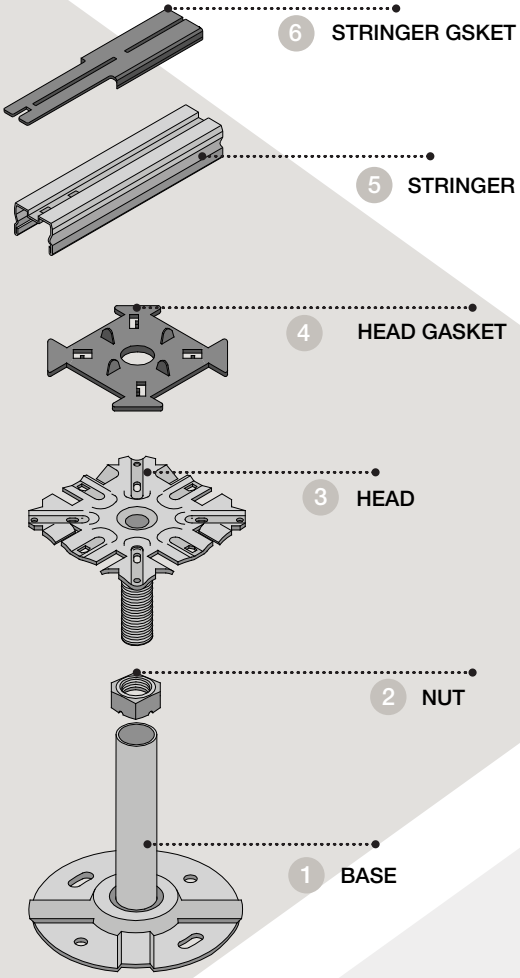
Supporting element composed of a metal plate 75 x 75 mm, 2.5 mm thick, shaped by shear die to achieve besides the necessary stiffening effect and supports also a deep drawing so that a complete object can be produced in a single piece, suitable for adjustment.
This state-of-the-art solution makes welds and forced couplings unnecessary. An object manufactured this way also guarantees natural rigidity and perfect coupling with the other element of the pedestal. A gasket of antistatic polythene or conductive, completes the head and snaps on to become solid with it.



Nominal measurements that are subject to minimal variations caused by mechanical deformation during machining.

STRUCTURE STS

It is composed of pedestals which allow a height adjustment from 35 mm to 1030 mm and connecting stringers. The pedestals are arranged in a 600 x 600 mm grid, and include:



1 BASE

The element that rests on the slab, composed of a metal plate 90 mm in diameter and 1.8 mm thick, sheared to obtain the necessary rigidity and to guarantee excellent grip to any glue. A 2 mm M16 tie rod 30 to 200 mm long, is applied by arc weld.
The weld is performed to ensure the two elements are perfectly joined. A nut with anti-backoff notches allows the pedestal to be adjusted.

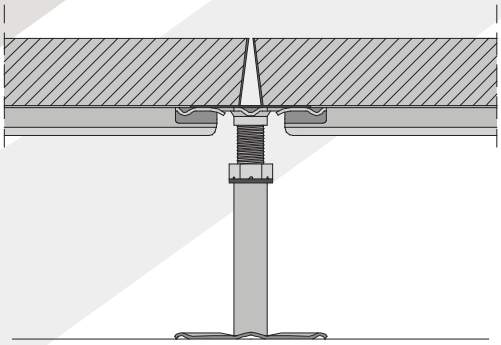
STS GRID STRUCTURE

3 HEAD

Supporting element composed of a metal plate 75 x 75 mm, 2.5 mm thick, shaped by shear die to achieve besides the necessary stiffening effect and supports also a deep drawing so that a complete object can be produced in a single piece, suitable for adjustment.
This state-of-the-art solution makes welds and forced couplings unnecessary. An object manufactured this way also guarantees natural rigidity and perfect coupling with the other element of the pedestal. A gasket of antistatic polythene or conductive, completes the head and snaps on to become solid with it.

5 STRINGER

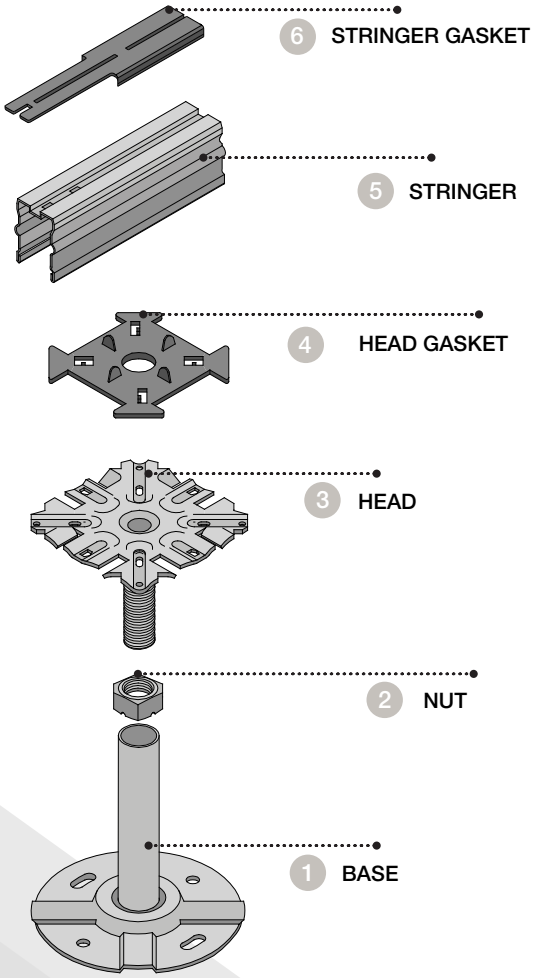
The STS stringer is a connecting stringer with a ribbed Omega section profile, 21 x 15 x 1 mm and 554 mm long, with anti-cut fold (an accident prevention device to comply with Italian Law 626/494). Like the other types it is made by press-folding 1 mm thick sheet metal to produce an object with maximum rigidity and precision. The stringer snaps onto the head and thus fits exactly even without the anchorage screw which is nonetheless available. All the stringers are supplied with antistatic selfadhesive or polythene gaskets, to seal and soundproof them. Stringers allow rapid installation.



Nominal measurements that are subject to minimal variations caused by mechanical deformation during machining

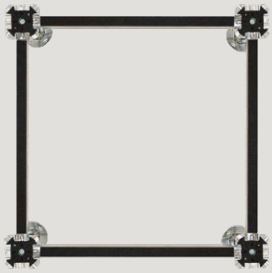
STRUCTURE STR

It is composed of pedestals which allow a height adjustment from 35 mm to 1030 mm and connecting stringers. The pedestals are arranged in a 600 x 600 mm grid, and include:



1 BASE

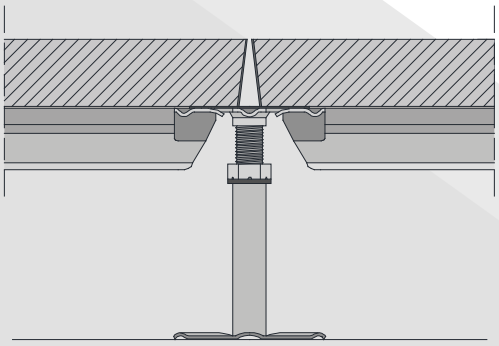
The element that rests on the slab, composed of a metal plate 90 mm in diameter and 1.8 mm thick, sheared to obtain the necessary rigidity and to guarantee excellent grip to any glue. A 2 mm M16 tie rod 30 to 200 mm long is applied by arc weld. The weld is performed to ensure the two elements are perfectly joined. A nut with anti-backoff notches allows the pedestal to be adjusted.



STR GRID STRUCTURE

3 HEAD

Supporting element composed of a metal plate 75 x 75 mm, 2.5 mm thick, shaped by shear die to achieve besides the necessary stiffening effect and supports also a deep drawing so that a complete object can be produced in a single piece, suitable for adjustment.
This state-of-the-art solution makes welds and forced couplings unnecessary. An object manufactured this way also guarantees natural rigidity and perfect coupling with the other element of the pedestal. A gasket of antistatic polythene or conductive, completes the head and snaps on to become solid with it.



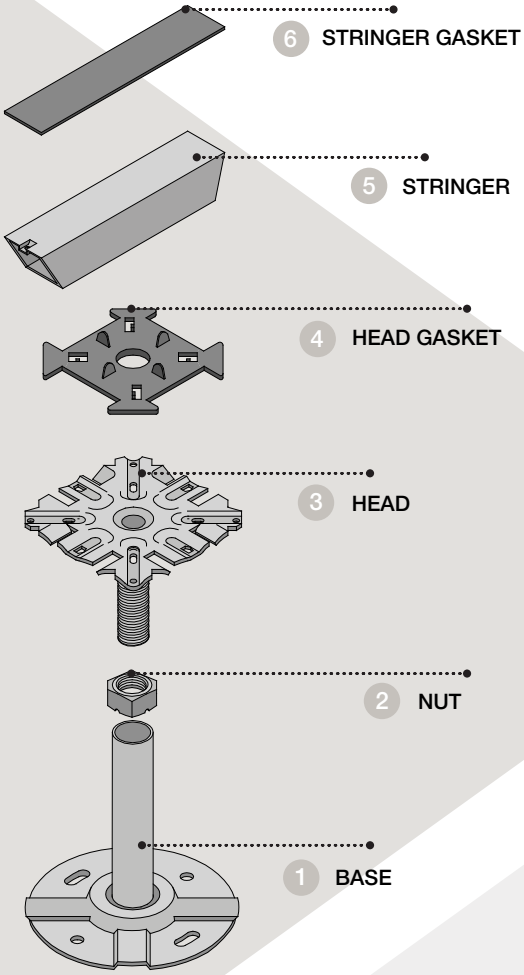
5 STRINGER

The STR stringer is a load-bearing stringer with a ribbed Omega section profile, 21 x 38 x 1 mm and 554 mm long, with anti-cut fold (an accident prevention device to comply with Italian Law 626/494). Like the other types it is made by press-folding 1 mm thick sheet metal to produce an object with maximum rigidity and precision. The stringer snaps onto the head and thus fits exactly even without the anchorage screw which is nonetheless available. All the stringers are supplied with antistatic selfadhesive or polythene gaskets, to seal and soundproof them. Stringers allow rapid installation.

Nominal measurements that are subject to minimal variations caused by mechanical deformation during machining.

STRUCTURE STO

It is composed of pedestals which allow a height adjustment from 35 mm to 1030 mm and connecting stringers. The pedestals are arranged in a 600 x 600 mm grid, and include:



1 BASE

The element that rests on the slab, composed of a metal plate 90 mm in diameter and 1.8 mm thick, sheared to obtain the necessary rigidity and to guarantee excellent grip to any glue. A 2 mm M16 tie rod 30 to 200 mm long is applied by arc weld. The weld is performed to ensure the two elements are perfectly joined. A nut with anti-backoff notches allows the pedestal to be adjusted.

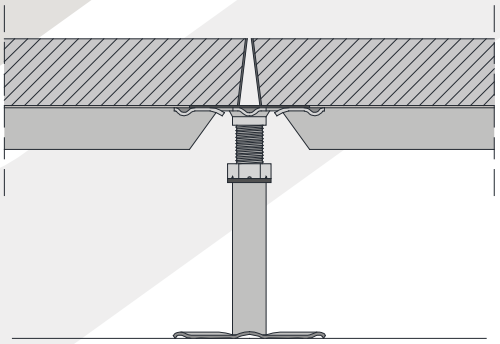
STO GRID STRUCTURE

3 HEAD

Supporting element composed of a metal plate 75 x 75 mm, 2.5 mm thick, shaped by shear die to achieve besides the necessary stiffening effect and supports also a deep drawing so that a complete object can be produced in a single piece, suitable for adjustment.
This state-of-the-art solution makes welds and forced couplings unnecessary. An object manufactured this way also guarantees natural rigidity and perfect coupling with the other element of the pedestal. A gasket of antistatic polythene or conductive, completes the head and snaps on to become solid with it.

5 STRINGER

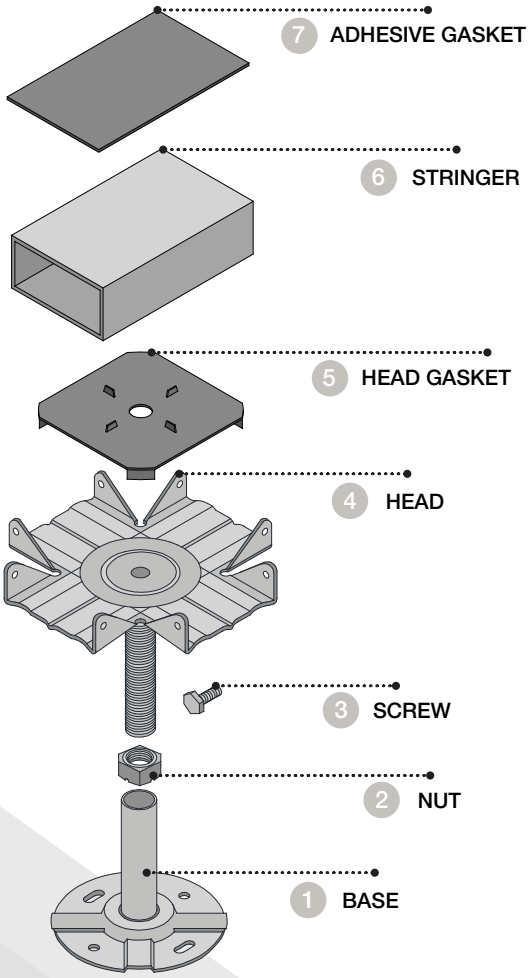
The STO stringer is a load-bearing stringer with a ribbed square section profile, 22 x 22 x 1 mm and 554 mm long. It is produced by inclined cut and shearing of an electro-welded tubular element. The stringer is coupled to the head by anchorage screws with a suitable diameter. All the stringers are supplied with antistatic self-adhesive or polythene gaskets, to seal and soundproof them.
The use of stringers makes for rapid installation.



Nominal measurements that are subject to minimal variations caused by mechanical deformation during machining.

STRUCTURE STC

A structure engineered to bear extra heavy loads with adjustable pedestals made of pressed and galvanized steel with height adjustment range from 85 mm to over 1060 mm. The pedestals are set in links with distance of 600 x 600 mm and are composed of:



1 BASE

The round base which has a diameter of 95 mm (thickness of 1,5 mm) and/or 100 mm (thickness of 2,5 mm) according to the height of the M16 welded, threaded shaft. The height level is blocked with a 6-toggle nut.

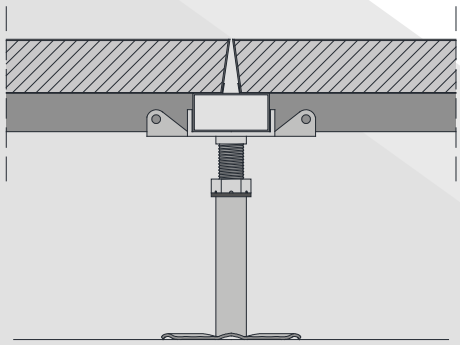
STC GRID STRUCTURE

3 HEAD

A four-sided head 110 x 110 mm (thickness of 3 mm) which has M5x10 side screws for the fixing of the stringers.

5 STRINGER

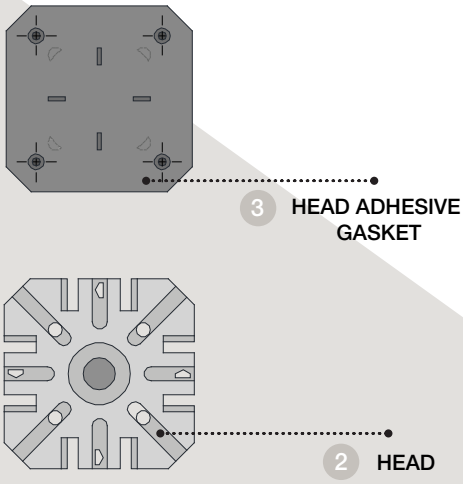
Passing-through galvanized 1 mm steel stringers with box shaped profile 50 x 25 mm, available in the lengths 2400 - 1800 - 550 mm, with antistatic self-adhesive gaskets and head gaskets made of conductive polythene on request.



