

Information about testing and preparation of the substrate and for the System selection before installing a Plastifloor® soil

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Before installing a Plastifloor® coating system a number of important questions need to be clarified to ensure that the new floor can be processed properly and then remains stable over time. In addition to the examination of the substrate, its ability to inhibit it is also important to choose the right coating system to achieve a long durability. Ultimately, the subsequent cleaning and maintenance is important that you have in the long term enjoyment of Your new Plastifloor® floor. This raises the following questions in advance:

What requirement does the client / user need to the new floor?  
Is the requirement like strength, bond tensile strength, (residual) moisture and, flatness?  
What capacity can the substrate to be coated load?  
What is the appropriate Plastifloor® primer system?

## Checking the substrate

### strength

The substrate must have sufficient strength, because coatings and coverings of Plastifloor® resins cannot take any load distributing function because of their coating thickness, especially if there are no membranes installed. You can determine the compressive strength of concrete and composite screeds with the bounce hammer (Schmidt'scher Hammer). And you can test the surface hardness by scratching with a steel nail or through the pull-off test with the Herion device. The compressive strength should be for industrial floors about 25 N / mm; the peel strength about = 1.5 N / mm. Only if both parameters are fulfilled, the successful installation of a floor coating is possible.

### adhesive

### test

Before beginning work you have to take some samples on cleaned surfaces at different locations. For this you can take "adhesion testers" (for example: Schenk-Cernosin, Herion). As an adhesive for the „plunger“, we recommend Plastifloor® 112. If there is no tester available, it is recommended to perform a quick test. You can do this with Plastifloor® 112, which is mixed with hardener powder. With half of the resin you have to prime film-forming and with the rest of the resin and sand (0,7-1,2 mm) you have to produce flowable mortar. On half of the primed surface you have to apply this about 3 mm thick. After tack-free hardening samples are pried with hammer and chisel. The surface of the substrate has to stick fully on the resin layer. The primed surface must be tack-free hardened and cannot be separated by scraping with a knife or screwdriver.

### (Rest) -moisture

Cement screeds and concrete surfaces are only able to coated, if they have an equilibrium moisture content about 3% after installation. In general, this is not the case in 28 days. Restrictions due climatic conditions can be possible (for example: subtropical to tropical conditions). In addition, the substrate must be sufficiently protected against rising damp and ground water (capillary moisture) e.g. be sealed by a gravel filter coating or horizontal barrier (foil). Concrete barrier (waterproof concrete) and lock bar are no moisture penetration because they are vapor permeable. Moisture measurements can be performed by kiln drying, CM tester and appropriate electronic measuring instruments. Rising damp can be tested by taping an approximately 1 m<sup>2</sup> large area with a thick polyethylene film. Is colored the taped area dark within 24 hours by condensation, so it is to be expected with rising damp. If this is the case Plastifloor® floor coatings are only applied when initially a vapor barrier is laid out by Plastistone® 127. If the bottom still has a higher equilibrium moisture content than 3% and their exist an on-site vapor barrier, you have to use Plastifloor 113 or Plastifloor 118 as a primer.

### flatness

The thin Resin coatings can't compensate for any unevenness in the subsurface. Unevenness can be compensated by levelling with Plastifloor® 510 resin + B2 or C2 mortar mixtures.

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## heights

With the Plastifloor® mortar system 050/051 complete resin screed layers can be re-installed, which can be coated immediately after hardening.

## contamination

Plastifloor® resins adhere to contaminated ground only slightly or not at all. Therefore has to, depending on the type of contamination, be dry or wet cleaned until full open porosity. Oily and greasy surfaces can be cleaned with the use of special cleaners like scrubbers, high pressure lamps and flame cleaning. Substrates like bitumen, tar or colored are fully cleaned by milling or radiation before the new Plastifloor® floor can be laid.

