

CORES



Result of a high-quality technology, Nesite panels are constructed using structural cores of different materials and thicknesses, offering a wide range of combinations to **meet any mechanical, fire resistance, sound and electrical insulation, hygro-sensitivity needs.**

CHIPBOARD CORE

Its light weight, low cost, ease of processing, simple and economical installation, combined with good technical characteristics, make the chipboard core the most requested and used by the market. The element that defines the mechanical qualities of this material is its density. Nesite uses exclusively **E1-class** chipboard (according to EN 717-2) for its panels, with very low formaldehyde emissions and high density: **730 kg/m³**.

It is available in two thicknesses:

28 mm combined with superior coatings of resilient type (plastic laminate, vinyl, linoleum, rubber); it is used in premises where the load capacity of the floor required or the height of the raised floor required is not very high.

38 mm is the most often required thickness and therefore the most widespread of the Nesite panels; thanks to its good performance characteristics, it can be combined with any kind of surface finish (from resilient coatings to stoneware, natural parquet, stainless steel, etc.).

MAIN FEATURES:

- Good footfall comfort
- Sufficient acoustic comfort
- Good load capacity
- Fire resistance: 30 min.
- Less suitable for installation in areas with high humidity
- The panels are interchangeable and easy to remove
- Wide range of top finishes



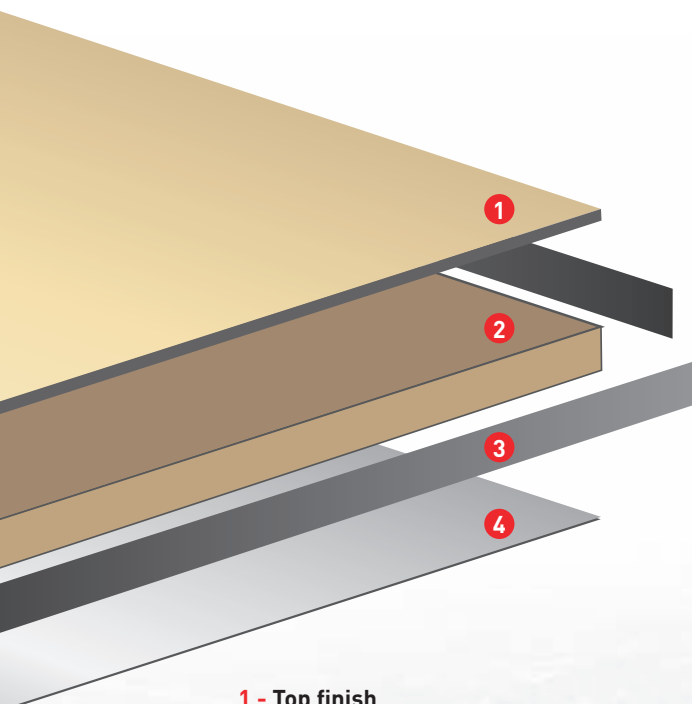
CALCIUM SULPHATE CORE

This type of core is considered the **top of the range** and is used in cases where a floor with high performance is required, in terms of mechanical strength, fire resistance, thermal insulation, sound insulation and limited hygro-sensitivity. It consists of a monolithic layer of calcium sulphate, anhydrite-reinforced, with recycled cellulose fibres, **reaction to fire in class 0** (class A1 according to EN 13501-1).