Nominal measurements that are subject to minimal variations caused by mechanical deformation during machining.

LOCKED STRUCTURE

The main feature of the Locked structure is the direct connection between the head of the column and the lower surface of the panel, thus guaranteeing a stable coupling between the panels and minimizing the misalignment of the joints.The columns are disposed in a grid structure 600x600 mm and include:



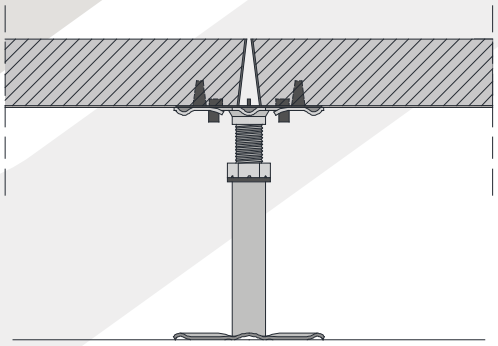
1 BASE

Elemento in appoggio alla soletta formato da piastra in lamiera Ø 90 mm e spessore 1,8 mm, appositamente tranciata al fine di ottenere la rigidità necessaria e permettere un'ottima presa dell'eventuale incollaggio. Tramite saldatura a filo viene applicato un tubo di altezza variabile, laminato a freddo, con l'inserimento di una bussola in nylon. La saldatura è eseguita in modo da rendere i due elementi perfettamente uniti. Un dado con tacche antisvitamento consente la regolazione della colonna.

LOCKED GRID STRUCTURE

2 HEAD

Elemento di appoggio formato da piastra di lamiera mm 90x90, sp. 2,5 mm, opportunamente forgiato tramite stampo trancia al fine di ottenere oltre alle necessarie nervature e appoggi una profonda imbutitura che permette di realizzare un manufatto completo in un singolo pezzo, adatto alla regolazione. La testa è dotata di n°4 perni equidistanti atti a ricevere la superficie inferiore del pannello precedentemente forata. Alla testa viene successivamente accoppiato un perno filettato M16 di altezza variabile. Il manufatto così costituito garantisce naturale rigidità ed un perfetto accoppiamento con l'altro elemento della colonna. Una guarnizione in politene antistatico o conduttivo completa la testa. Per maggiore stabilità è previsto il fissaggio delle colonnine alla soletta con idone collante ad espansione reattivo.

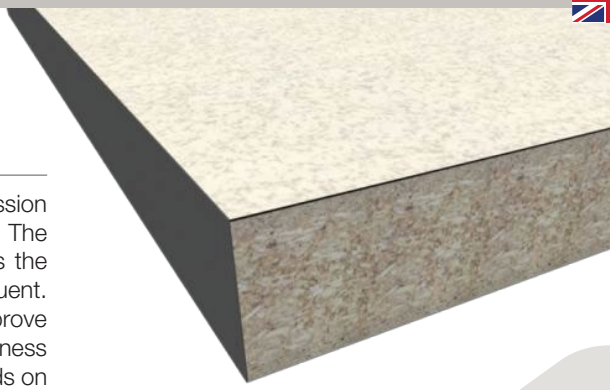


Questo tipo di struttura non prevede l'utilizzo di traverse di collegamento aumentando quindi lo spazio utile nel plenum. Il sistema Locked rende stabile e monolitico il pavimento sopraelevato per tutto il tempo del suo utilizzo ed è in grado di assorbire i movimenti laterali anche in mancanza di elementi di contrasto contro facciate continue o giunti di dilatazione.

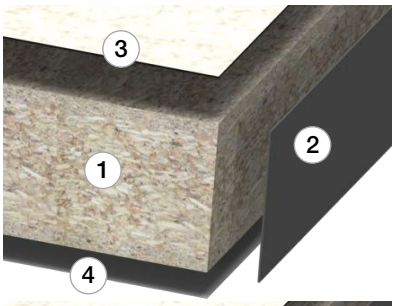
Nominal measurements that are subject to minimal variations caused by mechanical deformation during machining.

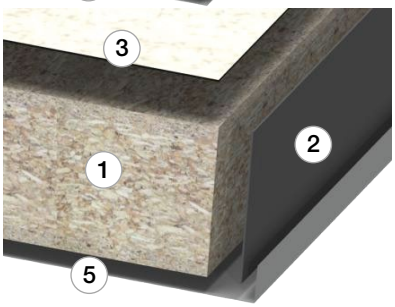
THE PANELS

PTi 30



The panel consists of support material in wood chipboard added to resins with low emission of formaldehyde, of nominal density 720 kg / m3, with a nominal thickness of 30 mm. The material is certified in the environmental field according to the FSC, which guarantees the proper and responsible management of the forests from which the raw material constituent. The bottom side is coated, according to the needs, with a choice of materials that improve the characteristics The panels are edged in plastic material antisqueak, a nominal thickness of 0.45 mm and a height equal to that of the panel. The nominal size of the panel depends on the caliber of the ceramic. The reduced dimensional tolerance causes the panel falls into Class 1 according to the reference standard EN 12825.





COMPOSITION

1 CORE

Modular panel of chipboard (density 720 kg / mc) consists of wood particles bonded with thermosetting resins, obtained by the process of termopressing continuously in order to ensure high homogeneity of mechanical characteristics and dimensional stability of the product.

2 EDGE TRIM

Made of plastic material compound antisqueak, a nominal thickness of 0.45 mm and a height equal to that of the panel, totally free from PVC and self-extinguishing (class V0 UL94 standard).

3 TOP FINISH

HPL, PVC, linoleum, rubber, carpet, Flooring, Porcelain, Terracotta, marble, granites and reassembled, aluminum, steel sheet.

4 BOTTOM FINISH

Aluminum foil thickness. 0.05mm ensures excellent barrier against humidity and fire and electrical continuity to the floor. Plate phenolic laminate that increases the stiffness, the mechanical characteristics and constitutes a moisture barrier.

5 BOTTOM FINISH

Steel plate / pan of galvanized steel of thickness 0.5 / 0.9 mm which increases the stiffness, the mechanical characteristics and an excellent moisture barrier.

Nominal Characteristics

Dimension	600x600 mm
Thickness	28 mm
Panel weight	7,3 kg ± 5%
Weight SQM	20,3 kg ± 5%
Density	720 kg/mc ± 5%

Physical Characteristcs

Dimensional deviations with resilient	class 1 (UNI EN 12825/03)
Dimensional deviations with ceramic	class 2 (UNI EN 12825/03)
Elettrical resistance, top finish excluded	1x10^{10} ohm max (EN 1081)
Self-extinguishing edging	V0 (UL 94)
Walking sound level at 500Hz	19 dB
Fire rating	REI 30 (UNI EN 13501-2/09)
Fire reaction rating	Bfl-S1 (UNI EN 13501-1/09)
Formaldehyde emission	E1 Class

Mechanical chaaracteristics (EN 12825)

PANELS WITH RESILIENT AND PARQUET AS TOP FINISHES

Bottom finish		Aluminium						Steel sheet / Steel tray					
Type of structure		SAS	STQ	STS	STR	STO	STC	SAS	STQ	STS	STR	STO	STC
Concentrated load - center of the side	kN	1,0	1,1	1,2	1,5	1,7	2,0	1,6	1,7	1,8	2,3	2,1	3,0
Concentrated load - center of the panel	kN	1,5	1,5	1,6	1,7	1,8	1,9	2,1	2,1	2,2	2,4	2,5	2,6
Ultimate load	kN	4,6	5,5	5,7	6,1	7,0	8,6	7,6	8,7	8,9	9,3	9,4	11,8
Distribuited load	kN/m^2	8,0	8,0	8,0	8,5	9,3	9,8	9,0	9,0	9,0	19,1	11,0	12,7
Class according to EN 12825		1/A	1/A	1/A	2/A	2/A	3/A	2/A	3/A	3/A	4/A	4/A	5/A

PANELS WITH LAMINATE AS TOP FINISHES

Bottom finish		Aluminium						Steel sheet / Steel tray					
Type of structure		SAS	STQ	STS	STR	STO	STC	SAS	STQ	STS	STR	STO	STC
Concentrated load - center of the side	kN	1,3	1,5	1,6	1,9	2,0	2,8	2,0	2,1	2,2	2,2	2,4	3,1
Concentrated load - center of the panel	kN	1,9	1,9	2,0	2,3	2,4	2,5	2,2	2,2	2,3	2,5	2,6	2,9
Ultimate load	kN	8,9	8,9	9,0	9,2	9,5	12,8	9,2	9,2	9,3	9,8	10,0	13,0
Distribuited load	kN/m^2	9,0	8,9	9,0	9,5	10,0	13,0	9,5	9,5	9,5	10,7	11,1	12,9
Class according to 12825		3/A	4/A	4/A	4/A	5/A	6/A	4/A	4/A	4/A	4/A	5/A	6/A

PANELS WITH GRES AS TOP FINISHES

Bottom finish		Aluminium						Steel sheet / Steel tray					
Type of structure		SAS	STQ	STS	STR	STO	STC	SAS	STQ	STS	STR	STO	STC
Concentrated load - center of the side	kN	2,0	2,3	2,4	2,6	2,6	3,0	2,2	2,8	2,9	3,0	3,0	3,2
Concentrated load - center of the panel	kN	2,2	2,2	2,3	2,3	2,4	2,6	2,7	2,7	2,8	2,8	2,9	3,1
Ultimate load	kN	7,0	7,3	7,5	8,2	8,4	14,0	9,0	9,8	10,0	12,0	12,5	15,0
Distribuited load	kN/m^2	16,0	16,0	16,0	19,5	19,5	20,5	18,0	18,0	18,0	21,0	21,0	22,0
Class according to EN 12825		2/A	2/A	2/A	3/A		6/A	4/A	5/A	5/A	6/A	6/A	6/A

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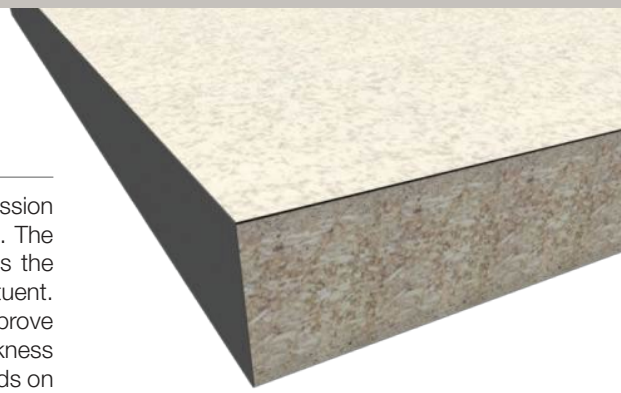
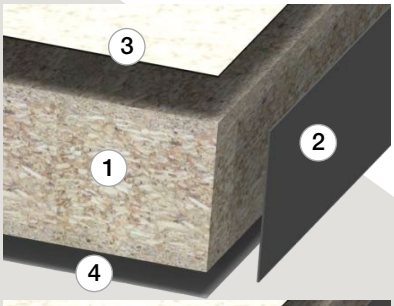
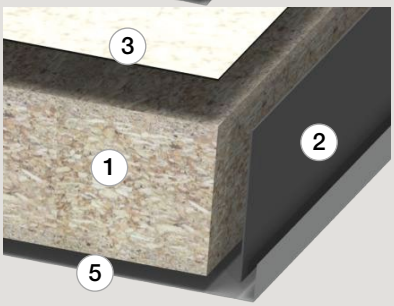


The panel consists of support material in wood chipboard added to resins with low emission of formaldehyde, of nominal density 720 kg / m3, with a nominal thickness of 38 mm. The material is certified in the environmental field according to the FSC, which guarantees the proper and responsible management of the forests from which the raw material constituent. The bottom side is coated, according to the needs, with a choice of materials that improve the characteristics The panels are edged in plastic material antisqueak, a nominal thickness of 0.45 mm and a height equal to that of the panel. The nominal size of the panel depends on the caliber of the ceramic. The reduced dimensional tolerance causes the panel falls into Class 1 according to the reference standard EN 12825.





COMPOSITION

1 CORE

Modular panel of chipboard (density 720 kg / mc) consists of wood particles bonded with thermosetting resins, obtained by the process of termopressing continuously in order to ensure high homogeneity of mechanical characteristics and dimensional stability of the product

2 EDGE TRIM

Made of plastic material compound antisqueak, a nominal thickness of 0.45 mm and a height equal to that of the panel, totally free from PVC and self-extinguishing (class V0 UL94 standard)

3 TOP FINISH

HPL, PVC, linoleum, rubber, carpet, Flooring, Porcelain, Terracotta, marble, granites and reassembled, aluminum, steel sheet

4 BOTTOM FINISH

Aluminum foil thickness. 0.05mm ensures excellent barrier against humidity and fire and electrical continuity to the floor. Plate phenolic laminate that increases the stiffness, the mechanical characteristics and constitutes a moisture barrier

5 BOTTOM FINISH

Steel plate / pan of galvanized steel of thickness 0.5 / 0.9 mm which increases the stiffness, the mechanical characteristics and an excellent moisture barrier

Nominal characteristic

Dimension	600x600 mm
Thickness	38 mm
Panel weight	9,8 kg ± 5%
Weight SQM	27,0 kg ± 5%
Density	720 kg/mc ± 5%

CPhysical characteristcs

Dimensional deviations with resilient	class 1 (UNI EN 12825/03)
Dimensional deviations with ceramic	class 2 (UNI EN 12825/03)
Electrical resistance, top finish excluded	$1x10^{10}$ ohm max (EN 1081)
Self-extinguishing edging	V0 (UL 94)
Walking sound level at 500Hz	21 dB
Fire rating	REI 30 (UNI EN 13501-2/09)
Fire reaction rating	Bfl-S1 (UNI EN 13501-1/09)
Formaldehyde emission	E1 Class

Mechanical characteristics (EN 12825)

PANELS WITH RESILIENT AND PARQUET AS TOP FINISH

Bottom finish		Aluminium						Steel sheet / Steel tray					
Type of structure		SAS	STQ	STS	STR	STO	STC	SAS	STQ	STS	STR	STO	STC
Concentrated load - center of the side	kN	1,5	1,7	1,8	1,9	2,0	2,2	2,0	2,3	2,4	2,5	2,5	3,2
Concentrated load - center of the panel	kN	2,3	2,3	2,4	2,7	2,8	3,3	3,2	3,2	3,3	3,5	3,5	4,2
Ultimate load	kN	7,1	8,0	8,2	8,9	9,1	11,1	10,0	12,8	13,0	14,0	14,5	15,5
Distributed load	kN/m^2	13,0	13,8	14,0	17,0	18,0	18,5	16,5	17,8	17,0	20,5	20,5	21,5
Class according to EN 12825		2/A	3/A	3/A	3/A	4/A	5/A	5/A	6/A	6/A	6/A	6/A	6/A