## Soft and removable stains

Cement slurry, cement shells, mortar or paint residues must be completely removed before priming by prying, milling, blasting or grinding to allow good adhesion of the new Plastifloor® soil

## Absorbency of the substrate

The primer anchors themselves firmly to surfaces of concrete or mortar, they must in the capillary / pore structure of the substrate can penetrate that this must be in accordance with absorbent. Particularly high absorbency of the surface indicates low strength. It is therefore essential to soak with Plastifloor® 114 before priming with Plastifloor® 112, 113, 115 or 118.

## joint

Joints with low movement tendency must be taken. You are run straight, be uniform in width and have fixed joint edges. Damage to the joint edges shall be repaired with Plastifloor 050/051, the joint can be sealed with Plastifloor® 430 after inserting a joint round cord. Trafficable joints are to be treated with profiles, thus strengthening the joint surface is ensured. Fixed joints can be filled and coated in most cases after priming.

## cavities

Hollow lying areas, especially those who have cracks are to be filled with Plastifloor® 510 + C2 mortar mix.

## cement

The appropriate methods for this, depending on the nature of the substrate: milling, sand blasting, shot blasting or flame

## cement screeds

Cement, especially hard-aggregate floor screed, may have a dense surface so that primers can hardly penetrate. This surface has to e.g. be made open pore by shot blasting. It is important to pay attention to a closed-pore primer. The wet primer lightly sprinkled with quartz sand 0.6 - 1.2 mm, so you can check if you have to prime twice.

If the primer Plastifloor® 112 forms a shiny, closed-pore layer and the sand can't be rubbed away by hand, so you can coat further. But if the surface is partly matt and the sand rubs off by hand, then you have not sufficiently primed. You have to prime a second time!

## Anhydrite - and magnesite floors

Anhydrite - and magnesite screeds are not moisture resistant. For coatings with Plastifloor®- resins, which are impermeable to water vapor, the moisture penetration and the penetration must be excluded structural parts adjacent safety. The risk that not only the coating dissolves at ineffective sealing, but that these screeds are destroyed themselves in their upper zones. Water vapor impermeable coverings on anhydrite and magnesite screeds have not been successful in practice.

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## Mastic asphalt screeds

Mastic asphalt screeds should be coated indoors only because of their considerable responding to temperature variations. Coatings should be performed with flexible Plastifloor® resins as Plastifloor® 332 or 800 Plastifloor® because mastic asphalt can deform under load and under changing temperatures and loses its strength. Testing the adhesion and the strength of the substrate is compulsory. Use Plastifloor® 116 primer to prime bitumen and asphalt substrate.

## ceramic coverings

Ceramic coverings must be securely attached to their substrate. To achieve sufficient adhesion to ceramic tiles with Plastifloor® resins whose surface (e.g. sand blasting or diamond grinding) must be pre-treated by mechanical roughening (adhesion test required). Ceramic substrates should be primed with Plastifloor® RU 700 with the additional use of the adhesion promoter HP. Caution due to possible enclosed moisture in joints or tiles! This moisture can later lead to vapor pressure and bubble formation as well as the complete replacement of the new Plastifloor® soil. Damp substrates must be dry before coating by suitable measures or there are vapor control layers provide.

## metal

For this, you have to use Plastifloor® 332 and adhesive agent HP. Metal surfaces should be coated with Plastifloor® 430 (inside) TK, Plastifloor® 332 (inside) or Plastifloor® 800 (outside)

## Suitable methods for surface preparation

Possible substrates for the laying of a new Plastifloor® floor are substrates of concrete, cement screed, asphalt (only indoors) ceramic tiles; Wood, fiberboard, cement boards and steel structures. The substrate must be dry, workable and free from separating substances such chemicals, grease and oil. The substrate to be coated must be edited before starting the coating work according to local conditions by diamond grinding, milling or shot blasting and cleaned free with an industrial vacuum cleaner. Please note that you have to read the detailed instructions for use the individual product data sheets.

**Selection of an appropriate coating system as an overview, detailed processing instructions can be found in the individual product data sheets.**

The individual Plastifloor® resins can be combined to the capacity of the new ground depending on the nature of the substrate and the requirements of the client / user. This combination is always object-specific: cement base? Screed? Wood?