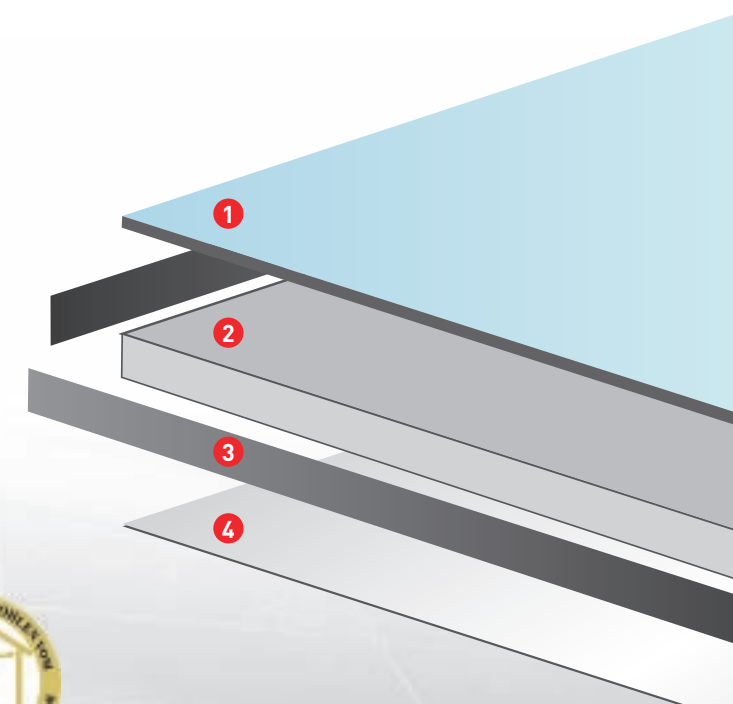
The main feature that ensures high performance is the density. NESITE uses calcium sulphate with a density of **1600 kg/m³**, the highest available on the market. The panels produced with this type of core represent the best combination of technical quality and performance, with unmatched characteristics in terms of **thermal insulation** in case of fire, resulting in maximum safety for those who live or work in that environment, and sound insulation. The density and the particular molecular conformation ensure a high reduction of footfall noise and of inter-lying crossing. It can be combined with any kind of top finish.

MAIN FEATURES:

- Very high footfall comfort
- High acoustic comfort
- Excellent load capacity
- Excellent fire resistance: 60 min
- Less sensitive to moisture
- Panels are interchangeable and easy to remove
- Unlimited range of possible top finishes

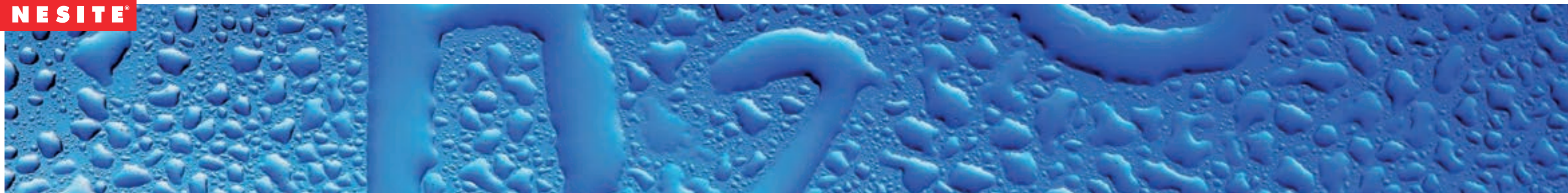


- 1 - Top finish
- 2 - Core
- 3 - Edge trim
- 4 - Bottom finish



- 1 - Top finish
- 2 - Core
- 3 - Edge trim
- 4 - Bottom finish





SINTERED MATERIAL CORE

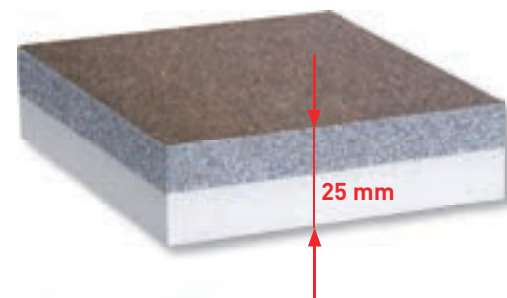
Nesite, always ready to provide solutions for the possible installation requirements of the raised floor, also offers a further innovative solution for all the installations where the chipboard or calcium sulphate panels may encounter application limits or incompatibility due to the high relative humidity in the environment or for outdoor solutions (e.g. pool edges, shopping centers arcades, marine environments, etc.).

For these applications, Nesite proposes an evolution of the raised floor: the **Twin Floor**.

This type of panel is composed of a core of inert and inorganic material, with a very high density (2200 kg/m³), sintered at very high temperatures. Thermal shock resistant, non-absorbent (0,05% water absorption), frost-proof. Reaction to fire of the panel core: class 0 (class A1 according to EN13501-1). Coupled to a porcelain stoneware or stone top finish.

