

Stoopen & Meeûs

STUC

Manual

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## 1 Description STUC

STUC is a high quality decorative and mineral product that can be compared to a natural stone or wood with regards to its appearance, durability and maintenance. STUC can be applied on any firm, dry surface, such as concrete, screed, but also on existing tiles. Walls, tables, countertops among others can also be finished with STUC. STUC is applied in layers of less than 1 mm thick. Smooth surfaces can already be finished in two layers (total thickness  $\pm$  1.5 mm). In order to completely cover existing tiles, 3-4 layers will suffice (total thickness 1.5 to 2 mm). The view may vary from a matte, smooth to a nuanced, raw look. STUC is to be applied in successive thin layers of up to 1 mm. A thick layer of STUC will dry very slowly (over 48hrs) and is likely to show cracks when completely dry. STUC should be finished with a protective layer on all floors, walls and surfaces in wet areas).

The main features of Stuc are:

- Matte, Mineral limestone look.
- Good durability.
- Ideal for renovations.
- Interesting price proposal.
- Environmentally friendly.

We recommend that you always do a preliminary test. A sample colour system is available upon request. Our website and our Youtube site (<http://www.youtube.com/user/stoopenmeeus>), offers numerous examples of techniques and applications. Here you can find inspiration for your future projects.

## 2 Packaging

STUC comes in 4 kg and 16 kg of "basic" dry powder. The pigments are sold separately, so colour shade and intensity can be changed by adding pigments. These pigments are offered in packages of 400 gr. (1 pack per 16 kg of powder = 2.5% pigmentation). There may be 2 to 3 packs added to 16 kg of base product to obtain "deep, intense" colours. It is perfectly possible to mix various pigments to obtain a personal colour.

## 3 Advantages of STUC

- Ideal for renovations:** The fact that STUC can be directly applied on tiles in thin layers (1.5 to 2 mm in total), makes that much time, material and money can be saved. No breaking, no dust, no adjusting doors to cover differences in level with existing plumbing,....
- Many colours are possible**, see our Colour Chart STUC, The colours of the colour chart KALEI and KALK can be used as well ( see 5.3).
- A wide range of techniques are possible:** from a smooth, matte lime look to a beautiful tadelakt.
- Pleasant to work** with because of its the long open time and the odourless character.
- Hardness similar to a natural stone.
- Easy, scratch resistant finish for floors & walls.
- Seamless system for showers and humid areas.
- Also round and capricious shapes are possible.

## 4 Product range

### 4.1 StucPrimer

STUCPRIMER is a preparation for STUC FS 100 and FS 200. Ready to use, one-component, solvent free, on special dispersion based, filled with quartz sand, fast drying, non-slip surface after drying, low emissions. Regulates the absorption of the substrate.

## 4.2 STUC

### 4.2.1 STUC Granito

Stuc Granito can easily be placed very thin and evenly in layers of  $\pm 0.4$  mm due to maximum grain size. These grains also provide a good scratch resistance. The view may vary from matte, smooth to a nuanced, raw look.

### 4.2.2 STUC Deco

Stuc Deco allows easily to create certain shades such a faux tadelakt or a concrete look . The look may vary from a rough, nuanced to a smooth, glossy tadelakt look.

## 4.3 Pigments

A colour pigment is a substance that has the capacity of colouring a certain carrier. Pigments cannot dissolve but are dispersed in a carrier, in this way the pigment continues to exist as small grain. The finer the pigment is divided, the higher the colour strength.

A pigment is suitable only for a specific application, if it is stable in that application. This means that the pigment should not react with the carrier, it must not oxidize under the influence of the oxygen in the air and it must not bleach under the influence of sunlight (UV). These conditions make that not all the pigments may be used within a specific application and in many cases, there should be made additions in order to achieve a certain colour in a given application. The colours mentioned on our colour card will not suffer from the conditions described above. All Stoopen & Meeûs pigments offered for Badgeon and lime paint can be used as well with the exception of following pigments:

- MP144 Lucca
- MP145 Minos
- MP148 Lagoon
- MP149 Magma
- MP142 Acre

These five pigments are less UV and alkali resistant and / or complicate the processing.