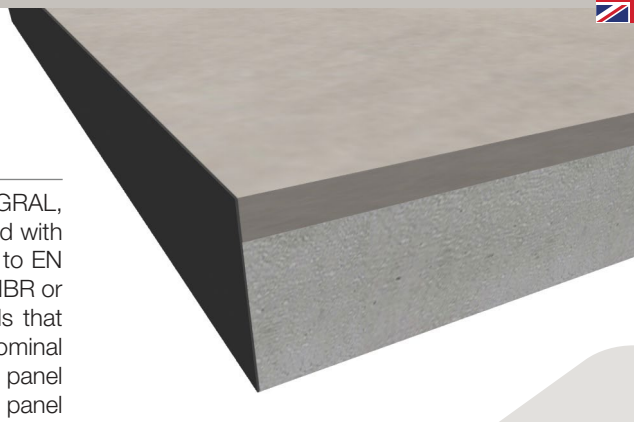
PANELS WITH LAMINATE AS TOP FINISH

Bottom finish		Aluminium						Steel sheet / Steel tray					
Type of structure		SAS	STQ	STS	STR	STO	STC	SAS	STQ	STS	STR	STO	STC
Concentrated load - center of the side	kN	1,7	1,8	1,9	2,4	2,4	2,9	2,9	3,0	3,1	3,2	3,2	3,5
Concentrated load - center of the panel	kN	2,7	2,8	2,9	3,3	3,3	4,0	3,6	3,7	3,8	3,9	3,9	4,6
Ultimate load	kN	8,4	9,1	9,3	10,0	10,0	12,1	10,9	13,3	13,5	14,5	15,0	16,0
Distributed load	kN/m^2	14,1	14,8	15,0	18,0	19,0	19,5	17,5	17,8	18,0	21,5	21,5	22,5
Class according to EN 12825		3/A	4/A	4/A	5/A	5/A	6/A	5/A	6/A	6/A	6/A	6/A	6/A

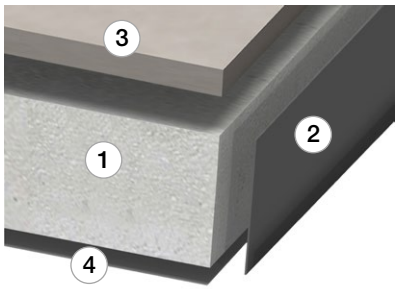
PANELS WITH GRES AS TOP FINIASH

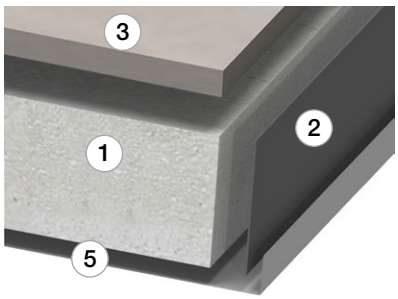
Bottom finish		Aluminium						Steel sheet / Steel tray					
Type of structure		SAS	STQ	STS	STR	STO	STC	SAS	STQ	STS	STR	STO	STC
Concentrated load - center of the side	kN	2,4	2,9	3,0	3,3	3,3	3,6	2,5	2,9	3,0	3,4	3,4	3,8
Concentrated load - center of the panel	kN	3,7	3,7	3,8	4,0	4,0	4,8	4,0	4,0	4,1	4,5	4,5	5,3
Ultimate load	kN	8,5	8,8	9,0	9,2	9,3	14,5	12,0	12,3	12,5	14,0	14,5	15,5
Distributed load	kN/m^2	18,0	18,3	18,5	22,5	23,0	23,6	19,0	19,3	19,5	23,5	24,0	24,6
Class according to EN 12825		3/A	4/A	4/A	4/A	4/A	6/A	6/A	6/A	6/A	6/A	6/A	6/A

PSi 30 - 1.150,00 KG/MC



The panel consists of mineral support material inert monolayer original KNAUF INTEGRAL, density ≥ 1150 kg / m3 with a nominal thickness of 30 mm, of calcium sulphate bound with fibers with high mechanical resistance. The material is certified to class A1 according to EN 13501-1. It also has several important certifications in the environmental field, such as IBR or VOC. The bottom side is coated, according to the needs, with a choice of materials that improve the characteristics The panels are edged in plastic material antisqueak, a nominal thickness of 0.45 mm and a height equal to that of the panel. The nominal size of the panel depends on the caliber of the ceramic. The reduced dimensional tolerance causes the panel falls into Class 1 according to the reference standard EN 12825.





COMPOSITION

1 CORE

Modular monolayer panel of calcium sulphate, high density (1.150kg / mc) constituted of gypsum and cellulose fibers totally free from asbestos and particles of wood. Obtained with processes that ensure high homogeneity of mechanical characteristics and dimensional stability of the product

2 EDGE TRIM

Made of plastic material compound antisqueak, a nominal thickness of 0.45 mm and a height equal to that of the panel, totally free from PVC and self-extinguishing (class V0 UL94 standard).

3 TOP FINISH

HPL, PVC, linoleum, rubber, carpet, Flooring, Porcelain, Terracotta, marble, granites and reassembled, aluminum, steel sheet

4 BOTTOM FINISH

Aluminum foil thickness. 0.05mm ensures excellent barrier against humidity and fire and electrical continuity to the floor. Plate phenolic laminate that increases the stiffness, the mechanical characteristics and constitutes a moisture barrier

5 BOTTOM FINISH

Steel plate / pan of galvanized steel of thickness 0.5 / 0.9 mm which increases the stiffness, the mechanical characteristics and an excellent moisture barrier

Nominal characteristics

Dimension	600x600 mm
Thickness	30 mm
Panel weight	11,9 kg ± 5%
Weight SQM	33,0 kg ± 5%
Density	from 1.050 to 1.250 kg/mc ± 5%

Physical characteristics

Dimensional deviations with resilient	class 2 (UNI EN 12825/03)
Electrical resistance, top finish excluded	1x10^{9} ohm max (EN 1081)
Self-exstinguishing edging	V0 (UL 94)
Walking sound level at 500Hz	20 dB
Fire rating	REI 30 (UNI EN 13501-2/09)
Fire reaction rating	Bfl-S1 (UNI EN 13501-1/09)
Dimensional variation after 24H in water	0,77% (EN317/93)
Water absorption after immersion 24H	18% (ISO 769/72)

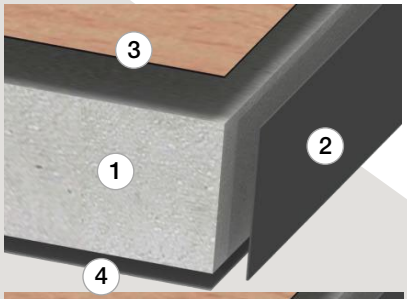
Mechanical characteristics (EN 12825)

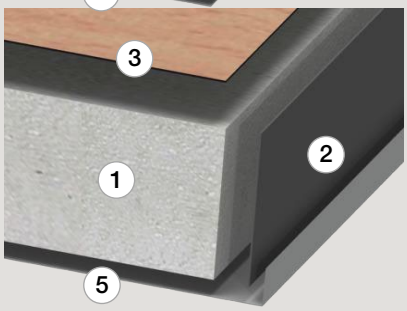
PANELS WITH GRES TOP FINISH

Bottom finish		Aluminium						Steel sheet / steel tray					
Type of structure		SAS	STQ	STS	STR	STO	STC	SAS	STQ	STS	STR	STO	STC
Concentrated load - center of the side	kN	2,2	2,2	2,3	2,6	2,6	3,3	2,9	3,2	3,3	3,6	3,6	4,0
Concentrated load - center of the panel	kN	3,5	4,0	4,1	3,0	3,3	3,9	5,1	5,1	5,2	5,4	5,4	5,8
Ultimate load	kN	4,5	4,8	5,0	5,3	5,4	7,0	13,1	13,8	14,0	15,1	15,4	18,0
Distribuited load	kN/m^2	10,0	10,8	11,0	12,0	12,0	13,0	20,0	20,8	21,0	24,0	24,0	26,0
Class according to EN 12825		4/A	5/A	5/A	5/A	5/A	6/A	6/A	6/A	6/A	6/A	6/A	6/A

PSi 30 - 1.600,00 KG/MC

The panel consists of mineral support material inert monolayer original KNAUF INTEGRAL, density ≥ 1600 kg / m3 with a nominal thickness of 30 mm, of calcium sulphate bound with fibers with high mechanical resistance. The material is certified to class A1 according to EN 13501-1. It also has several important certifications in the environmental field, such as IBR or VOC. The bottom side is coated, according to the needs, with a choice of materials that improve the characteristics The panels are edged in plastic material antisqueak, a nominal thickness of 0.45 mm and a height equal to that of the panel. The nominal size of the panel depends on the caliber of the ceramic. The reduced dimensional tolerance causes the panel falls into Class 1 according to the reference standard EN 12825.





COMPOSITION

1 CORE

Modular monolayer panel of calcium sulphate, high density (1.600kg / mc) constituted of gypsum and cellulose fibers totally free from asbestos and particles of wood. Obtained with processes that ensure high homogeneity of mechanical characteristics and dimensional stability of the product

2 EDGE TRIM

Made of plastic material compound antisqueak, a nominal thickness of 0.45 mm and a height equal to that of the panel, totally free from PVC and self-extinguishing (class V0 UL94 standard)

3 TOP FINISH

HPL, PVC, linoleum, rubber, carpet, Flooring, Porcelain, Terracotta, marble, granites and reassembled, aluminum, steel sheet

4 BOTTOM FINISH

Aluminum foil thickness. 0.05mm ensures excellent barrier against humidity and fire and electrical continuity to the floor. Plate phenolic laminate that increases the stiffness, the mechanical characteristics and constitutes a moisture barrier

5 BOTTOM FINISH

Steel plate / pan of galvanized steel of thickness 0.5 / 0.9 mm which increases the stiffness, the mechanical characteristics and an excellent moisture barrier

Nominal characteristics

Dimension	600x600 mm
Thickness	30 mm
Panel weight	16,3 kg ± 5%
Weight SQM	45,5 kg ± 5%
Density	1.600 kg/mc ± 5%

Physical characteristics

Dimensional deviations with resilient	class 1 (UNI EN 12825/03)
Dimensional deviations with ceramic	class 2 (UNI EN 12825/03)
Electrical resistance, top finish excluded	1x10^{9} ohm max (EN 1081)
Self-extinguishing edging	V0 (UL 94)
Walking sound level at 500Hz	20 dB
Fire rating	REI 30 (UNI EN 13501-2/09)
Fire reaction rating	Bfl-S1 (UNI EN 13501-1/09)
Dimensional variation after 24H in water	0,77% (EN317/93)
Water absorption after immersion 24H	18% (ISO 769/72)

Mechanical characteristics (EN 12825)

PANELS WITH RESILIENT AND PARQUET AS TOP FINISH

Bottom finish		Aluminium						Steel sheet / Steel tray					
Type of structure		SAS	STQ	STS	STR	STO	STC	SAS	STQ	STS	STR	STO	STC
Concentrated load - center of the side	kN	1,8	1,8	1,9	2,3	2,3	2,8	2,1	2,3	2,4	2,8	2,8	3,2
Concentrated load - center of the panel	kN	2,7	2,7	2,8	3,0	3,0	3,8	3,4	3,4	3,5	3,7	3,7	4,5
Ultimate load	kN	7,0	7,1	7,3	9,8	10,0	11,5	9,8	11,8	12,0	13,0	13,8	15,0
Distribuited load	kN/m^2	15,0	15,0	15,2	17,5	17,6	18,0	17,0	17,3	17,5	20,5	21,0	21,5
Class according to EN 12825		2/A	2/A	2/A	4/A	5/A	5/A	4/A	6/A	6/A	6/A	6/A	6/A

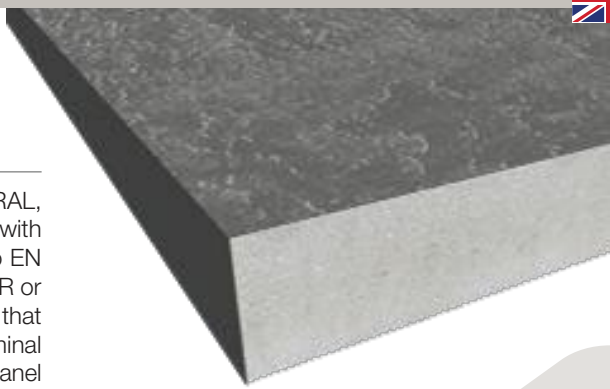
PANELS WITH LAMINATE AS TOP FINISH

Bottom finish		Aluminium						Steel sheet / Steel tray					
Type of structure		SAS	STQ	STS	STR	STO	STC	SAS	STQ	STS	STR	STO	STC
Concentrated load - center of the side	kN	1,9	1,9	2,0	2,7	2,7	3,2	3,0	3,0	3,1	3,2	3,2	3,6
Concentrated load - center of the panel	kN	3,1	3,2	3,3	3,5	3,5	4,1	3,8	3,8	3,9	4,2	4,2	4,7
Ultimate load	kN	7,8	9,3	9,5	10,2	10,3	12,1	11,6	13,3	13,5	14,1	14,2	16,2
Distribuited load	kN/m^2	17,0	17,3	17,5	20,0	20,5	21,0	19,0	19,3	19,5	22,0	22,0	23,0
Class according to EN 12825		2/A	4/A	4/A	5/A	5/A	6/A	5/A	6/A	6/A	6/A	6/A	6/A

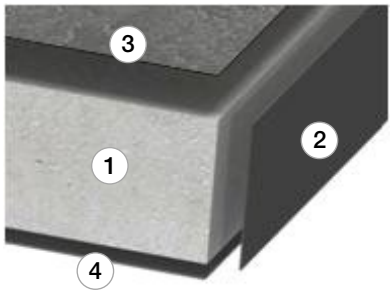
PANELS WITH GRES AS TOP FINISH

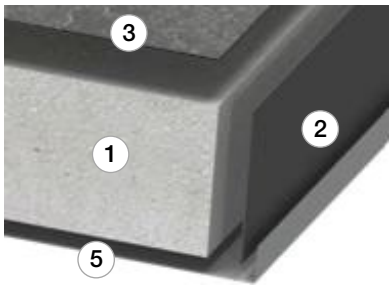
Bottom finish		Aluminium						Steel sheet / Steel tray					
Type of structure		SAS	STQ	STS	STR	STO	STC	SAS	STQ	STS	STR	STO	STC
Concentrated load - center of the side	kN	2,6	2,6	2,7	2,9	2,9	3,3	2,9	3,2	3,3	3,6	3,6	4,0
Concentrated load - center of the panel	kN	4,0	4,0	4,1	4,3	4,3	4,9	5,1	5,1	5,2	5,4	5,4	5,8
Ultimate load	kN	9,0	11,9	10,1	10,6	10,8	14,0	13,1	13,8	14,0	15,1	15,4	18,0
Distribuited load	kN/m^2	19,0	19,3	19,5	21,0	21,0	21,5	20,0	20,8	21,0	24,0	24,0	26,0
Class according to EN 12825		4/A	5/A	5/A	5/A	5/A	6/A	6/A	6/A	6/A	6/A	6/A	6/A

PSi 34



The panel consists of mineral support material inert monolayer original KNAUF INTEGRAL, density ≥ 1600 kg / m3 with a nominal thickness of 34 mm, of calcium sulphate bound with fibers with high mechanical resistance. The material is certified to class A1 according to EN 13501-1. It also has several important certifications in the environmental field, such as IBR or VOC. The bottom side is coated, according to the needs, with a choice of materials that improve the characteristics. The panels are edged in plastic material antisqueak, a nominal thickness of 0.6 mm and a height equal to that of the panel. The nominal size of the panel depends on the caliber of the ceramic. The reduced dimensional tolerance causes the panel falls into Class 1 according to the reference standard EN 12825.