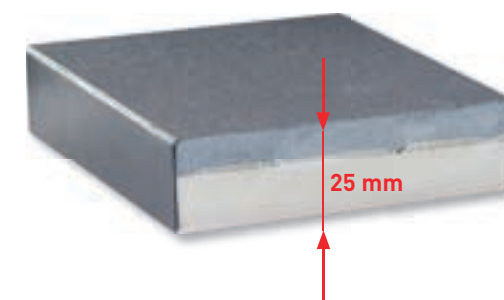
Thanks to the excellent characteristics of mechanical strength and especially to the extremely low hygro-sensitivity, the Twin Floor can be installed in outdoor areas in direct contact with the atmospheric agents, for a guarantee of unparalleled durability and long life. For said outdoor applications, Twinfloor panels are produced with a particular "truncated cone" perimeter process in order to ensure a facilitated drainage of rainwater.

In the indoor version, the panels with plastic perimeter edge and porcelain stoneware coating meet the Class 1 (class Bfl-s1 according to EN 13050-1) reaction to fire.



APPLICATIONS

Wherever the chipboard or calcium sulphate panels find incompatibility with a possible presence of water, or when a high resistance to loads in a reduced thickness is required.



MAIN FEATURES:

- High footfall comfort
- Excellent acoustic comfort
- Excellent load capacity
- Reduced thickness: 25 mm only, including the coating in porcelain stoneware.
- Completely fireproof: it does not participate in the combustion
- Completely waterproof: insensitive to moisture
- Excellent for outdoor installations
- Upper finish in porcelain stoneware or stone



STRUCTURES

The structure is the essential component in any raised floor system.

Due to its long experience, NESITE today proposes structures of high precision, capable of ensuring high load capacity and an excellent durability.

The Nesite Access Floor System is now completed by the offer of 3 different types of structure, fully in galvanized steel.

The NESITE columns are available in a wide range of heights, in order to satisfy any requirement, compensating for any unevenness of the floor they are laid on through a precise adjustment of the height of at least +/- 25mm.

The sound-absorbing gaskets on the head of the column are

made of antistatic or conductive plastics. These, besides allowing an optimal positioning of the panels with the dedicated spacer stops, attenuate the impact noise thanks to the properties of the materials.

MAIN FEATURES:

- **No height limit required**
- **Great fine adjustment: at least +/- 25mm**
- **Corrosion resistant**
- **High load resistance**
- **Easy installation**



MPS

General features:

Structure without stringers
Maximum lightness and stability
Pedestal glued to the slab

Applications:

offices, data centers, control rooms, laboratories, renovations and any other use having light or medium load requirements.

MPL

General features:

Substructure with light, open cross-section stringers that strengthen the system horizontally, ensuring stability between the columns even without gluing them to the sub-floor. It guarantees the electrical continuity of the structure.

Applications: offices, data centers, control rooms, laboratories, renovations and any other use having light or medium load requirements.

MPM

General features:

Structure with medium resistance, open cross-section stringers
Perfect for small data centers.
Ideal for new or renovated offices.

Applications: offices, data centers, control rooms, laboratories, renovations and any other use having medium load requirements.

MPM-ER

General features:

Structure characterized by no threaded part exposed.
Height adjustment obtained simply by tightening/untightening a hex screw in the center of the head.
Mechanical properties are equivalent to the MPM.

Applications: offices, data centers, control rooms, laboratories, renovations and any other use having medium load requirements.

MPH

General features:

Structure with high resistance, closed cross-section stringers
Ideal for data centers and technical rooms.
Ideal for medium to large offices.
Specific for CAT scan rooms and laboratories.

Applications: offices, data centers, control rooms, laboratories, renovations and any other use having medium or heavy load requirements.

BPC

General features:

The BPC structure is indicated for very high loads and is suitable for any type of panel. It consists of vertically adjustable columns and closed cross-section stringers, L 1800 and 550 mm.

Applications: offices, data centers, control rooms, laboratories, renovations and any other use having heavy load requirements.

STRINGERS

The stringers of the MP structures are in hot galvanized steel sheet (**Sendzimir**) with snap-on system.
The snap-on system ensures a firm grip of the stringer on the head of the pedestal, thus avoiding any noise even in the presence of dynamic radial loads, and making the screwing of the stringers to the head optional. The purpose of the stringers is to strengthen the system in both horizontal and vertical direction.



