

Testing and site inspection.

Before starting the installation of the sports flooring elements make an inspection and check the following site conditions with proper means:

- Access doors and windows have to be installed.
 - Make sure there are no rising damp infiltrations from the concrete.
 - Humidity within concrete slab should not exceed 2% (tested through electronic hygrometer). If there's doubt in the run values make a test with calcium carbide hygrometer – ambient humidity should be between 45% and 60%.
 - Ambient temperature should not be lower than 12 C°.
 - Make sure to perform a test on the concrete consistency as well: it has to be compact.
 - Verify the compliance with building regulations, which require joints and sheath between load-bearing slab and concrete which has to be at least 7 cm (check with foreman or project manager, usually mentioned on the table at the entrance of the working site).
 - Check the flatness of the slab with a straight edge of 2 meters. In case the slab is not perfectly flat use a self-leveling material such as Ultra Plan or similar to achieve the required value.
- In case of floor heating, it has to be pre-tested and activated in temperature for at least two weeks (even in case of installation during summer season).

Checking and inspections are essential for a good result with a high-quality sports parquet floor.

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Rules and verification methods prior to installation

It's always better to have a detailed inspection before the installation, in order to check if conditions are ideal. Parquet is affected by moisture and we need to proceed as follows.

First thing to do on site is to verify that either doors and windows have been installed, building work and systems are completed; the sports parquet floor is the last item to be installed before other equipment.





calcium carbide hygrometer



Eletronic Hydromette



For **SEICOM sports parquet floors** the most important value to test on the concrete is humidity, which has to be 2 % as set by installation plan.

For calcium carbide measurements we take a piece of material

SPORTS PARQUET FLOORS

Humidity within concrete slab

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– ambient humidity should be between 45% and 60%.

Humidity detected by electronic tools may often leave doubts, so we shall make a test with a calcium carbide hygrometer (definitely much more precise method).

A further step forward for the industry of parquet floors was made by the National Institution UNI: in September 2010 there was the release of the technical performance regulation UNI 11371: “Concrete slabs for parquet and wooden floors – Properties and performance characteristics” which – as written within paragraph “purpose and application scope” – sets properties and performance characteristics relevant to concrete slabs or special binder and calcium sulfate; all of them are intended for installation by gluing parquet and wooden floors.

The **SPORTS PARQUET FLOORS** FOR GYMS are floating; the standards describes in details installation on the following kinds of slabs:

- Not adherent (the so-called acoustically separated)
- Floating
- With heating/cooling system
- Adherent

To ensure the expected performance, all slabs should be realized by inserting a vapor barrier between slab and screed, because the slab should be protected from moisture rising from underlying layers, water condensation etc.

Humidity detected by electronic tools may often leave doubts, so we shall make a test with a calcium carbide hygrometer (definitely much more precise method).

For calcium carbide measurements we take a piece of material (as much representative of the slab characteristics as possible), better if taken from the bottom layer; this should be done with a chisel, avoiding drills that may alter the sample.

The portion of material is then crumbled with proper tools avoiding manual contact.

This material shall then be weighed, placed into the instrument together with the calcium carbide phial. It's then necessary to wait for manometer outcome in 8 / 12 minutes.

It's always better to check at least two points of the surface: one close to a wall and the other in the central area; run more tests in case of doubt or too many different values.

During summer season, a medium quality concrete slab with a thickness of 8 cm needs about 3 months to achieve maturity and drying to a value of 2%, an average time of 10 days for each cm of thickness. During winter season drying time gets longer, sometimes it's better to use slabs with additives that speed up the drying, even though with higher costs.

FLATNESS

Verification with rigid straight edge of metal section - 2 meters long – placed on the slab in any direction.

- Measurement has to be repeated at least in 5 positions every 36 sq m of surface;

SOLIDITY

The concrete has to be solid and homogeneous on the surface and throughout the whole thickness.

- Verification with a 750 g mallet, beat hard on the concrete;
- There haven't to be any prints, crumbling surface or dust.

STRENGTH

Evaluation of the resistance to stress , parallel to the laying surface, measured according to UNI 10827 provisions.

- For surfaces ≤ 20 sq m: four measurements in different positions (average value given by two measurements left after removing maximum and minimum value).
- For surfaces > 20 sq m: ten measurements in different positions (average value given by eight measurements left after removing maximum and minimum value).
- Average admitted resistance: $\geq d_i 1,6 \text{ N/mm}^2$
- Minimum value of resistance admitted of single useful measure: $\geq d_i 1,2 \text{ N/mm}^2$

In case these tests and inspections have negative outcome we can intervene: chemistry helps us with leveling, waterproofing and consolidating products. Obviously these interventions have to be planned with the director: there often is a cost increase and a delay in the installation.

In the event of really humid slabs we can use specific waterproofing products; excellent products are easily available on the market (Mapei, Kerakoll, Tover, etc.). Intervention needs to be done when the concrete, once dried, shows a residual humidity higher than the values set in the table about concrete slabs based on special binders, but not higher than 5%.

For SEICOM sports parquet floors – that are always floating – the most important value to test on the concrete is humidity, which has to be 2 % as set by installation plan.

Another important element is flatness, that in case of systems with mattress has to comply with the standards; verification through a rigid straight edge metal section – 2 meters long – placed on the concrete in any direction, range $\pm 2 \text{ mm}$.

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