COMPOSITION

1 CORE

Modular monolayer panel of calcium sulphate, high density (1.600kg / mc) constituted of gypsum and cellulose fibers totally free from asbestos and particles of wood. Obtained with processes that ensure high homogeneity of mechanical characteristics and dimensional stability of the product

2 EDGE TRIM

Made of plastic material compound antisqueak, a nominal thickness of 0.6 mm and a height equal to that of the panel, totally free from PVC and self-extinguishing (class V0 UL94 standard)

3 TOP FINISH

Laminate, HPL, PVC, linoleum, rubber, carpet, Parquet Porcelain, Terracotta, marble, granites and reassembled, aluminum, steel sheet

4 BOTTOM FINISH

Aluminum foil thickness. 0.05mm ensures excellent barrier against humidity and fire and electrical continuity to the floor. Plate phenolic laminate that increases the stiffness, the mechanical characteristics and constitutes a moisture barrier

5 BOTTOM FINISH

Steel plate / pan of galvanized steel of thickness 0.5 / 0.9 mm which increases the stiffness, the mechanical characteristics and an excellent moisture barrier

Nominal characteristic

Dimension	600x600 mm
Thickness	34 mm
Panel weight	18,5 kg ± 5%
Weight SQM	51,5 kg ± 5%
Density	1.600 kg/mc ± 5%

Physical characteristics

Dimensional deviation with resilient	class 1 (UNI EN 12825/03)
Dimensional deviation with ceramic	class 2 (UNI EN 12825/03)
Electrical resistance, top finish excluded	1x10^{9} ohm max (EN 1081)
Self-extinguishing edging	V0 (UL 94)
Walking sound level at 500Hz	21 dB
Fire rating	REI 30 (UNI EN 13501-2/09)
Fire reaction rating	Bfl-S1 (UNI EN 13501-1/09)
Dimensional variation after 24H in water	0,77% (EN317/93)
Water absorption after immersion 24H	18% (ISO 769/72)

Mechanical characteristic (EN 12825)

PANELS WITH RESILIENT OR PARQUET AS TOP FINISH

Bottom finish		Aluminium						Steel sheet / Steel tray					
Type of structure		SAS	STQ	STS	STR	STO	STC	SAS	STQ	STS	STR	STO	STC
Concentrated load - center of the side	kN	2,3	2,6	2,7	3,5	3,5	3,8	3,1	3,2	3,3	3,7	3,8	4,3
Concentrated load - center of the panel	kN	3,1	3,1	3,2	3,4	3,4	3,8	4,0	4,1	4,2	4,5	4,5	5,0
Ultimate load	kN	8,5	9,6	9,8	10,5	10,7	14,0	12,3	15,1	15,3	16,0	16,2	17,0
Distributed load	kN/m^2	18,3	18,5	18,7	24,5	25,0	26,0	22,8	22,8	23,0	28,0	28,5	29,5
Class according to EN 12825		3/A	4/A	4/A	5/A	5/A	6/A	6/A	6/A	6/A	6/A	6/A	6/A

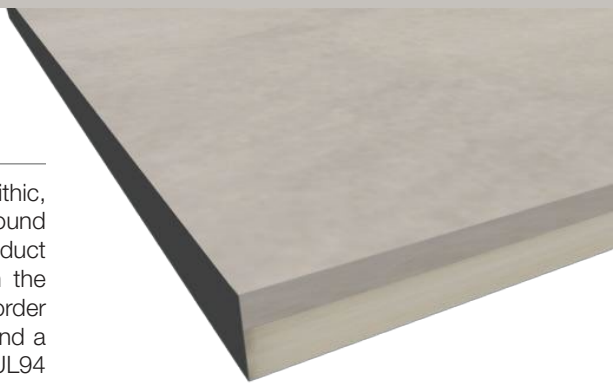
PANELS WITH LAMINATE AS TOP FINISH

Bottom finish		Aluminium						Steel sheet / Steel tray					
Type of structure		SAS	STQ	STS	STR	STO	STC	SAS	STQ	STS	STR	STO	STC
Concentrated load - center of the side	kN	2,7	2,8	2,9	3,7	3,7	4,0	3,6	3,7	3,8	4,2	4,2	4,5
Concentrated load - center of the panel	kN	3,8	3,9	4,0	4,2	4,2	4,9	4,2	4,3	4,4	4,8	4,8	5,4
Ultimate load	kN	8,9	11,1	11,3	11,5	11,8	14,0	13,0	15,8	16,0	16,5	16,7	19,0
Distributed load	kN/m^2	21,5	21,7	21,9	25,5	26,5	27,5	22,8	22,8	23,0	28,0	28,5	29,5
Class according to EN 12825		3/A	5/A	5/A	5/A	5/A	6/A	6/A	6/A	6/A	6/A	6/A	6/A

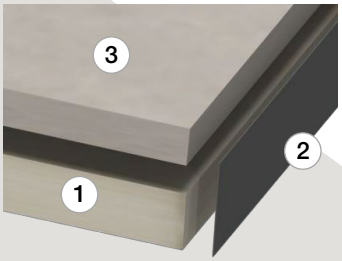
PANELS WITH GRES AS TOP FINISH

Bottom finish		Aluminium						Steel sheet / Steel tray					
Type of structure		SAS	STQ	STS	STR	STO	STC	SAS	STQ	STS	STR	STO	STC
Concentrated load - center of the side	kN	3,3	3,4	3,5	4,2	4,2	4,8	3,9	3,9	4,0	4,7	4,7	5,4
Concentrated load - center of the panel	kN	4,3	4,3	4,4	4,7	4,7	5,2	5,1	6,2	6,3	6,5	6,6	6,9
Ultimate load	kN	11,2	11,9	12,1	13,0	13,2	15,0	14,0	16,0	16,2	17,0	17,6	22,0
Distributed load	kN/m^2	23,9	24,4	24,6	28,1	28,1	30,0	24,7	25,3	25,5	29,0	29,0	31,0
Class according to 12825		5/A	6/A	6/A	6/A	6/A	6/A	6/A	6/A	6/A	6/A	6/A	6/A

MONOTEC/ MONOTEC GREEN



Modular panel with top finish in ceramic or stone material and structural core monolithic, composite material, with high-strength characteristics,physical - mechanical, fire and sound absorption. Nominal size 600x600 mm, total thickness 25 mm including finishing. Product suitable for any environment because it does not undergo dimensional variations in the presence of moisture or water. The panel Monotec is protected perimetrically by a border made up of plastic material compound antisqueak, a nominal thickness of 0.45 mm and a height equal to that of the panel, totally free from PVC and self-extinguishing (class V0 UL94 standard). The Monotec GREEN is not trimmed.



MONOTEC COMPOSITION

1 CORE

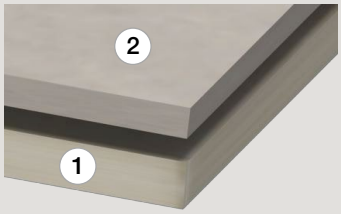
Panel with structural core monolithic and homogeneous, made entirely of inert material, synthesized at high temperatures and odorless. The support is absorption zero, then there are no problems in the presence of water or humidity. The assembly is guaranteed by the combination of the two materials by a specific glue

2 EDGE TRIM

Made of plastic material compound antisqueak, a nominal thickness of 0.45 mm and a height equal to that of the panel, totally free from PVC and self-extinguishing (class V0 UL94 standard).

3 TOP FINISH

Gres



MONOTEC GREEN COMPOSITION

1 CORE

Panel with structural core monolithic and homogeneous, made entirely of inert material, synthesized at high temperatures and odorless. The support is absorption zero, then there are no problems in the presence of water or humidity. The assembly is guaranteed by the combination of the two materials by a specific glue

2 TOP FINISH

Gres

Nominal characteristics

Dimension	600x600 / 1200x600 mm
Thickness	25 mm
Panel weight	21,5 kg ± 5%
Weight SQM	60 kg ± 5%
Density	2.200 kg/mc ± 5%

Physical characteristics

Dimensional deviations with resilient	class 2 (UNI EN 12825/03)
Electrical resistance, top finish excluded	1x10^{11} ohm max (EN 1081)
Self-extinguishing edging	V0 (UL 94)
Walking sound level at 500Hz	23 dB
Fire rating	REI 30 (UNI EN 13501-2/09)
Fire reaction rating	Bfl-S1 (UNI EN 13501-1/09)
Dimensional variation after 24H in water	0% (EN317/93)
Water absorption after immersion 24H	0,09% (ISO 769/72)

Mechanical characteristics (EN 12825)

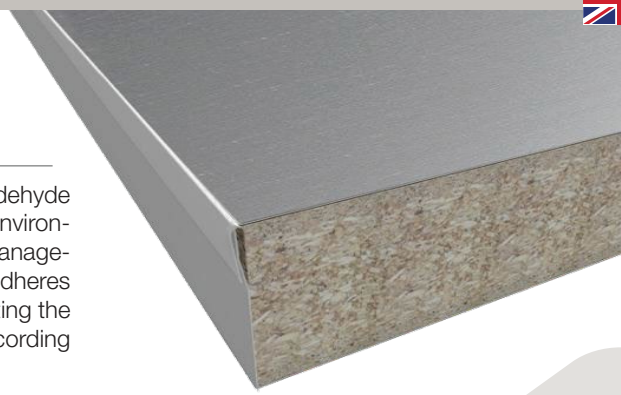
PANEL WITH GRES AS TOP FINISH

Tiles dimension		600 x 600 mm					
Type of structure		SAS	STQ	STS	STR	STO	STC
Concentrated load	kN	2,3	2,5	2,6	3,3	3,3	3,5
Concentrated load - center of the panel	kN	4,0	4,1	4,2	4,6	4,6	5,2
Ultimate load	kN	7,2	7,4	7,6	8,0	8,4	9,2
Distribuited load	kN/m^2	16,3	16,3	16,5	18,5	18,5	19,2
Class according to EN 12825		2/A	2/A	2/A	2/A	2/A	3/A

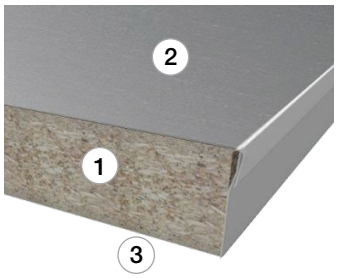
PANELS WITH LAMINATE AS TOP FINISH

Type of structure		SAS	STQ	STS	STR	STO	STC
Concentrated load - center of the side	kN	3,3	3,4	3,5	3,6	3,8	4,2
Concentrated load - center of the panel	kN	4,2	4,3	4,4	4,8	4,8	5,6
Ultimate load	kN	8,7	8,8	9,0	9,6	9,8	11,2
Distribuited load	kN/m^2	17,7	18,1	18,3	19,1	20,4	22,4
Class according to EN 12825		3/A	3/A	3/A	3/A	3/A	4/A

PTi 30 ENCAPSULATED



Panel made from wood chipboard support material added to low emission of formaldehyde resins, nominal density of 720 kg / m3, a nominal thickness of 30 mm. The material is environmental certified according to the FSC, which guarantees the proper and responsible management of forests from which the raw material constituent. The upper part of the panel adheres to a galvanized sheet steel. th. 0.5 mm, above the lower sheet th. 0.5 mm, encapsulating the central core. The reduced dimensional tolerance causes the panel falls into Class 1 according to the reference standard EN 12825.



PTi30 ENCAPSULATED COMPOSITION

1 CORE

Modular panel of chipboard (density 720 kg / mc) consists of wood particles bonded with thermosetting resins, obtained by the process of termopressng continuously in order to ensure high homogeneity of mechanical characteristics and dimensional stability of the product

2 TOP FINISH

On top of the panel is glued to a galvanized steel tray th. 0.5 mm

3 BOTTOM FINISH

On bottom of the panel is glued to a galvanized steel tray th. 0.5 mm

Physical characteristics

Dimensional deviations with ceramic	class 2 (UNI EN 12825/03)
Walking sound level at 500Hz	17 dB
Fire rating	REI 30 (UNI EN 13501-2/09)
Fire reaction rating	Bfl-S1 (UNI EN 13501-1/09)
Soft materials impact resistance	Positive
Hard material impact resistance	Positive

Nominal characteristics

Dimension	600x600 mm
Thickness	31 mm
Panel weight	10,1 kg ± 5%
Weight SQM	28 kg ± 5%
Density	720 kg/mc ± 5%

Mechanical characteristics (EN 12825)

ENCAPSULATED PANEL

Type of structure		SAS	STQ	STS	STR	STO	STC
Concentrated load - center of the side	kN	2,9	3,1	3,2	3,2	3,5	3,5
Concentrated load - center of the panel	kN	4,7	4,7	4,8	5,0	5,0	5,8
Ultimate load	kN	7,1	7,6	7,8	8,9	9,1	11,1
Class according to EN 12825		2/A	2/A	2/A	3/A	4/A	5/A

PAi 30 STEEL

The panel is made from a coil of high quality steel sheet that is pressed, shaped, welded and finally painted with epoxy powder. The panel is filled with expanded cemetern which, after having been kept at rest, creates a stable support structure. The panel is installed through the use of a special structure composed of columns and steel connecting crosspieces.

PAi 30 COMPOSITION

1 LOWER SHEET

Press-formed steel sheet, welded and painted with epoxy powder.
It has a bubble rib that guarantees excellent mechanical resistance characteristics

2 CORE

Made of expanded cement that stiffens and strengthens the panel.

3 UPPER SHEET

Upper finishing sheet welded to the lower plate, creates a planar and homogeneous top, ideal for laying self-fixing finishes.

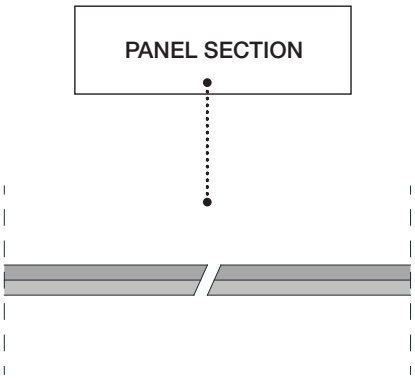
Mechanical characteristics (EN 12825)

PANELS WITH GRES AS TOP FINISH

Line		700	800	1000	1250	1500	2000
Mobile load		2,3	3,0	3,6	4,5	5,6	7,8
Concentrated load - center of the panel	kN	3,0	3,6	4,4	5,6	6,7	8,9
Ultimate load	kN	8,9	10,7	13,3	16,7	20,0	26,7
Distribuited load	kN/m2	12,5	16,5	23,0	33,0	39,3	52,6

MONOTEC MASSETTO

It is the Monotec version for raised screeds. Modular panel with top finish in ceramic or stone material and lower monolithic structural core, in composite material, with high resistance - mechanical, fire and sound absorbency characteristics. Size 600x600 mm nominal, total thickness 22 mm / 25 mm / 30 mm including the finish. Product suitable for any type of environment as it does not undergo dimensional changes in the presence of moisture or water. The special inclination of the sides allows each panel to work on the block of the adjacent element, so that once the floor has been laid, all the elements lock into place with one another, providing the floor with a self-locking function.



