

STICKING WOOD FLOORING ON RAW CONCRETE FLOORS (UG 11)

WHAT SHOULD BE CONSIDERED WITH CONCRETE?

When installing parquet on concrete floors, a number of special features need to be taken into account in comparison to laying it on screeds:

- ✓ Concrete contains a number of additives which are likely to accumulate on the surface.
- ✓ The presence of after-treatment agents that have been applied to the fresh concrete and can reduce the adhesion of installing materials is to be expected.
- ✓ Due to its higher density and greater thickness, concrete needs much longer to dry than screeds. The moisture balance (equilibrium moisture) is reached only after several years.
- ✓ A professionally installed moisture barrier must be installed on raw concrete floors that come into contact with the ground in order to prevent pressing moisture from being drawn in.
- ✓ Water vapour diffusion can occur in floor slabs if there is a vapour pressure gradient.
- ✓ Concrete floors are generally denser and less absorbent than screeds, especially when the surface has been heavily smoothed. Vacuum concrete in particular has a smooth hard surface. The smooth surface and low absorbency may reduce the adhesion of primers and adhesives.

MEASURING THE MOISTURE CONTENT OF CONCRETE:

- ✓ The test recognised for mineral screeds according to the CM method is not feasible for concrete, as concrete contains coarser aggregates.
- ✓ The moisture content must be determined gravimetrically as a percentage by weight using an oven-drying method. The sample must be taken through a core bore, preferably through the entire cross-section.
- ✓ As an alternative measurement to the oven drying method, the moisture content can be measured by the KRL method (the German abbreviation KRL stands for the corresponding relative humidity of the air).

At the same time as the moisture measurement, it must be ensured that the construction rules out the possibility of moisture being drawn in.

SUBSTRATE PREPARATION:

- ✓ Before applying primers or adhesives, the concrete surface must be carefully prepared. The uppermost layer must be removed by shot blasting or milling and then vacuumed off.
- ✓ Due to their very good penetration and adhesion properties, epoxy resin primers can also be applied to concrete surfaces that have only been cleaned by vacuuming and then sanded off.
- ✓ If no pressing moisture is drawn in, residually moist concretes with a water content of up to 5% by weight can be coated by applying several coats of a vapour-retarding epoxy primer and after this, floor installation is possible.

INSTALLING WOOD FLOORING

The question of to what extent and under what circumstances wood flooring can be stuck directly to the sanded epoxy resin primer using dispersion adhesives requires a differentiated answer. As the epoxy resin primer is a dense substrate, the water components contained in the adhesive are completely absorbed by the wood and result in an increase in the wood moisture content. This in turn leads to a change in the dimensions of the wood (due to swelling), which is noticeable in an expansion (displacement) of the parquet surface. In addition, the hardening of the adhesives is noticeably delayed. We therefore consider it necessary to use a cement-based levelling compound, as this creates an absorbent substrate.

In view of this situation, if you do not wish to use a levelling compound, we recommend the use of water-free reactive resin adhesives which set through a chemical reaction which does not depend, for example, on the absorbency of the substrate.

TECHNICAL DATA SHEET

PROCEDURE

Substrate testing	<ul style="list-style-type: none"> ✔ Moisture content using CM measurement, gravimetric methods or via the moisture content in the building material ✔ Presence of a vapour barrier on the underside of concrete ✔ Sufficient surface strength ✔ Soiling or dirt ✔ Evenness ✔ Porosity, roughness and grip of the surface ✔ Cracks in subfloor 				
Substrate preparation	<ul style="list-style-type: none"> ✔ Remove uppermost edge zone by milling or shot blasting ✔ Clean the substrate by vacuuming to remove dust and loose particles 				
Primer	VEP 195 2 coats, last coat sprinkled with sand	VEP 195 2 coats, last coat sprinkled with sand	WEP 180 At least 2 coats, last coat sprinkled with sand	WEP 180 At least 2 coats, last coat sprinkled with sand	None
Levelling compound	XP 40		None		None
Adhesive(s) depending on type of wood floor	SPU 460/555/570 M2A 720 PUK 446/455 SMP 950/930	PUK 446/455 SMP 930/950 SPU 460/555/570	SPU 460/555/570 M2A 720 PUK 446/455 SMP 950/930	PUK 446/455 SMP 930/950 SPU 460/555/570	SMP 950 SPU 570 Both with STAUF notched trowel no. 12
Pros and cons:	<ul style="list-style-type: none"> ✔ Due to the good penetration properties of the epoxy resin primer, the upper screed edges are consolidated. ✔ A closed primer layer is ensured by applying multiple coats ✔ Time-consuming due to several work steps 		<ul style="list-style-type: none"> ✔ Due to the good penetration properties of the epoxy resin primer, the upper screed edges are consolidated. ✔ A closed primer layer is ensured by applying multiple coats ✔ Time-consuming due to several work steps 		<ul style="list-style-type: none"> ✔ Formation of a closed, dense adhesive layer ✔ Vapour damp primer and bonding in one single process ✔ Tightness depends on careful processing ✔ Time and cost savings ✔ Due to the thick adhesive layer, the parquet "floats" during installation.

The information provided above corresponds to the current state of the art. The information is purely indicative and non-binding, since we have no control over the installation process and because the actual installation conditions on site vary. Therefore no claims can be made based on this information. The same is true for the commercial and technical advisory services that are provided without obligation and free of charge. We therefore recommend carrying out sufficient testing of your own in order to determine whether the result is suitable for the intended purpose. 22112018