

INSTALLING WOOD FLOORING ON CALCIUM SULPHATE (SELF-LEVELLING) SCREED (UG 8)

WHAT ARE CALCIUM SULPHATE (SELF-LEVELLING) SCREEDS?

Calcium sulphate-based screeds are screeds with a binder consisting mainly of calcium sulphate (CaSO₄). Calcium sulphates used include natural anhydrite, synthetic anhydrite, anhydrite from FGD gypsum and alpha hemihydrate. After the addition of water, calcium sulphate binder acts by forming calcium sulphate dihydrate crystals. Sand or grit of varying coarseness or granular anhydrite are used in addition to various additives. The screed known as calcium sulphate self-levelling screed has conquered a considerable market share.

PROPERTIES OF CALCIUM SULPHATE (SELF-LEVELLING) SCREEDS:

Due to the low shrinkage of calcium sulphate (self-levelling) screed, larger areas can be installed without joints.

The self-levelling pumpable fluid screeds can be installed quickly by the screed installer, automatically level themselves and are generally distinguished by good evenness.

Calcium sulphate is not a hydraulic binder and is not moisture resistant when cured. Permanent exposure to moisture usually leads to the destruction of the crystal structure.

A calcium sulphate (self-levelling) screed can usually be walked on quite early, but the drying time until it can be covered depends very much on the ambient climatic conditions and the thickness of the screed.

The strength of the calcium sulphate (self-levelling) screed is strongly influenced by the degree of drying: "The drier the screed, the higher the strength."

CHECKING WHETHER CALCIUM SULPHATE (SELF-LEVELLING) SCREED IS READY FOR COVERING:

Due to the large number of calcium sulphate (self-levelling) screed manufacturers and the products available with their associated differences in appearance (e.g. surface quality, colour, grain size), it is sometimes difficult to immediately recognise a calcium sulphate (self-levelling) screed as such on the construction site and to evaluate it accordingly. In this context, it is important to point out that the evaluation of the surface and the corresponding substrate preparations play a decisive role

in achieving damage-free parquet bonding. In addition to the universal testing requirements according to DIN 18356, some special features need to be observed when installing parquet on calcium sulphate (self-levelling) screed:

The residual moisture determined by the CM measurement must not exceed 0.5 CM% ($\leq 80\%$ RH) for subsequent parquet sticking and 0.3 CM% ($\leq 75\%$ RH) for underfloor heating. The sample for the CM measurement should be taken from the lower screed area.

The surface condition and strength are assessed using the grid scratching test. If there are indications of a hard shell after this test, an additional hammer impact test should be performed.

Calcium sulphate self-levelling screeds must always be grinded or machine-brushed. The surface must then be thoroughly vacuumed to remove all dust. We recommend the same procedure for conventionally applied calcium sulphate screeds. If the surface consists of thin, firm shells or zones of low strength, these must be sanded down to a firm screed structure and visible aggregate using suitable machines (e.g. 16-grit grinding machine).

If solvent-free dispersion parquet adhesives and dispersion primers are used, check the screed surface to ensure it is sufficiently absorbent. With a very dense and less absorbent screed surface, penetration by a dispersion primer and the adhesion of the dispersion adhesive are significantly reduced. If the surface appears to have low absorbency, it is therefore necessary to use a levelling compound.

TECHNICAL DATA SHEET

INSTALLATION PROCEDURE FOR INSTALLING PARQUET ON CALCIUM SULPHATE (SELF-LEVELLING) SCREEDS

Substrate tests	<ul style="list-style-type: none"> ✓ Check for homogeneous structure (homogeneous structure over the entire thickness) ✓ Check residual moisture by means of CM measurement ✓ Check for dirt ✓ Check absorbency ✓ Check surface condition and strength ✓ Check that the surface is smooth and level 	
Substrate condition	Type 1:	Firm, open-pored (highly absorbent), non-slip surface
	Type 2:	<ul style="list-style-type: none"> ✓ Easy to grid ✓ Dusty, floury surface or slightly shiny sintered layer
	Type 3:	<ul style="list-style-type: none"> ✓ Low absorbency ✓ Hard, smooth shell

	Adhesive system	Dispersion adhesive		Reactive resin adhesive
		STAUF M2A types		STAUF PUK types STAUF SMP types STAUF SPU types
Type 1	Preliminary work	<ul style="list-style-type: none"> ✓ Grinding or mechanical brushing ✓ Thorough vacuum cleaning 		
	Primer	STAUF VDP 130		
	Levelling compound	--1)		
Type 2	Preliminary work	<ul style="list-style-type: none"> ✓ Grinding to fixed grain Thorough vacuum cleaning 		
	Primer	STAUF VEP 195 + Quartz sand	STAUF WEP 180 + Quartz sand	STAUF VEP 195 STAUF VPU 155 S STAUF WEP 180
	Levelling compound	STAUF XP 20		
Type 3	Preliminary work	Mechanical removal of the hard shell Thorough vacuum cleaning		
	Primer	STAUF VEP 195 + Quartz sand	STAUF WEP 180 + Quartz sand	STAUF PUK types STAUF SMP types STAUF SPU types
	Levelling compound	STAUF XP 20		

1) Levelling compound required for uneven substrates (see technical data sheet), then prime, for example, with STAUF VDP 130 or D 54.

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 laying process and because the actual laying 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.