THE 12825 STANDARD

The EN12825 standard establishes the guidelines concerning the main characteristics of raised floor. Nesite always provides designers with a product whose specifications meet 100% of the EN 12825 European standard indications, without sacrificing the creative possibilities of each individual implementation. The elements that Nesite pays special attention to, and which have always been object of appreciation and consideration are:

Load capacity

The raised floor is designed and manufactured to provide mechanical resistance, high stability and comfort. With the various possible combinations between the type of structure and panel, NESITE is able to meet the most demanding structural specifications, giving a solution to all load issues provided by the legislation without any deformation or failure.

Items class	
Class	Ultimate load
1	≥ 4 kN
2	≥ 6 kN
3	≥ 8 kN
4	≥ 9 kN
5	≥ 10 kN
6	≥ 12 kN



Sound insulation

The ability to mitigate the footfall noise, along with the ability to isolate the environment from the noise transmitted by air, are among the main qualities of raised floors. Nesite has always been careful to ensure its products the highest comfort and sound insulation in accordance with UNI EN ISO 10848-2: 2006 and thanks to the use of materials with high compositional characteristics, it reaches outstanding levels of noise reduction.

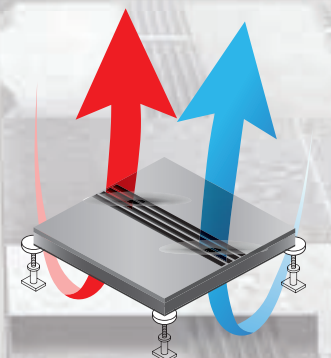
To further increase the level of acoustic comfort, Nesite proposes the Acoustic Pad solution: this simple yet effective option enhances the already excellent noise-reduction qualities of the system, further reducing the spread of noise in the environment, thus ensuring maximum comfort.



Fire performance

Decisive for the physical safety of people who live and work on a raised floor, this is the quality that must be guaranteed in terms of fire reaction (participation in combustion) and fire resistance (mechanical resistance, smoke emission and thermal insulation).

Both are determined by the characteristics of each component and / or material that constitutes the raised floor. The parameter of the fire resistance indicates the quality and the behaviour of the raised floor in case of fire and determines the values that guarantee, above all, the safety for people within that environment. The strict test conditions that determine this parameter identify the minimum time in which one of the conditions measured (decrease of the declared resistance to loads, emission of smoke between the panels and temperature rise of the floor in the presence of fire underneath it) becomes evident. Nesite raised floors fully meet the fire resistance required by the regulations.



Underfloor air distribution

The gap that is generated between the supporting surface of the structure and the bottom of the panels forms a plenum used for the underfloor air-conditioning distribution, a system that has always been used in data centers or server rooms, where specific cooling needs must be guaranteed because of the equipment installed; this system can also be used in office buildings, in particular in open spaces and highly reconfigurable ones, where raised floors are particularly suited for housing cables and installations of any kind in the space underneath the floor. To avoid loss of pressure of the airflow blown into the subfloor, it is essential that the panels are produced with the utmost precision, in order to ensure the best joint between the panels, while remaining perfectly movable and repositionable.



WHY CHOOSING NESITE?

The choice of a raised floor must be guided by parameters of performance and safety that cannot be evaded. The use of the most modern production technologies, of materials with very high features and a strict quality control of the finished product, make NESITE the ideal partner for the choice of a raised floor. A partner who can provide a complete service: from the first proposal and the possible technical advice, to the laying of the last panel. Quality of service, performance and security guaranteed by over 50 years of experience worldwide.

Competence and passion

The quality of the product depends not only on the materials used but on a number of factors, such as the technical competence, the ability to understand the specific needs of the customer and to provide a reliable technical solution to any request, the knowledge and care in working the finished product: all of these make the Nesite proposals a reference in the world market. The prestigious installations of the highest aesthetic and architectural value realized over the years confirm this point. A talented production reached by NESITE thanks to the great teamwork of a close-knit staff, led by high professionalism and passion.

Know How

Choosing a Nesite raised floor means taking benefit from the experience of a leading company, committed to the highest quality of its products for more than 50 years. An experience that is evident in every aspect: from the technical advice based on the result of real experiences, to the management of the various issues of product management onsite. From the development of the Italian service industry in the 60s to the big and prestigious international projects of our time such as the ITCC in Riyadh, NESITE has always known, and still knows, how to manage your projects with the reliability that only a competent partner can provide.