## 4.4 Protection of the STUC

In order to protect the STUC, 4 different products are available. StucProtect and StucSoap offer protection against light, sporadic contamination. STUC is a decorative, seamless waterproof finish, but in itself is not watertight.

Without protection of any kind, STUC will become dark when it comes in contact with water and a white haze will appear. STUC can be made completely watertight with a protective layer, such as StucVernisPU or StucHardWaxOil, provided that these layers are properly applied and are repaired when damaged.

### 4.4.1 StucProtect

StucProtect is water based solvent-free emulsion for the protection of STUC. StucProtect has protective, light hydrophobic properties and is not film forming. Suitable for indoor and outdoor use. StucProtect can be removed with a high pressure cleaner or alkaline cleaner. StucProtect has little effect on the colour and gives a little shine.

### 4.4.2 StucSoap

StucSoap is a natural soap for protecting, cleaning and maintenance of STUC. The oily natural soap puts a protective film against dirt. StucSoap slightly influences the colour (light colours turn slightly yellowish, whereas dark colours darken), gives a little shine and makes the STUC feel softer.

### 4.4.3 StucVernisPU

StucVernisPU is a transparent, water soluble two-component polyurethane varnish for interior and exterior applications. StucVernisPU provides good chemical resistance and a higher abrasion resistance to STUC. StucVernis PU protects STUC from most household stains. StucVernis PU darkens some colours and adds little or no shine.

#### 4.4.4 StucHardWaxOil

StucHardWaxOil is a protection for STUC, for applications where the risk of stains and pollution is high. StucHardWaxOil protects STUC against most contaminants. StucHardWaxOil makes all colours darker and bright colours more yellow, but gives little shine. StucHardWaxOil can possibly be dyed with pigment to counter the yellowish effect.

## 5 Surfaces for STUC

STUC can be applied on all mineral surfaces, tiles, well adhering old layers of paint, MDF, worktops, sanitary shapes, etc. , provided they are stable, clean, dust free and grease free. Surfaces treated with oil, wax or soap (such as linseed oil soap), ... must always be carefully degreased.

In order to prevent differences in pressure and prevent cracking of the STUC, the substrate should be as uniform and consistent as possible.

STUC cannot be applied to metal, plastic, laminate, wooden floors or massive wood, because these materials are insufficient stable with changes in temperature and humidity.

### 5.1 STUC on sheet material

STUC can be applied on sheet material (plasterboard, waterproof MDF or Plywood, Wedi, LUX, ...) that is completely stable anchored. In order to avoid crack formation at seams, it is advised to cover the entire surface and especially the seams with reinforcing fiber. Sheet material on Metal Stud cannot be finished with STUC as this surface is insufficiently stable. Walls, floors, decorative elements in Wedi or Luxelementen should be pre-coated with an inexpensive tile. These materials are, in particular on horizontal planes, insufficient pressure-resistant to be finished only with STUC.

### 5.2 STUC on floor or wall tile

On floor tiles it can be considered to first apply a thin layer to level out the seams. A tiled floor with damaged joints should first be reinforced, e.g. with either a fiber-reinforced leveling compound or either a fiber reinforcement in a thin layer of tile adhesive. On wall tiles a permanent filler can be placed at first to equalize the joints. If necessary, a fiberglass reinforcement can also be provided.

### 5.3 STUC on polymer concrete

The dilatation joints of the concrete must be respected, but may subsequently be sealed flexible. The distances between the joints are determined by the requirements for the concrete. In advance carefully remove the curing compound (which was originally applied to slow down dehydration) and carefully remove any finishing products (such as soap, wax, etc.).



### 5.4 STUC on cemented surface

If STUC is to be applied on cemented surfaces, it is recommended to smooth the cementation. A coarse cementation or cementation which was roughened up, often exhibits a vivid design contained within the STUC. One can avoid this design by first applying a leveling layer of STUC and allowing it to fully dry out.



STUC on very uneven placed cemented surface gives many nuances

## 5.5 STUC on heated floors

STUC is only 1-2 mm thick, is composed of mineral substances, without much trapped air and will therefore conduct heat very well. The build-up of the system should be done according to the guidelines of the associated heating system. The gradual warming of the system (in 2 weeks from 20 ° C to 40 ° C) should be respected for the STUC.