MONOTEC MASSETTO COMPOSITION

1 CORE

Panel with structural core monolithic and homogeneous, made entirely of inert material, synthesized at high temperatures and odorless. The support is absorption zero, then there are no problems in the presence of water or humidity. The assembly is guaranteed by the combination of the two materials by a specific glue

2 EDGE TRIM

Made of plastic material compound antisqueak, a nominal thickness of 0.45 mm and a height equal to that of the panel, totally free from PVC and self-extinguishing (class V0 UL94 standard)

3 TOP FINISH

Gres

Nominal characteristics

Dimension	600x600 mm
Thickness	20 mm, 25mm, 30 mm
Panel weight	± 17 kg, ± 20 kg, ± 25 kg
Weight SQM	± 47 kg, ± 55,5 kg, ± 69,5 kg
Density	2.200 kg/mc ± 5%

Physical and dimensional characteristics

Dimensional deviation with ceramic	class 2 (UNI EN 12825/03)
Electrical resistance	2x10^{9} ohm max (EN 1081)
Sound-absorbing power	38 dB
Fire rating	REI 30 (UNI EN 13501-2/09)
Fire reaction rating	Bfl-S1 (UNI EN 13501-1/09)
Dimensional variation after 24H in water	0,% (EN317/93)
Water absorption after immersion 24H	0,09% (ISO 769/72)

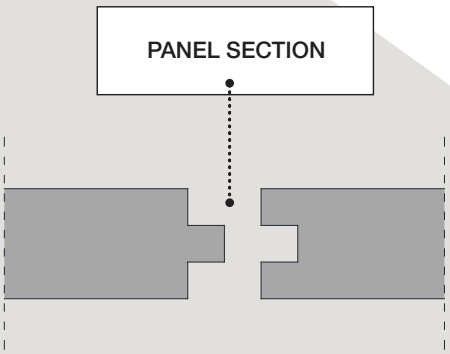
Mechanical characteristics (EN 12825)

PANELS WITH GRES AS TOP FINISH

Gres tiles dimension			600 x 600 mm	
Type of structure			SAS / STS	
Monotec massetto thickness		sp. 20 mm	sp. 25 mm	sp. 30 mm
Operating load	kN	2,5	5,0	7,3
Ultimate load	kN	4,9	10,0	14,7
Distribuited load	KN	24,5	26,5	28,4
Class according to EN 12825		1 / 2 / A / 1	4 / 2 / A / 1	6 / 2 / A / 1

PSi MASSETTO

It is a high density gypsum fiber board drilled on all sides for the jointing and gluing of the panels together. When connected, they form a stable surface. The slabs are supplied raw and then finished superficially, at the customer's discretion, with the most suitable material. Available sizes. 1200x600 mm / 600x600 mm - thickness available: 25 mm / 28 mm / 32 mm / 38 mm (non-standard thickness on request). PSi Massetto elements are characterized by high resistance, rapidity and efficiency in laying and high safety. They are also classified as a non-combustible material and can therefore be used instead of wood-based materials. The slabs are used for interior floors and are suitable for industrial, commercial and residential buildings thanks to their classification as a non-combustible material. Efficient also for floors subjected to high loads.



PSi MASSETTO COMPOSITION

1 CORE

Panel with a gypsum fiber structural core. The support, classified as a non-combustible material, is supplied raw and can be covered with the surface finish chosen by the client. The assembly is guaranteed by the union of the male / female edges of the panels with specific glue.

2 EDGE TRIM

Made by male / female milling on all sides for jointing and gluing the panels together.

3 TOP FINISH

Raw supplied slabs: the surface finish is applied after laying on the building site. The materials required as top finish are: Laminates, PVC, Linoleum, Rubber, Carpet, Parquet, Porcelain Stoneware, Cotto, Mami and Granite

Nominal characteristics

Dimension	1200x600 mm / 600x600 mm
Thickness	25 mm, 28mm, 32 mm
Panel weight (600x600)	± 13,5 kg, ± 15,1 kg, ± 17,3 kg
Panel weight (1200x600)	± 27 kg, ± 30,2 kg, ± 34,6 kg
Weight SQM	± 37,5 kg, ± 42 kg, ± 48 kg

Physical and dimensional characteristics

Lenght variation as a function of temperature	≤ 0,02 mm/(mk)
Thermal expansion coefficient	$12,9*10^{-6}$ 1/K
Water vapor diffusion coefficient	30/50
Specific heat	> 1000 kj/(kgK)
Thermal conductivity	0,44 W/(mK)
Class according to EN 13501-1	class A1 (not inflammable)
Class according to DIN 4102-1	class A2 (not inflammable)
Hygrothermal operating conditions	from -10° to +35° ca. 35-75% R.H.
Walking sound level without top finish	25 mm_ 90 dB 28 mm_ 94 dB 32 mm_ 79 dB

Mechanical characteristics (EN 13213)

RAW SLABS IN GYPSUM FIBER

Tiles dimension			1200 x 600 mm / 600 x 600 mm	
Type of structure			SAS / STS	
Gifafloor slab thickness		sp. 25 mm	sp. 28 mm	sp. 32 mm
Load class		2,0	3,0	5,0
Useful load (ultimate load / security factor)	kN	3,0	4,0	5,0
Ultimate load	kN	≥ 6	≥ 8	≥ 10
Security factor		2,0	2,0	2,0

WATERTIGHT

TOP FINISH: RESILIENT

Raised flooring with special sealing of the perimeter joints of the panels with silicone elastomer. It allows to obtain a continuous surface impenetrable from external agents (liquids and solids), which depositing directly on the slab could make the environment unhealthy as well as damage any equipment present in the subfloor. The flooring is composed of: panels, pedestals with gasket, stringers with gasket (if necessary) and fixing screws.
In case of maintenance to the plenum under the floor it will be possible to remove the panels by cutting the sealant with a cutter. Once the operations are complete, remove the sealant residues, reposition the panels and apply the sealant again with the initial procedure.

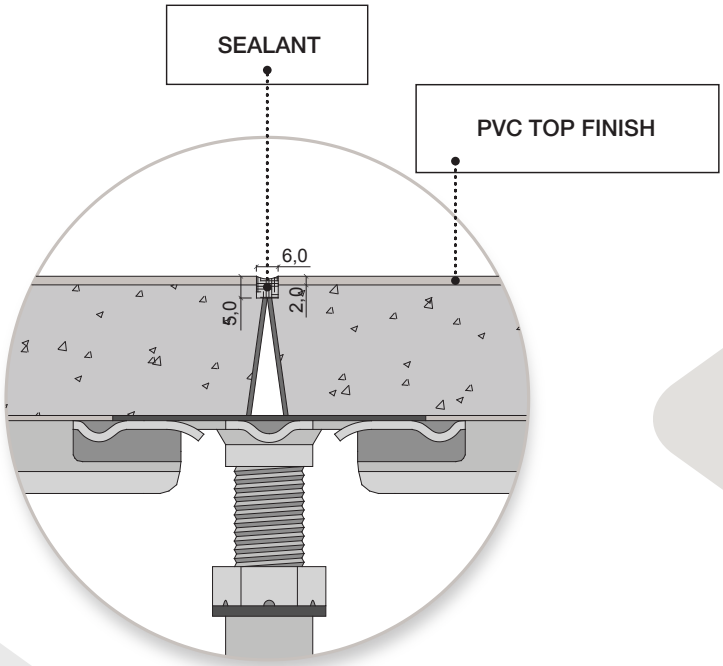


Figure 1

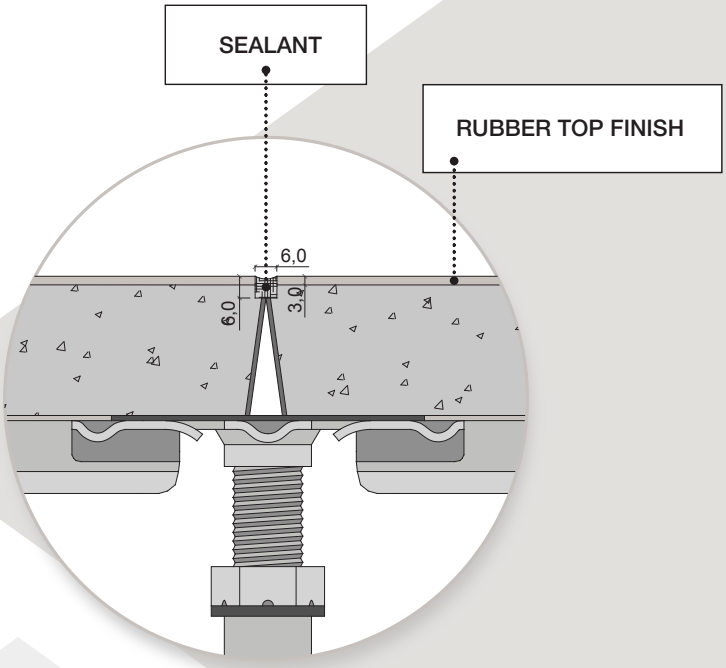


Figure 2

PLACE OF USE

This type of floor is particularly suitable for hospital environments, clinics, laboratories, restaurants, supermarkets where compliance with sanitary regulations is necessary.

SEALANT CHARACTERISTICS

One-component silicone sealant, available in more than 30 different colors. Excellent durability since the sealing is unaffected by exposure, bad weather, industrial atmospheres, thermal shocks and chemical agents; it is also completely unaffected by mold.
It is characterized by high elasticity, necessary to cope with external stresses and settling of the raised floor itself.
Conforms to EN 15651-1, EN 16561-2, EN 16561-3 and CE marked.

PODUCT MAINTENANCE

This type of floor does not require special cleaning measures. Depending on the surface finish, it is possible to proceed with suction or washing with a cloth dampened with neutral detergent. Perform a final rinse and remove the liquids.

See the table for mechanical characteristics Psi 30 / PTi 40

TOP FINISH: GRES

Raised flooring with special sealing of the perimeter joints of the panels with silicone elastomer. It allows to obtain a continuous surface impenetrable from external agents (liquids and solids), which depositing directly on the slab could make the environment unhealthy as well as damage any equipment present in the subfloor. The flooring is composed of: panels, pedestals with gasket, stringers with gasket (if necessary) and fixing screws.
In case of maintenance to the plenum under the floor it will be possible to remove the panels by cutting the sealant with a cutter. Once the operations are complete, remove the sealant residues, reposition the panels and apply the sealant again with the initial procedure.

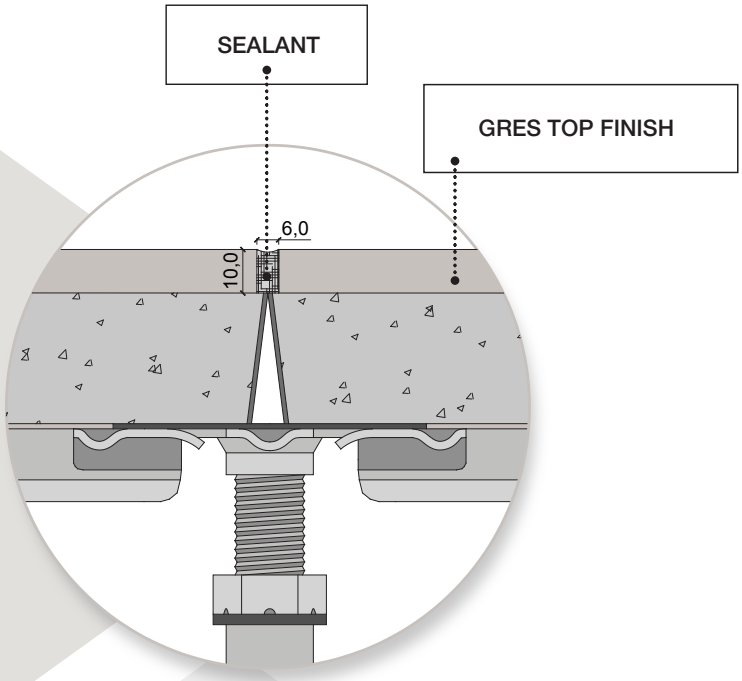


Figure 3

PLACE OF USE

This type of floor is particularly suitable for hospital environments, clinics, laboratories, restaurants, supermarkets where compliance with sanitary regulations is necessary.

SEALANT CHARACTERISTICS

One-component silicone sealant, available in more than 30 different colors. Excellent durability since the sealing is unaffected by exposure, bad weather, industrial atmospheres, thermal shocks and chemical agents; it is also completely unaffected by mold.
It is characterized by high elasticity, necessary to cope with external stresses and settling of the raised floor itself.
Conforms to EN 15651-1, EN 16561-2, EN 16561-3 and CE marked.

PRODUCT MAINTENANCE

This type of floor does not require special cleaning measures. Depending on the surface finish, it is possible to proceed with suction or washing with a cloth dampened with neutral detergent. Perform a final rinse and remove the liquids.

See the table for mechanical characteristics Psi 30 / PTi 40

TOP FINISHES

LAMINATE

High pressure laminate (≥ 8 mm) (HPL) made of layers of cellulosic fibers. They are impregnated with thermosetting phenolic resins with one or more surface layers of decorative paper impregnated with thermosetting resins, bonded together with a high pressure process.

Technical characteristic	
Thickness	from 0,9 mm to 1,2 mm
Weight	1,45 kg/dm^3
Abrasion resistance	AC2 - IP > 1500
Fire reaction rating	Bfl -s1
Electrical resistance (ohm)	1x10^9 - 1x10^{11}

PVC

It is a product based on polyvinyl chloride (P.V.C.) combined with pasta makers, stabilizers, inert fillers and colored pigments. Used above all for medium traffic offices, it has good resistance to acids and is easy to clean. It can be antistatic or conductive.

Technical characteristics	
Thickess	from 2,0 mm to 4,0 mm
Weight	to 3,3 a 5,0 kg/m^2
Fire reaction rating	Bfl -s1
Soundproofing	3 dB
Electrical resistance (ohm)	1x10^4 - 1x10^{10}

LINOLEUM

It is produced with natural raw materials such as linseed oil, tree resins, wood powders, calcareous powders, colored pigments, cork, cork powders and calendered on a jute support. It is an ecological product, completely biodegradable, antistatic in nature and resistant to rubbing, cigarette fire. It is also stable to fats and oils. Ideal for offices and locations of light or medium traffic. Initially the product has a "yellowish" color that is most noticeable in light-blue, blue and green tones. Yellowing is short-lived and slowly disappears after exposure to light. If exposed to direct sunlight the action is faster. To have a clearer idea of this phenomenon, it will be sufficient to expose a sample of the material in daylight, half-covered. It will be noted that the yellowish color disappears and the resulting color is the definitive one.

Technical characteristics	
Thickness	from 2,0 mm to 4,0 mm
Weight	to 2,4 a 4,7 kg/m^2
Fire reaction rating	Cfl -s1
Soundproofing	3-6 dB
Electrical resistance (ohm)	1x10^8 - 1x10^{10}

RUBBER

This floor consists of two layers of natural and synthetic rubber, mineral charges and colored pigments. Ideal for high-traffic floors that require good hygienic characteristics, easy maintenance and long life.

Technical characteristics	
Thickness	from 2,0 mm to 4,0 mm
Weight	to 2,9 a 6,8 kg/m^2
Fire reaction rating	Bfl -s1
Soundproofing	5-12 dB
Electrical resistance (ohm)	1x10^6 - 1x10^{12}

MOQUETTE

It consists of synthetic fibers with different diameters compacted for continuous needling and coupled with a supporting base layer (70% polyamide and 30% polyester). The peculiarity of the carpet is the sound absorption, which is particularly important for the raised floors. On the other hand, the difficulty of cleaning and the duration over time limit its fields of use. The recommended types are needle punched as they are more "technical" than bouclé or similar. In this context the self-laying solution represents an advantageous possibility for restoration over time.

Technical characteristics

Thickness	6,5 mm
Weight	1,45 kg/m^2
Fire reaction rating	Bfl -s1
Soundproofing	19 dB
Electrical resistance (ohm)	1x10^6 - 1x10^{10}

PARQUET

For the application on raised floors, the parquet is glued on the panels of wood conglomerate or on those of calcium sulphate. Different essences and geometries are available. All pre-finished parquet floors have a wear layer made in the factory with special high-resistance transparent paints.
Wood is par excellence a living material and therefore subject to dimensional and color variations (oxidation) as environmental conditions change. It is important to maintain a relative humidity in the environment between 40 and 60%, since outside of this range the structure of the wood can be subject to deformations. Parquet is particularly suitable for low-traffic office areas.

Technical characteristics

Fire reaction rating	Cfl -s1
Soundproofing	10 dB
Imprint of a 10 mm diameter sphere	25-60 Nw/mm^2

GRES

Tecnologically advanced, gres is a single omegeneous mixture, with an unglazed surface, obteined by pressing. Cooked until the mixture is incipiently vitrified, it is made up of clays mixed with silica and feldspars. The result is a stronger and more durable ceramic product than natural granite and marble, characterized by both exceptional aesthetic and qualitative values: maximum hardness, resistance to impact, deep abrasion, chemical attack, frost and characterized by a very low water absorption.
Furthermore, gres has a chromatic and composition homogeneity between the surface and the interior, producing positive effects both on the performance and on the durability of the coated surface: the removal of the surface layer due to use, in fact, brings out an identical surface to the previous one, without affecting the aesthetic and functional characteristics of the coating. Finally, it does not retain stains or halos of any kind: any type of dirt is eliminated with simple and rapid cleaning operations.
The surfaces can be natural, semi-polished, or polished, for particular aesthetic effects, or with relief carvings, or "structured", with an appearance that recalls natural stone. The gres used for covering modular panels of the raised floor. It is produced in 30x30 and 60x60 cm formats.