Security

The raised floor Nesite meets the requirements of EN12825 regulation, with particular attention to the load capacity and to the fire reaction and resistance. Security is definitely the primary objective that NESITE aims at, when proposing its raised floors. An indispensable plus.



Quality



NESITE produces in Italy, following the strictest criteria. The construction precision, the excellence of the materials and the meticulous attention to details are the elements that determine the unrivalled technical and aesthetic characteristics of the product and give customers an excellent result. From this, depend the ease of installation, the accuracy of the joints between the panels, the high aesthetic result, the acoustic comfort, the safety in case of fire: elements that have always been the subject of deep research by NESITE.

Creativeness



NESITE can examine even the most original requests to implement a raised floor. Experience means security of the proposal, and NESITE is always available to apply the creativity that often makes the difference. In recent years, NESITE was preferred to other manufacturers primarily in raised floor applications with original technical and aesthetic characteristics, which still must ensure reliability and durability. This is made possible by the irrefutable experience, professionalism and expertise of the NESITE team.

Style



The raised floor NESITE is made in Italy and designed with cutting-edge stylistic solutions to meet the most demanding technical and aesthetic requests for the most prestigious projects.

ACOUSTIC INSULATION

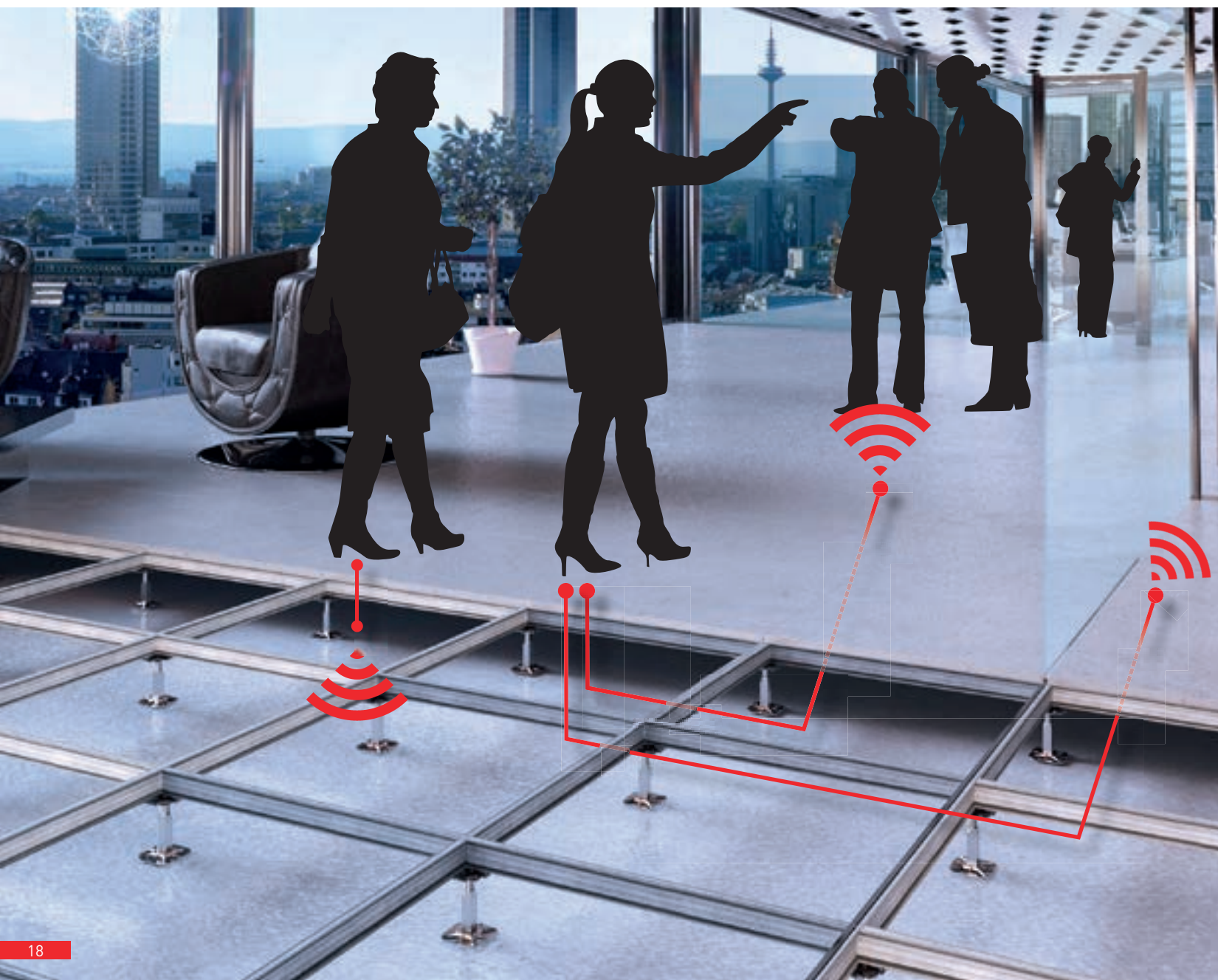
The various combinations of panel, structure and top finish type provide the widest range of solutions to meet the most diverse requirements of sound insulation.

