Technical information

Requirements for rooms to be installed with access floors (DTU 57-1)

- Rooms must not be exposed to bad weather.
- Rooms must be equipped with outside glazing.
- Concrete slab and plaster walls must be dry.
- Concrete slab must be conform to article 5.2.2 of DTU 21: the raw concrete is not allowed. The upper part of the concrete must resist when trying to tear up manually a pedestal base bonded to the concrete. The concrete must be able to take the weight of the raised floor and the loads transmitted by the pedestals bases.
- Rooms must not be encumbered with materials or tools and get a dry and clean concrete.
- Rooms must be free of any of the other trade during installation.
- All rooms adjacent to the access floor must have the same floor height.
- The ambient temperature of the rooms where the access floor is to be installed should be kept between 5°C and 24°C and the relative humidity between 45% and 70 %. If the temperature is above 24°C (but never above 30°C) the relative humidity should not be over 50%. The subfloor temperature should not be below 5°C.
- No water or any other liquid should be spread under or on top of the access floor.
- No other trade is allowed to walk on the raised floor during its installation, for at least 48 hours.

Installation

- The required finished level of the raised floor must be materialized by the architect or the building owner. The location of the first panel to be installed is determined by the drawings, in such a way that the width of the panels cut along the walls will be more than 100 mm, providing a good stability.
- Handling and installation of any equipment or heavy material must be done on an added boarded flooring or load-spreading plates, rigid enough to spread the loads, to prevent overloading, tearing or scratching of the floor covering.

Coverings

Coverings to be used

- High pressure laminates : these coverings must not be used within rooms where abrasive dust may lay on the floor.
- Soft coverings : vinyl, rubber or linoleum.
- Textile coverings : needlepunch carpets, cut-piles carpets.
- Parquets, mineral coverings and ceramics : the technical characteristics of these coverings must be checked carefully in order to determine if they can be used with raised floors.

Suitability of coverings

High pressure laminates must be conform to Standard NF EN 438, NF EN 685 and NF EN 14041.
The resilient floor coverings used with raised floors must be classed minimum 32 according to the classification of the Standard NF EN 685.
Textile coverings to be used with raised floors must be classed 3 or 4 according to the classification of Standards NF EN 1470 or NF EN 1307, according to the type of covering.
The design of the covering must not require any joint or centering, and tiles of covering must be interchangeable.

Factory bonded coverings

Floor coverings with a foam backing must be excluded.

Free laid coverings

It concerns carpets tiles, free laid on site. Their dimensions, squareness, stability and installation must be conform to the requirements of the Standard NFP 62.202.1 (reference DTU 53.1).
The use of a permanent adhesive between the raised floor and the carpet tiles must not make dismantling of the raised floor panels difficult. It is recommended not to aline carpet tiles and raised floor panels.

Maintenance

Excessive use of liquid products must be avoided.

The use of water can provoke swelling, oxidizing or destruction of the components of the panels.
Cleaning products can damage the adhesives on the edges and corners. Even small quantities of a product can laminate the covering.
Every covering has a data sheet for maintenance.

Mechanical performances and loading

A raised floor must be designed and produced in such a way to ensure the required mechanical resistance and stability. The required working load must not cause deformation or failure of the raised floor.
All systems must be tested according to requirements of the Standard NF EN 12825, and classifcations obtained after these tests must be certified by an official test report from an independant body.

Acoustic insulation

When tested according to Standard EN ISO 140-12, our access floors can reach airborne sound insulation values from 44 to 54 dbA. The insulation to impact sound depends mainly on the type of coverings bonded on the panels. The textile coverings are the most efficient.

Fire protection

The regulations for access flooring refer to :
- the reaction to fire
- the partitioning of the plenum
- the calorific potential

They vary according to the use of the rooms and the classification of the building inside which the access floors are installed.

Reaction to fire

In France, the Decree dated June 30 th, 1983 defines 5 classes for the materials : **M0, M1, M2, M3, M4**.
The test method used is the radiation test. The tested side is the bottom of the panel.
The classification of the superior part of the panel is the same as for the covering.

Partitioning of the plenum

When required by regulation, plenum dividers made of non combustible materials can be supplied.
Every partitioned area has a maximum surface of 300m² and a maximum length of 30 meters. In case of fire, the partitioning limits the air circulation inside the plenum.

Electrostatic properties

The ability of a covering to accumulate electrostatic loads, and its ability to eliminate these loads are essential for the antistatic properties of an access floor. The measurement of the transversal resistivity (Ret) enables the estimation of the ability to eliminate electrostatic loads.
Coverings are classed according to NF P 62.001 (Resilient floor coverings - Electrostatic behaviour) :

Class 1 :	Astatic covering	:	RET > 1.10^9 Ω (ohms) and electrostatic charging potential < 2 KV.
Class 2 :	Dissipative covering	:	1.10^7 Ω < RET < 1.10^9 Ω (ohms) and electrostatic charging potential < 2 KV.
Class 3 :	Conductive covering	:	RET < 1.10^7 Ω (ohms) and electrostatic charging potential < 2 KV.

All raised floors must have a transversal resitivity between 5.10^5 and 2.10^{12} ohms.

The equipotential connection is made by a copper strap network connecting certain pedestals to each other. This network is earthed by the companies in charge of the electrical wiring.