Technical characteristics

Thickness	from 6,5 to 12 mm
Weight	20 kg/m^2
Fire reaction rating	Bfl -s1

COTTO

Terracotta is a wet-drawn material, dried and then baked in the oven. In its natural state both due to dimensional irregularities and high absorption it is not suitable for application on raised floors. Through mechanical processing it is rectified, bevelled and calibrated squared for mounting on the raised floor. The surface finish can be opaque, glossy, while the surface itself is natural, or protected by special impregnation processes with suitable products.

Technical characteristics	
Thickness	13 mm
Weight	28 kg/dm^2
Fire reaction rating	Bfl - s1

MARBLES, RECOMPOSED GRANITES

These are industrially reconstituted stone products consisting of fragments of marble and natural granites bonded with polyester resins added in 6-7% by weight. A process of compression under vacuum and hot catalysis gives the product characteristics of compactness and homogeneity.

Technical characteristics	
Thickness	from 4,5 mm to 15 mm
Weight	9 - 20 kg/m ^{2}for each cm of thickness
Fire reaction rating	Bfl -s1

CONTRACT WORK PRESCRIPTION

PSi and PTi panels

	RECTIFIED GRES	GRES NOT RECTIFIED***	MARBLE**
Final panel dimensions	= to hte tile*	tile - 2 mm	tile - 2 mm
Side tollerances	± 1 mm	± 1 mm	± 0,6 mm
Finish thickness	manufacturer's nominal value ± 2%	manufacturer's nominal value ± 2%	manufacturer's nominal value ± 2%
Flatness on the side	± 0,3 mm	± 0,3 mm	± 0,3 mm
Deviation of admissible orthogonality	max 0,6 mm	max 0,6 mm	max 0,6 mm
Chamfering* **	from 0,5 to 1 mm	from 0,5 to 1 mm	from 1 to 1,5 mm

* If the gres is smaller than 600 x 600 mm, the panel will also have a smaller size
** Marble and granite must always be chamfered if the edge is applied to the panel (excluded top finish)
*** For non-rectified products, the are not required specific chamfering tollerances

	LAMINATE	PVC*	LINOLEUM	RUBBER	CLIMBED CARPET
Side tollerances	608 mm (-0+2)	608 mm (-0+2)	608 mm (-0+2)	608 mm (-0+2)	600 mm (-1+4)
Finish thickness	1,2 mm	from 2 to 4 mm	from 2 to 4 mm	from 2 to 4 mm	-

* The PVC must be of the homogeneous, single-layer or multilayer type. The layers must not be in PVC foam or similar products and must not contain anti-wear corundum silicon carbide charges

** The rubber stamps must be suitable for assembly on PTS (that is to present stamps with a diameter equal to a whole submultiple of 600 mm and have a constant edge)

Monotec and Monote Green panel

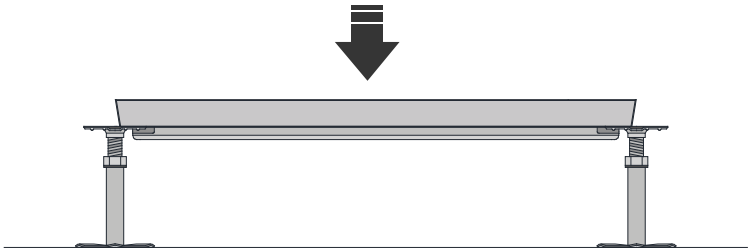
	RECTIFIED GRES	GRES NOT RECTIFIED
Final dimension panel	= to the tile*	tile dimension - 2 mm
Finish thickness	from 8 to 11 mm	from 8 to 11 mm
Off size	max 0,3 mm	max 0,6 mm
Flatness on the side	± 0,3 mm	± 0,3 mm

Any cases of execution on a work account can only be authorized by our Sales Department. Subcontract executions are not accepted for supplies of less than 250 square meters. The materials provided by the client on subcontracting basis are not subject to any responsibility and competence of the APPTEC and must in any case be returned in due time, with characteristics and formats suitable for the request and applications specified above. The APPTEC will not be responsible, in any respect, for defects, defects, discrepancies and / or lack of quality of the materials supplied by the client on consignment, as he will not be responsible for any damage and / or negative consequence that may derive (via direct and indirect and also to any third parties) or that were in any case committed and / or deriving from defects - defects - discrepancies and lack of quality of the materials supplied for subcontracting. Damages and greater costs deriving from slowdowns, stops or changes to production programs caused by the customer's materials, provided on consignment and not in accordance with the required characteristics, will be totally charged to the customer. The APPTEC remains exonerated from any responsibility for any damage caused, even to third parties, by hidden defects present in the material supplied and which compromise the processing, even if the material is still suitable for traditional laying. The material must be supplied with a 3% surplus compared to the actual requirement in order to compensate for the processing waste. The materials must be received at the APPTEC plant at least 20 working days before being put into production, so that the necessary suitability checks can be carried out.

THE CHOISE CRITERIA

MECHANICAL RESISTANCE

The parameter that represents the main classification criterion of the raised technical floor according to the UNI EN 12825 is the maximum load or ultimate load of the panel.



"The raised floor must be designed and manufactured so as to offer mechanical strength and stability and so that the load expected to act on it during its use does not lead to its deformation or failure."
According to the standard, when subjected to the test procedures the raised floor must meet two criteria regarding the static load

a) "before breaking, the element must have withstood the maximum load corresponding to its class, as indicated in the following table"

Classification according to UNI EN 12825, 4.1:

CLASS		MAXIMUM LOAD
Class 1	Use with light loads and in enviroments with poor traffic	≥ 4 KN
Class 2	Use with traffic conditions and normal loads	≥ 6 KN
Class 3	Use in enviroments with high demands for static loads: schools, conference rooms, technical offices, surgeries ecc	≥ 8 KN
Class 4		≥ 9 KN
Class 5	Use in a offices with floors subjected to heavy loads: libraries, industrial floors for workshops, stores ecc	≥ 10 KN
Class 6	Use with particulary heavy special loads	≥ 12 KN

b) “when the applied load is equivalent to the operating load, which is the maximum load divided by the safety factor, the measured deflection must not exceed the declared value in accordance with the following table "

Deflection classes according to UNI EN 12825, 4.2.2:

CLASS	MAXIMUM DEFLECTION
A	2,5 mm
B	3,0 mm
C	4,0 mm

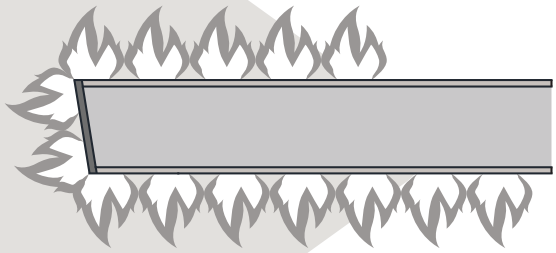
FIRE CHARACTERISTICS

“The modular raised floor due to its characteristic of disassembly does not constitute a dividing element able to define a compartmentalization for the purpose of fire resistance between the plenum and the environment above. The modular raised floor must be designed, manufactured and installed so that in the event of a fire:

- the extent of the modular raised floor is guaranteed for a time that allows occupants to leave the premises safely;
- the release and spread of fire and smoke are limited, in accordance with the provisions of current legislation”.

The tests to which a raised floor is subjected are of two types:
FIRE RESISTANCE
FIRE REACTION

Fire reaction:
UNI EN 13501 - 1 : 2009 - Fire classification of products and costruction elements.



The samples are subjected to a direct ignition of flames and to a radiant heat source coming from the outside. Based on the ignitability and propagation of the flames in a given time, the material is classified, according to the standard, in Classes.

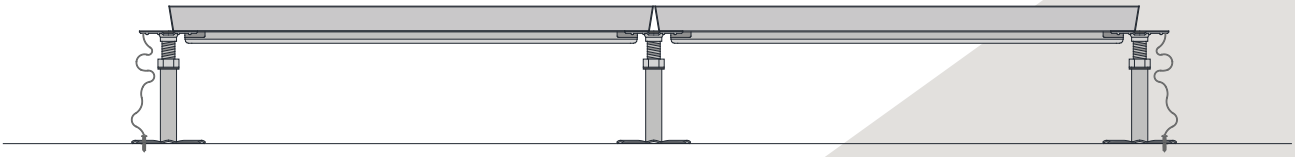
Fire reaction:
UNI EN 13501 - 2 : 2009 - Fire classification of products and costruction elements.

It is carried out by simulating a fire under the floor in an oven and is expressed in three parameters
- "R" mechanical stability
- "E" flame retardant
- "I" thermal insulation

The tests indicate how many minutes the simultaneous action of the three factors lasts, according to the D.M. 16/02/2007 The maximum certified class can be: REI 30/60

ELETTRICAL CHARACTERISTICS

A raised floor can be antistatic, conductive or insulating. To be considered antistatic it must have values between 1.5 x 107 ohm and 2 x 1010 ohm. The antistaticity, that is the ability to avoid strong electrical discharges on people, is largely determined by the superior finish.
On the other hand, we mean conductive floors that have values between 1.5 x 103 ohm up to 1.5 x 107 ohm. Used especially in environments with very sophisticated electronic equipment, it is necessary that they are made with all the conductive elements (panel, edge and finishes) and that they all discharge to the ground (see drawing).
Values above 2 x 1010 ohms define the product as an insulator.

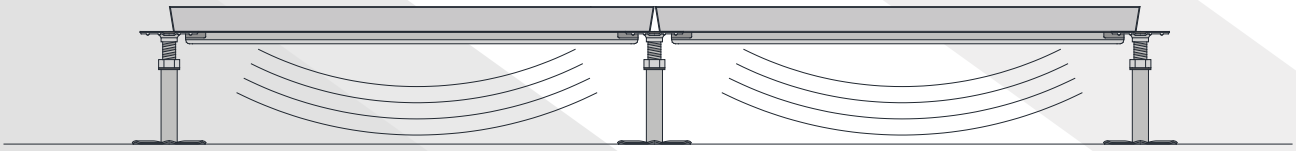


WALKING NORMALIZED SOUND LEVEL

The noise level in an environment, due to trampling, varies depending mainly on 3 elements:

- panel density
- type of top finish
- structure height

The ISO 140 standard expresses, based on an evaluation index at 500 Hz, the value of dB found.
The assessment of the level of acoustic insulation of a raised floor must therefore be expressed at the same structure height and top finish.



INSTALLATION PRESCRIPTION

CUSTODY

1. The premises in which the raised floor must be installed and stored, immediataly after unloading, must be dry, a watertight, with windows and doors complete with a buffer.
2. The temperature of the premises will be included between 5° and 35° C, and the relative humidty between 40% and 75% (except for the Monotec).
3. If storage on site cannot take place directly in the installation rooms, it will be advisable to use immediately adjacent rooms with thermo-hygrometric characteristics very similar to the rooms concerned.

INSTALLATION

1. The floor will must be installed in dry rooms, with a temperature between 5 ° and 35 ° C and relative humidity between 40% and 75% (except for Monotec).
2. If under the floor has been provided the presence of pipes with fluids at temperatures such as to cause thermohygrometric conditions, outside of those prescribed, it is recommended to conveniently isolate the heat sources and provide for appropriate ventilation in order to re-enter under the normal conditions indicated above.
3. The masonry works must have been completed for at least 60 days and the wet finishing works for at least 30 days.
4. The premises will must be provided with windows and doors complete with a buffer.
5. The support slab will must be dry, smooth, clean and similar to a finished trowel surface, or equivalent. In the case of a jet slab, the installation will must be preceded by a verification inspection to analyze the feasibility of the installation.
6. Whoever provides for the application of an anti-dust product on the slab, when requested, will have to check its compatibility with any adhesive used to fix the structure supports.
7. Provision must be made for clean, uncluttered rooms without the simultaneous presence of other workers
8. The distribution of the systems must respect the modularity of the raised floor and must take into account the overall dimensions of the components of the same.
9. The level of the finished floor of the raised floor must be clearly indicated in the rooms prepared for installation.
10. Normally the installation of the raised floor will be carried out only when all the systems and the internal finishes of the rooms have been completed: an exception is the installation of movable walls that will be positioned above the raised floor. If this is not possible, the sequence of interventions must be agreed.
11. No one, with the exception of the installer of the raised floor, will be able to walk on the floor during installation and in the case of use of adhesives even for the 48 hours following its completion.
12. Access to the construction site and to the building where the raised floor will be installed must be kept free of obstacles, so that the unloading of the materials can take place near the access areas or lifting means.
13. Horizontal access to the rooms and to the lifting devices on the floors must also be kept free of obstacles to allow easy handling by transpallets (self-propelled trucks).
14. The handling of materials in the environments in which the raised floor is to be installed must be guaranteed by arranging walkable paths with trolleys.
15. The characteristics and use programs of the lifting devices for vertical movement must be defined contractually.
16. The raised floor must be tested and delivered as soon as the installation is completed in each individual room, before the application of protections and coatings, if provided, and in any case before the intervention of installers.

INSTALLATION

MODALITIES

After checking the above, it is possible to set the laying project and the texture of the supporting structure of the panels. Before proceeding, however, it is essential to check the unevenness of the floor, as the standard supports have an average height adjustment of 30 mm, but often the floors have greater height differences. Furthermore, after having removed the dust from the slab, it is advisable to apply an anti-dust treatment to be carried out with unalterable polyurethane or epoxy based paint. This treatment is essential if the underfloor plenum is used as an air conditioning channel.

1. Preliminary condition for the start of the installation is the tracing of two orthogonal axes of departure inside the room, using a flapping lignola (verify the orthogonality of the two axes by applying the Pythagorean theorem: the sum of the squares built on the sides of a right triangle is equal to the square built on the hypotenuse).
Fig. 1:

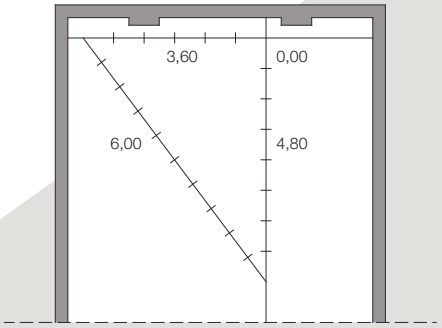


Figure 1

2. Then proceed with the positioning of the balusters according to the 600x600 mm modular mesh, starting from point 0 (Fig. 1). If in the modular distribution two perimeter cuts of different sizes are obtained at the perimeter ends (for example one of 50 cm and one of 20 cm) it is advisable to add the two measurements and divide them in half (50 + 20 = 70/2 = 35) and it is always better to avoid having portions of the panel too small on the sides of the room to be paved.
Fig. 2:

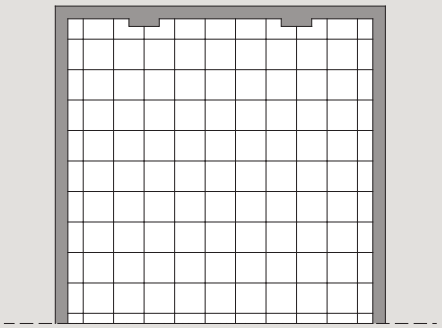


Figure 2

3. Once the structure has been assembled, the pedestals and (if provided) the stringers are placed in height, with the aid of a self-leveling or laser.