The **UNI EN ISO 10848-2: 2006** regulation describes the measurement methods used when testing the acoustic transmission to one or more components in the building, in the different directions. The measurement methods described in the standard relate to light building components, such as raised floors. The transmission of noise from one environment to another can take place simultaneously both through the sample under test and a possible gap (under the floor).

The measured parameters may be used for comparing different products, or to establish specific requirements, or for the insertion in the models and in the prediction calculations.

In order to give a solution to the problem with simplicity, ease of installation and efficiency, Nesite proposes the installation of an acoustic pad at the base of the structure.

A simple and inexpensive solution that maximizes the sound insulation performances of the raised floor Nesite, significantly lessening the footfall noise and thus increasing the comfort in the room.



ELECTRICAL RESISTANCE

Static electricity is a natural phenomenon which often occurs in the form of electric shock when a person get in contact with metallic parts (ex. handles) after walking on non-conductive surfaces. This type of electric discharge is not detrimental to the majority of people, yet it causes a discomfort that may have negative consequences on the efficiency of the people and the equipment within the environment. For these reasons, the phenomenon of static electricity must be controlled and avoided as much as possible.

The electric charge of static electricity is generated by the movement of substances and by their separation. The resulting voltage depends on the humidity of the air. Dry air can cause an increase in static electricity while humid air lowers its generation. Some electronic components are extremely sensitive to such events, and a discharge of only 30V is enough to destroy them or cause serious malfunctions (unacceptable for computers, medical devices, etc.).

The control and the dispersion of static electricity can be achieved through the choice of appropriate materials, even if they cannot be eliminated totally. However, the conditions to avoid any danger to persons and objects must be guaranteed. To prevent static electricity from building up, becoming large enough to cause an electric discharge, it must be discharged to the ground at the very moment it is generated. For this purpose, the raised floor must ensure the least possible resistance to electrostatic discharge.

The quality of this performance depends exclusively on the characteristics of the material of the raised floor system.

The electrical resistance is measured in ohms.

Table of the electrical characteristics of materials.



Surface resistivity (ohm)	Electric Qualities	Typology	Notes
$10^{12} \div 10^{15}$	-	Insulating	Materials not suitable for static control. They are characterized by a HIGH Electrical RESISTANCE, i.e. LOW CONDUCTIVITY. This group is composed of many products based on PVC and textiles.
10^{11} 10^{10}	Sufficient	Physiological antistatic	Materials that do not generate nor accumulate significant electrostatic charge. Characterized by a speed of dissipation too slow for many industrial applications. Compatible to the human body.
10^9 10^8 10^7 10^6	Good	Dissipative antistatic	HIGH CONDUCTIVITY (Low Resistance). Materials with high electrostatic control, suitable in many fields of application.
10^5 10^4 10^3	Very good	Conductive	VERY HIGH CONDUCTIVITY (VERY LOW RESISTANCE).
10^2 10^1	Maximum	Highly conductive	Generally metallic.

FIRE INSULATION MEANS SAFETY

Fire safety standard EN 13501

In case of fire under the floor, it is vital to ensure the time necessary for the safe evacuation from the affected area. The time of escape for the people inside the building depends entirely on the quality of the materials chosen for the construction of the building.