Underground cement? Screed? Wood?

yes:	porous / absorbent strong	Plastifloor® 114* crack sealer
dry?	yes ->	Plastifloor® 112* primer
	no till 5% ->	Plastifloor® 113* primer
	no higher 5% ->	Plastifloor® 118 primer

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no:

<b>metal?</b>	yes	->	Plastifloor® 332* + adhesive agent HP as a primer
<b>ceramic?</b>	yes	->	Plastifloor® RU 700*+ adhesive agent HP as a primer
<b>asphalt? Cracks?</b>	yes	->	Plastifloor® 116
	yes	very fine cracks->	Plastifloor® 114* as crack sealing and sealer
		large cracks (> 3 mm)	Plastifloor® 510* + s/l Filler (1:1) after priming
		joints ->	Plastifloor® 050/051 for repair the flanks
	joint filling	inside colored outside colored	Plastifloor® 332* Plastifloor® 332* + pigment paste Plastifloor® 800* Plastifloor® 800* + pigment paste

### Outbreaks hollow points?

Yes -> partial (easy to repair)

Plastifloor® 050/051 mortar mixture

➔ Large outbreaks/grade inside

Plastifloor® 510\* + B2 (fine) or C2 (coarse)

### Cracked, Uneven ground, different materials, vibration caused by machines

**Yes -> Install membrane!**

inside: yes: ->

Plastifloor® 332\*  
1:1 with s/l Filler  
lightly sprinkled with quartz  
0,6 – 1,2 mm

outside or frozen (-20°C) yes: ->

Plastifloor® 800\*  
1:0,5 - 1:1 with s/l Filler  
lightly sprinkled with quartz  
0,6 – 1,2 mm



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			color	+ color paste
	matt?	-> yes	2. sealer	use hardener/M
if solvents attacking		->		Plastifloor® 523
<b>Wet, non-slip, thermal stress</b>				
	yes	->	transparent	Plastifloor® 526*, clear
			color	+ color paste
	matt?	-> yes	2. sealer	use hardener/M
if You expect temp. higher than 80°C/176°F		->		Plastifloor® 527
outside	yes	->	transparent	Plastifloor® 528*
			color	+ color paste
	matt?	->	2. sealer	use hardener/M
<b>Elastic joints</b>	<b>inside</b>			Plastifloor® 430*
	<b>outside</b>			Plastifloor® 800*
<b>trafficable joints</b>				install joint profile
<b>Install cove</b>				Plastifloor® 540/H*
				1:2 with Colorquarz or B2
Separation between the wall - and the floor?->				Install two-part profile system
thin resins? Only at temperatures around 0 ° C/ 32°F		->		Plastifloor® 440*

To work under 0 ° C/32°F ? yes -> accelerator with 101, except for sealers. Please read the product data sheet!  
 In general: Read the product data sheets, before processing with the Plastifloor® resins, please note mixtures and hints and test yourself before using! Stir well before using the resins. For technical support call: +49/3741/5583-0 or +49174/3162870

\*) each constructions site are different, that is why you have to check everything before. Geometry, number of employees, number and location of fixtures, temperature, light conditions can affect different mixing ratios of the individual components and the quantity of hardener Compliance with occupational safety regulations! No fire, no smoke, earth drums! Supply fresh air! Products not use in direct sunlight! Products not dilute with unsuitable thinners!

data concerning our products and devices as well as concerning our data and procedures are based on an extensive research work and an application technology experience. We obtain these results, with which we do not take over adhesion going beyond the respective single contract, in word and writing after best knowledge, reserve ourselves we however technical changes in the course of the product development. Beyond that our application technology service stands when desired for large consultation as well as for co-operation with the solution manufacturing and application technology problems for order. That does not relieve the user however to examine our data and recommendations before their use responsible for the own use. That applies - particularly for deliveries to foreign markets - also regarding the keeping of patent rights third as well as for applications and procedures, which are not expressly in writing indicated by us. The case of loss our adhesion is limited to indemnifications of same extent, as they plan our general terms of delivery and sales with lack of quality.