4. At this point the first panels can be laid in sufficient quantity to form a T, starting from the first inner row on the two orthogonal axes (fig. 3):

5. A squaring check is then performed (fig. 3):
cathetus a = ml 3,60 cathetus b = ml 4,80 hypotenuse c = ml 6,00

6. We continue with the laying of the panels in progression in the two opposite directions to the initial T (fig.3).

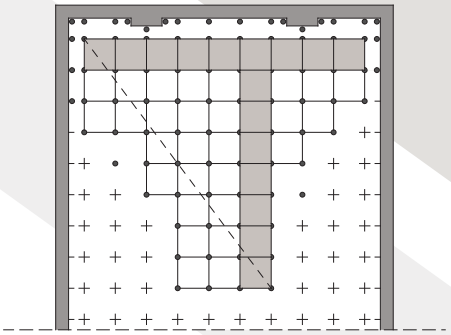


Figure 3

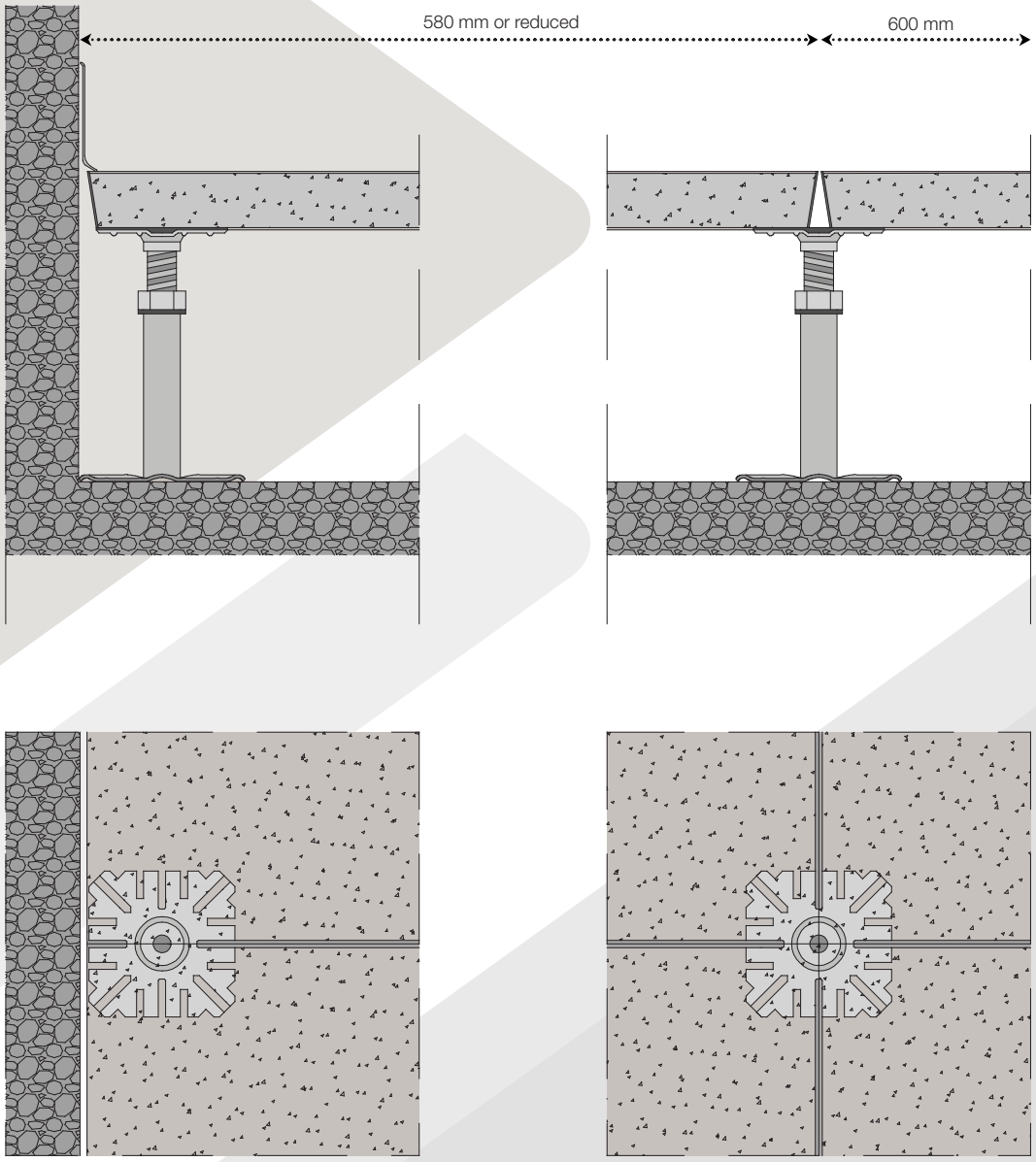
7. It ends with the assembly of the perimeter panels, after having made the relative cuts to size. In the event that the raised floor is laid without the use of sleepers, it is necessary to fix the supports to the ground with adhesive. In this case, balusters and panels are assembled at the same time and placed at a height with the level from time to time. At the end, before you can walk on this floor, you will have to wait about 48 hours to allow the glue that fixes the supports to dry. Finally, whatever the type of raised floor laid, it is good practice to protect it with cardboard or polyethylene sheets until the setting up of the room is finally completed.

TIMES

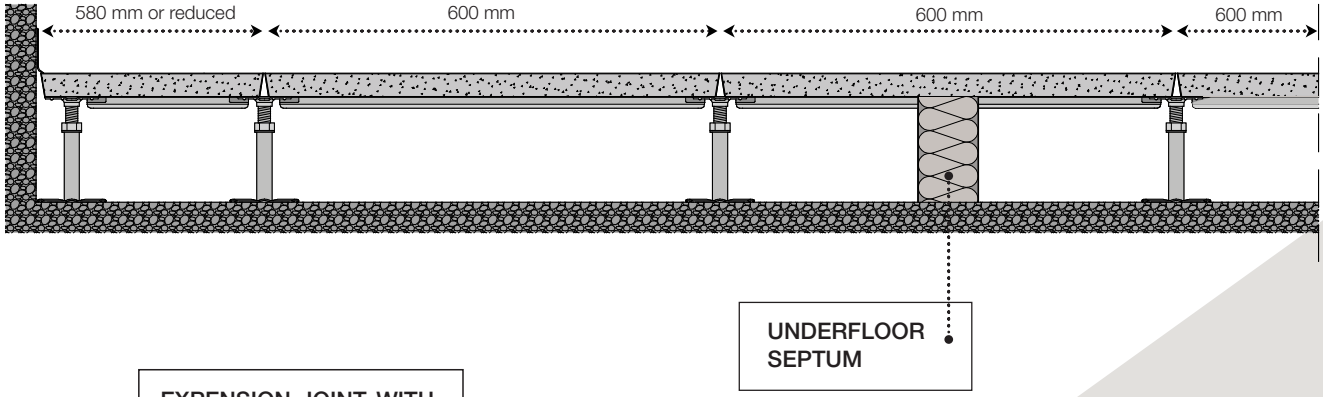
The factors that determine the time required to install a raised floor are various: the dimensions, the shape, the accessibility of the rooms to be paved, as well as the type of panel, finishing and structure chosen. In general, two installers can install from a minimum of 30 square meters per day in small-sized rooms to a maximum of 90 square meters per day in medium-sized rooms, depending on how the above factors influence and how complex the phase trimming and laying of perimeter panels.