For this reason, the EN 13501 European standard gives particular importance to the fire resistance of raised floors, i.e. its ability to ensure the maintenance of its performance in the presence of fire, for a predetermined time.

In case of fire, the raised floor system must not, in any way, participate in the combustion; the main parameters for the correct evaluation of its resistance to fire are:

- **R: the resistance, the ability of the system to retain its declared mechanical strength.**
- **E: the emission, the ability to avoid outputs of fumes, vapours, hot gases and flames between the panels**
- **I: the thermal insulation, the ability to insulate the temperature of the upper face of the system as long as possible**

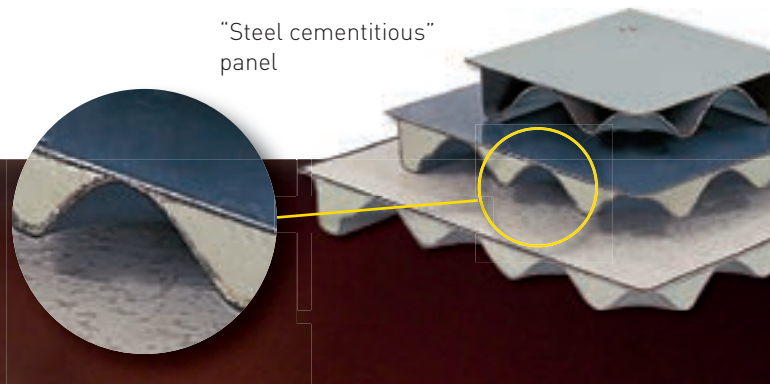
The parameters R and I depend on the quality of the materials used in composing the system while the "E" factor depends on the precision of the panels during the production: Nesite's 50-year experience is a guarantee of quality for this.

One of the most commonly used raised floor systems in the world is surely the one encapsulated in steel sheet, i.e., a chipboard or calcium sulphate core totally wrapped by a steel sheet of a varying thickness; among these, there is the Steel Cementitious version, with cementitious core.

These panels, by their shape, allow the contact between the metal sheet of the lower part and the walking surface. In case of fire under the floor, the flames touching the bottom of the panel will rapidly increase the temperature of the metal sheet of which it is composed. As steel is a very good heat conductor, and being the panel totally wrapped by metal sheet, the high temperature of the bottom of the floor (even above 1000 °C) will reach in a few tens of seconds the top surface. In these conditions, the evacuation of the areas involved in the fire becomes really problematic and, in more complex cases, impossible.

Calcium sulphate panel
34 mm thick

"Steel cementitious"
panel



NESITE AND GREEN BUILDING

LEED is a certification program developed by the **U.S. Green Building Council (USGBC)** to classify a building (both commercial and residential) according to its level of eco-sustainability.

The goal of the LEED is to promote an approach to sustainability by recognizing the performance of buildings in terms of energy and water savings, reduction of CO2 emissions, improvement of the ecological quality of the interior materials and resources used, quality of the project and site selection.

A LEED-certified building acquires therefore a higher value on the market, as it is a building with great benefits, first of all the cost savings related to energy consumption.

The system is based on the allocation of 'credits' for each requirement; the sum of the credits is the level of certification: **PLATINUM** (more than 80 points scored by the building), **GOLD** (60-69 points), **SILVER** (50-59 points), **CERTIFIED** (40-49 points).

Another environmental assessment protocol is the **BREEAM** (BRE Environmental Assessment Method), which establishes the environmental certification class of the building through a scoring system similar to the LEED.

The **raised floor** is an element that gives a huge surplus value to the buildings for the benefits it offers and its use contributes to obtain LEED credits.

Nesite, thanks to the quality of its products made according to environmental sustainability criteria and with certified materials, has contributed to the certification of some prestigious projects such as the Christchurch Civic Building in New Zealand (certified Leed Platinum) and the Wilberg Atrium in Norway (certified Breeam Class A).

Choosing Nesite floors means choosing a **product that complies** with the LEED/BREEAM requirements and especially interacting with a company able to adequately respond to the requests of those involved in a LEED or BREEAM project; our team of experts is able to offer a **mapping** of the products in order to determine the credits that will contribute to the final score of the building