SOLUTIONS

1 WALL FITTING



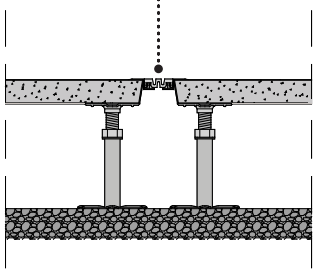
2



UNDERFLOOR SEPTUM

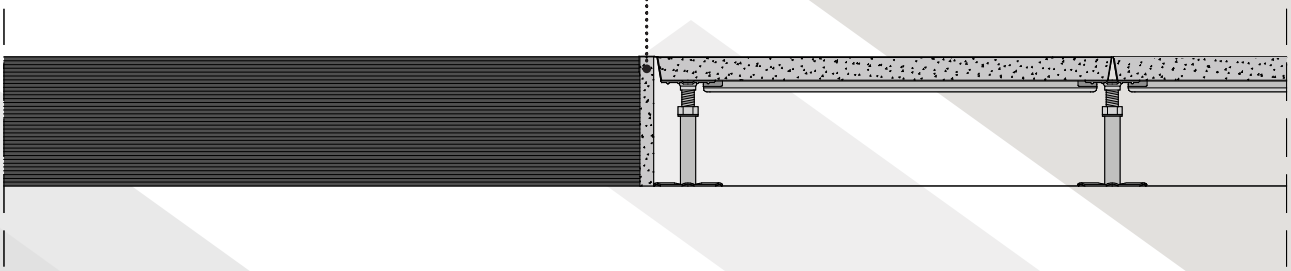
EXPENSION JOINT WITH TWO COLUMNS

3



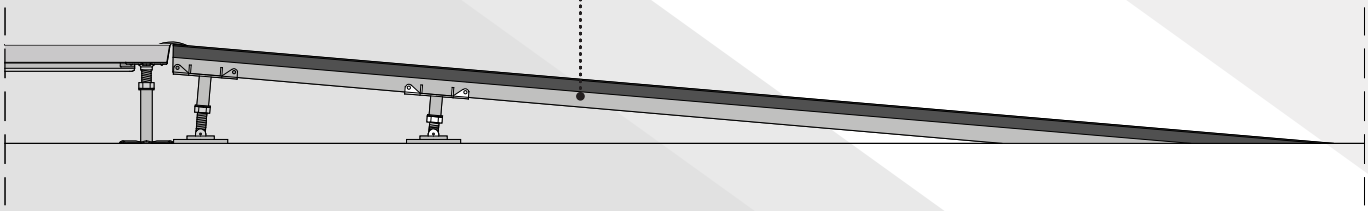
4

LATERAL CLOSING RANGE OF THE RAMP

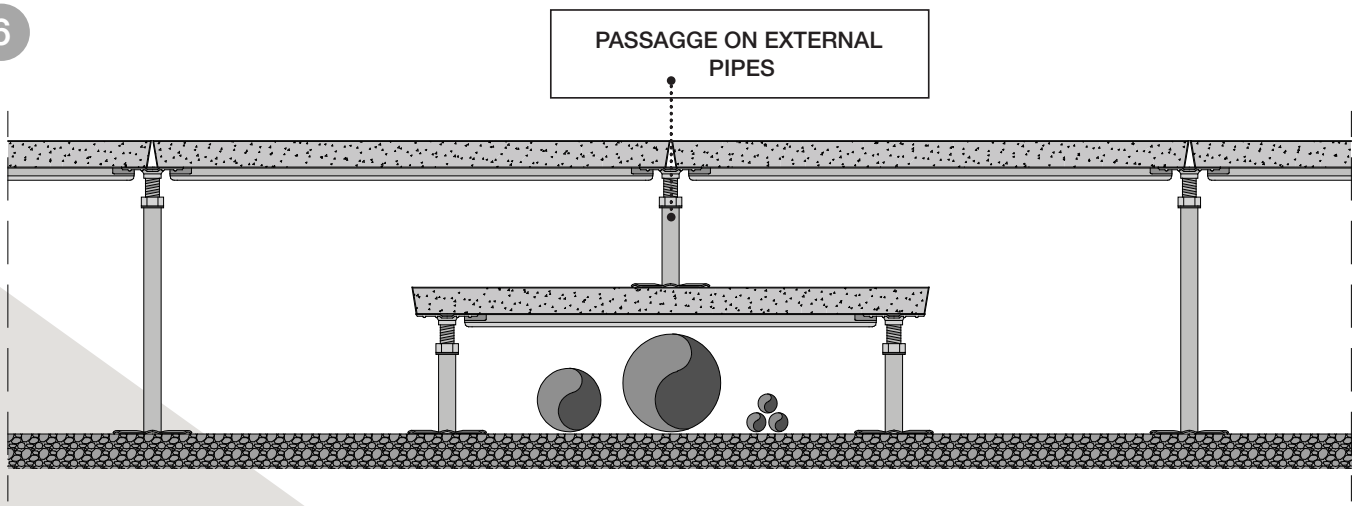


5

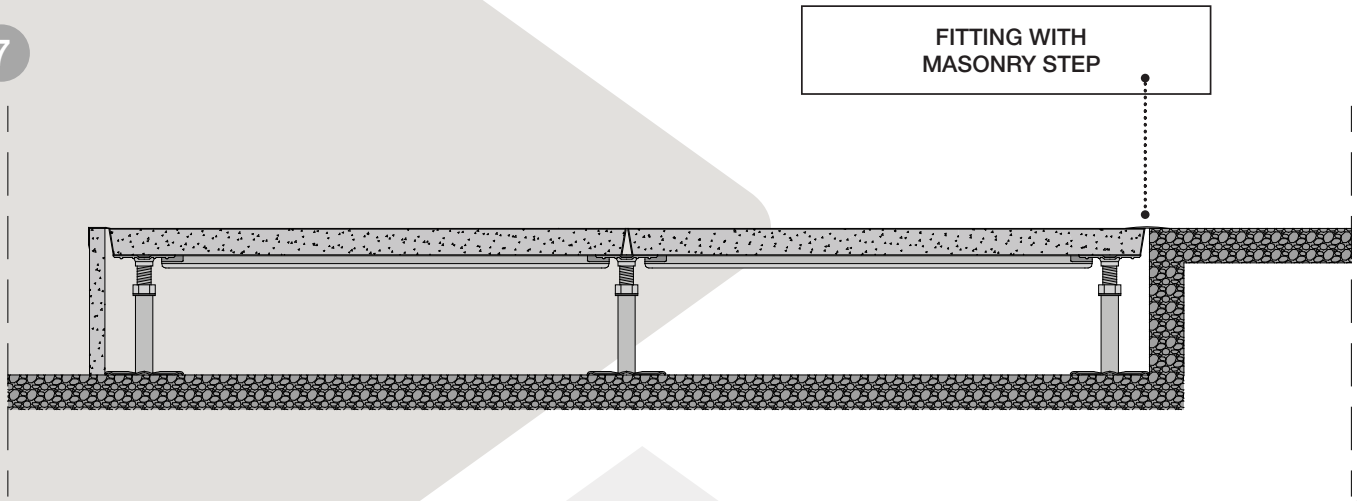
RAMP OF ACCESS TO THE RAISED FLOOR



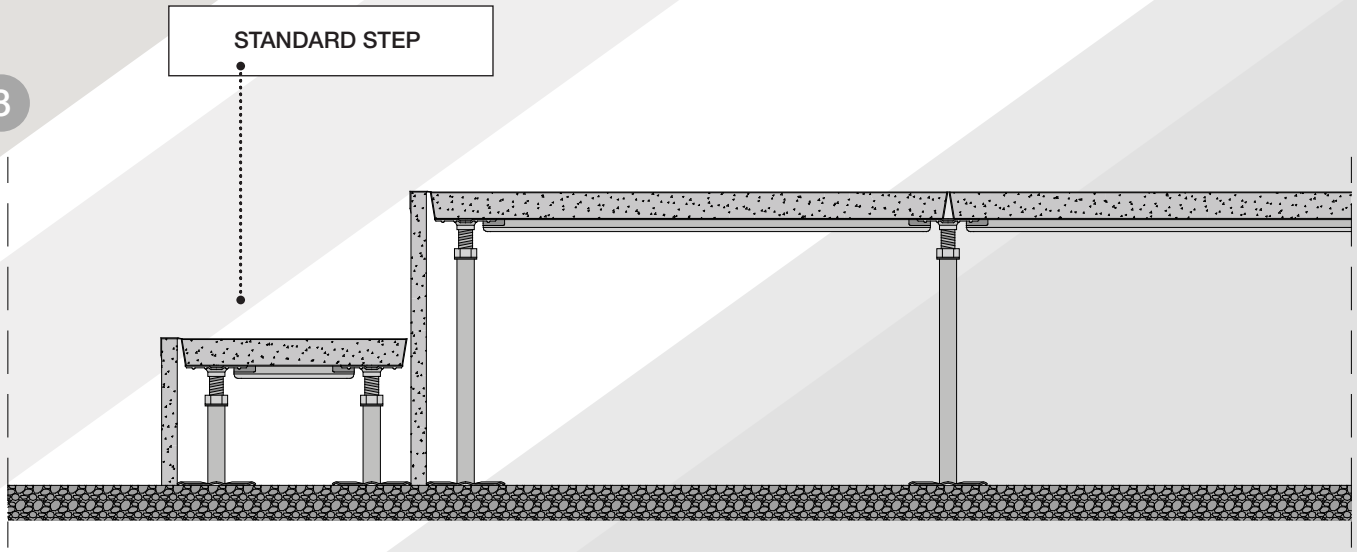
6


PASSAGGE ON EXTERNAL
PIPES

7


FITTING WITH
MASONRY STEP

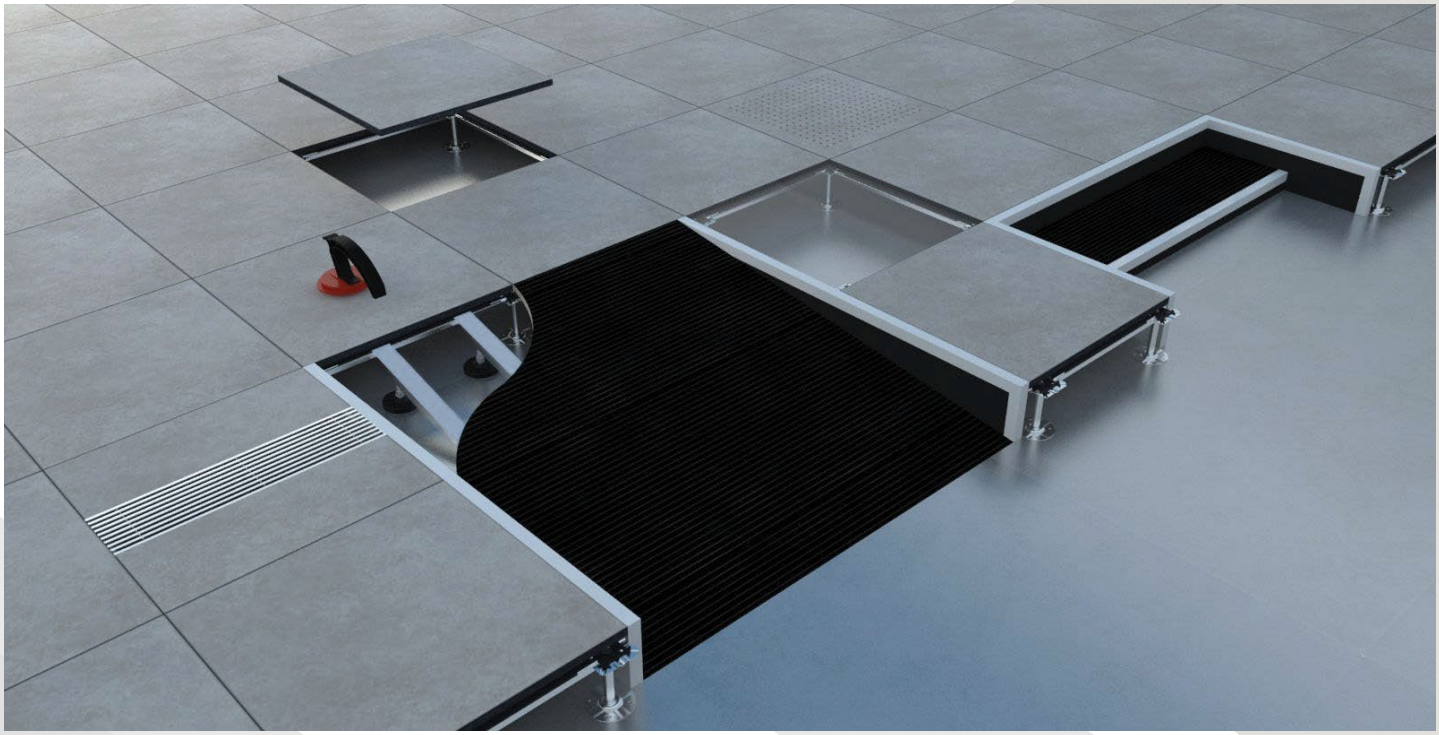
8

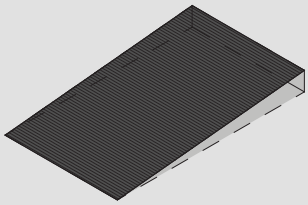

STANDARD STEP

ACCESSORIES

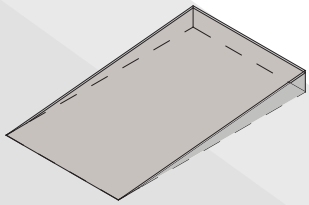
The installation and use of raised floors are made more practical and functional by the range of accessories available. The suction cups, which have already been presented in the assembly chapter, even after installation are useful tools to keep on hand to remove the panels whenever the underfloor space is to be inspected or to make replacements or movements. To resolve the problems of height difference, there are steps and slides, while to close the underfloor compartment can be used side infill strips covered with plastic laminate or subdivion floor partitions. Finally, accessories are available for the use of air conditioning, electrical and telephone systems: adjustable grids for the air flow from the underfloor plenum, concealed cable traps and electric and / or telephone turrets to locate light and telephone points more rationally and to ensure even greater flexibility in the event of moving outlets.

THE RAMP

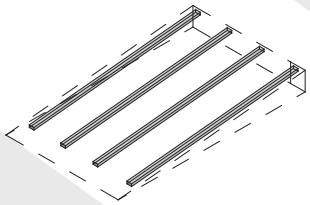




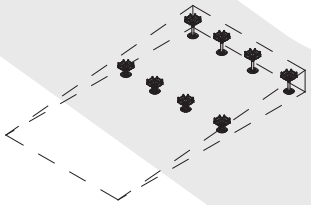
ribbed rubber thickness 2mm



multilayer thickness 20mm



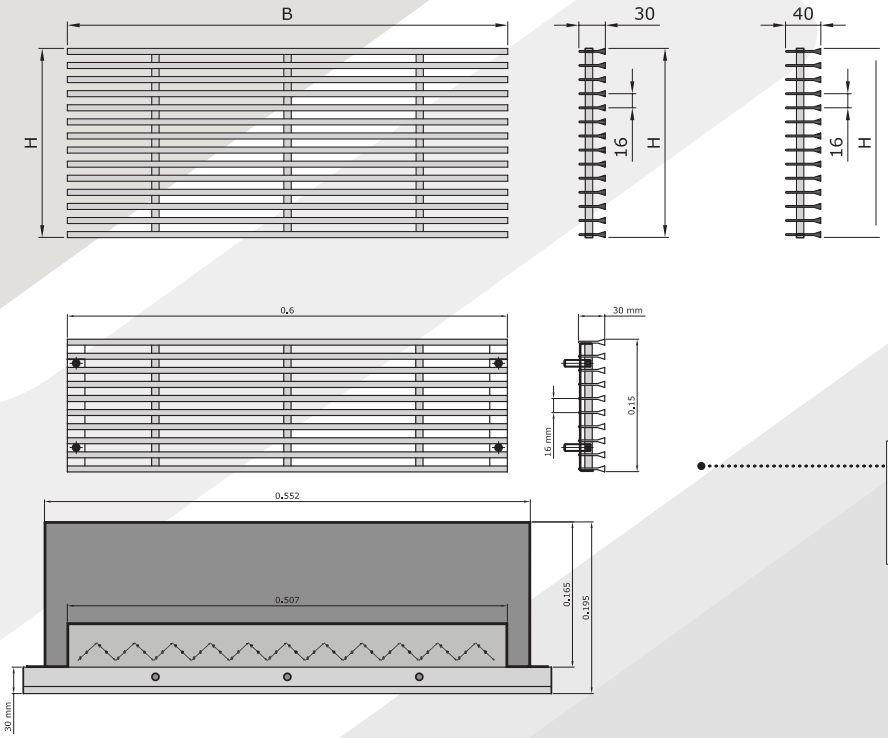
stringers 50xH25mm



STC articulated support

GRID

The grid, with or without shutter, is an element that has the purpouse of allowing the air to escape from the plenum belowe the raised floor. It is inserted in the suitably prepared panels, so as not to compromise walkability.



ANODIZED ALLUMINUM GRID WITHOUT SHUTTER.
Sizes available 600x150x30 mm o 600x150x40 mm.

ANODIZED ALLUMINUM GRID WITH SHUTTER.
Sizes available 600x150x30 mm o 600x150x40 mm.

MAINTENANCE

THE RAISED FLOOR

The raisesd floor is made up of more removable elements, in particular the panels that make up the walking surface lean against one another; the stability of the product must therefore be safeguarded by following some simple maintenance rules:

1

Use always lift trucks to move large load, interposing rigid system (boards or slabs) between panels and wheels, in order to distribute the loads.

2

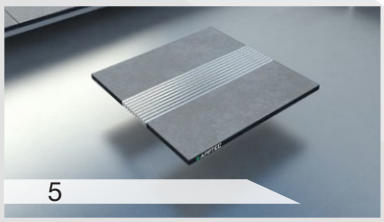
Having disassemble several panels it is advisable to avoid the formation of "islands" or long "channels", removing only the minimum quantity necessary to reach the point of the intervention and restoring the plan step by step until the operation is completed.

3

Be careful not to damage or move the gasket of the stringers and supports; if necessary replace them.

4

The removal and installation of the panels must be carried out strictly using the appropriate lifting tools (suction cups).



5

Pay particular attention when removing the panels containing accessories (grids, electrical distribution, etc.) in order not to damage the connections.

6

In the event of removal of non-whole panels, care should be taken to place them back in their original position.

CLEANING GENERAL WARNINGS

Regular and appropriate cleaning is an important factor for maintaining the characteristics of the raised floor; the following recommendations are a mandatory basis:

1

Do not use water or liquid detergents directly on the raised floor; use a damp, well-wrung cloth and pay close attention to electrical and telephone distribution systems; do not use water for cleaning under the floor.

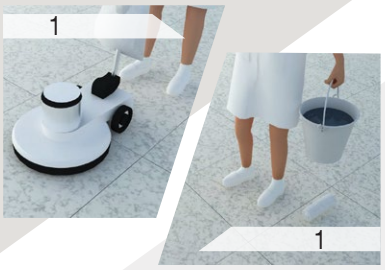
2

Do not use alkaline detergents, soda, soaps, solvents. Do not use pumice, glass paper, metal pads, various abrasives.

3

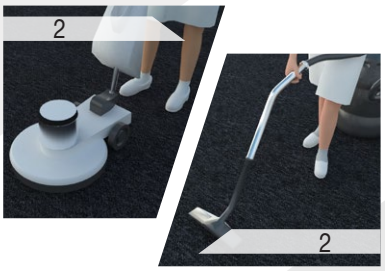
When using waxes or other protective treatments, it is advisable to carry out a preliminary test on a limited area of the raised floor before proceeding over the entire surface. When the floor has particular electrical characteristics, remember that synthetic waxes are generally electrically insulating.

RULES FOR CLEANING AFTER INSTALLATION



FLOOR COVERED IN PLASTIC LAMINATE AND RESILIENT

Remove the dust with a vacuum cleaner. Wash with a well-wrung cloth soaked in warm water and neutral detergent in normal proportions. Clean with a dry cloth to dry the floor perfectly. After a few hours polish with a polisher equipped with felt pads. Any subsequent waxing should be performed only with a little quality liquid wax. Parquet-lined floors - Remove dust with a vacuum cleaner. Clean with a damp, well-wrung cloth using a non-foaming neutral detergent. The paint layer can be maintained in efficiency with the use of Polish or liquid waxes or specific protective products for pre-painted parquet.



CARPETED FLOORS

Use a vacuum cleaner with a brushing action for needled carpets; carpet cleaner vacuum cleaner for velor or bouclé carpet.

FLOORS COVERED IN GRES AND STONE FINISHES

Remove the dust with a vacuum cleaner. Wash with a well-wrung cloth soaked in warm water and neutral detergent in normal proportions. Clean with a dry cloth. Do not perform waxing operations on porcelain stoneware.

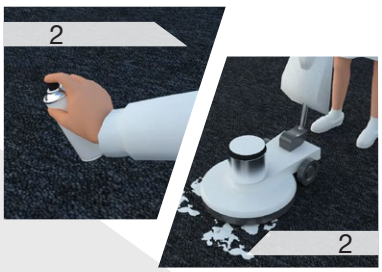
MONOTEC FLOORS

Make a passage with a vacuum cleaner, so as to eliminate the surface dust. Wash with water and liquid detergents as for traditional floors. The use of a low-pressure water jet cleaner is allowed.

CLEANING OF EXTRAORDINARY MEASURES

FLOORS COVERED IN PLASTIC LAMINATE AND RESILIENT

Superficial incrustations and, in part, cigarette and match burns can be removed by gently using a very fine iron wool. The floor must then be washed with a damp cloth, dried and possibly waxed.



CARPETED FLOORS

For small stains you can use dry foam spray removers easily available on the market: for a good result it is important that the intervention is timely. Finally, it is advisable to carry out an annual dry foam wash (do not use wet carpet cleaning machines).

FLOORS COVERED IN GRES AND STONE FINISHES

Do not use iron sponges that could damage the finish. Do not use acid-based cleaning products to avoid damaging the joints. Do not carry out waxing or similar protective treatments on porcelain stoneware, as it is an non-absorbent surface. Avoid using a hydro-brush.

FLOORS COVERED IN MONOTEC

Do not use iron sponges that could damage the finish. For Monotec with porcelain stoneware, do not use acid-based cleaning products to avoid damaging the joints. Do not carry out waxing or similar protective treatments, as porcelain stoneware is an non-absorbent surface.
On the floor in Monotec it is possible to use hydro-brushes with a moderate jet of water.

TECHNICAL GLOSSARY

Raised Floor: Flooring system, made in the factory, including panels supported on a substructure of columns and / or stringers or other components depending on the case, which provides a supporting structure for finishing a building.

Height of the finished floor (HPF): Nominal vertical dimension from the specified subfloor level to the specified finished floor level.

Plenum: Available space between the soffit of the raised floor panels and the subfloor.

Height of the plenum: Distance between the highest point of the subfloor and the lowest point of the soffit of the raised floor.

Components: Parts of the floor elements, for example panels, columns, stringers, ecc.

Panel: Horizontal supporting component of the raised floor. It is supported by the structure underlying (for example columns and stringers).

Pedestal: Vertical component or part of the element that transmits the loads to the subfloor.

Stringer: Horizontal component that connects the columns that can support the panels.

Edge trim: Component of the panel, adherent or mechanically fixed to all four sides to provide protection to the panels and to the floor covering.

Panel dimensions declared by the manufacturer: Dimension to which the tolerances are applied.

Panel nominal dimension: Dimensione teorica utilizzata per la descrizione commerciale.

Side lenght: Total size of any side of a panel.

Deviation: Difference between a specified size or position and the actual size or position.

Operating load: Load obtained by dividing the maximum load by the safety factor (the maximum load is sometimes called the breaking load and the operating load is sometimes called the project load or nominal load).

Maximum load: Maximum load at the time of element failure during the specific maximum load test procedure.

Subsidence: State reached when the bending of the element or panel continues without a further increase in the test load.

Deformation: Alteration of the shape of a sample.

Safety factor: The factor by which the maximum load is divided to determine the operating load.

Flexion: Movement of the tested sample caused by the load expressed as a deviation from the previous linear level.

Footprint: Penetrator movement in the sample surface.

Structural bridge: Structural bridge supporting component used to remedy those situations that prevent the placement of columns and crossbars (if available) in the normal position.

APPTEC

RAISED FLOOR SYSTEM

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