**TIP:** Never place STUC on a floor that is heated, this makes the processing more difficult and may result in shrinkage cracks.



## 5.6 STUC on old floors (not isolated, open ground, ...)

STUC may not be applied directly on floors or walls where there is a risk of rising humidity. STUC must be protected always prior to any rising humidity. If this humidity is allowed to penetrate the stuc layer, it will darken and a white haze will eventually form.

# 6 Preparation of the surface

## 6.1 Preparation of the surface with a reinforcing mesh

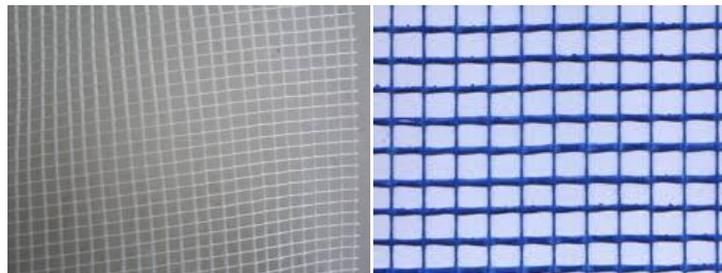
STUC is a thin (1-2 mm), hard and inflexible material, which has particularly good adhesion to the surface. STUC will cure stress free and later in anything follow the ground. This means that when there is tension or cracks in the substrate, these will also occur in the STUC.



Not every crack can be absorbed with fiberglass reinforcement. Dynamic cracks (due to instability, vibrations, ...) will always return. Small static cracks (due to settlement, shrinkage, ...) connections of stable panels, corners, transition between two different construction materials, ... can be successfully strengthened.

If the STUC is continued on different surfaces (e.g. solid walls and a floating screed on insulation) this will cause the insulation to shrink slightly and will result in a crack in the connection between wall and floor a crack. It is advisable to check out the STUC prior to cutting so this is a pretty straight fracture line. This can then optionally be sealed with a flexible sealant for natural stone The glass fiber reinforcement should always be placed under the waterproofing.

Depending on the thickness of the glass fiber reinforcement, a first layer of STUC can be applied, or in a slightly thicker layer of tile adhesive, water-resistant filler, ... .



Always make sure that, by pressing in the corner, the reinforcement does not “crack or tear” making it lose its strength. The reinforcement always has to be embedded in the material a thin layer of stuc – reinforcement – again a thin layer of stuc.

There are several cement based levelling tools or water resistant solid fillers present on the market, which can easily be used for leveling or applying a technical layer, whether or not reinforced with a glass fiber reinforcement. Please respect prescribed scope and the instructions of the manufacturer. Please note the: potential surfaces, use in wet areas, film thickness, drying, ... .

Stoopen & Meeûs advises Ardex A950 for the fast filling of (deep) slots or holes in the surface. A950 dries shrink free and tension relieved in any layer thickness and is crystallized fully after 24 hrs. Always use the prescribed primer (P82 on wood, P3, ...). To improve adhesion, before applying a thick layer first apply a very thin layer.

Floor surfaces, weir, level differences, ... can always be smoothed out with Ardex A46.

At specific surfaces please seek advice via Stoopen & Meeûs.

## 6.2 Preparation of the surface with watertight membrane

When using STUC in walk-in showers, bathrooms, ... the surface must be protected from water infiltration. If the shower is tiled already, this is sufficient for protection where the tiles and joints are in good condition. For new

construction or major renovation, a watertight membrane should be placed under directive of the local building authorities (WCTB)(TV227-03/2003 and TV237 - 10/2009).

There are several membrane seals present on the market, which comply with the WTCB directive. Please respect the prescribed application scope and the instructions of the manufacturer. Please note that: the use of suitable adhesives, a good sealing of the overlap (do not use MS-polymer), an adapted connection to the drain channel, ... .



### 6.2.1 Placing of the membrane

This requires a thin trowel of 3x3 mm and a thin granular fluidised floor adhesive (hydraulic hardening cement based glue for tiles). Apply the adhesive thinly and then press firmly on the membrane from the center to the sides so that pocketed air is avoided. The existence of air pockets is usually the cause of a too thickly applied adhesive layer, poorly pressed, a non-absorbent or wet surface or too rapid drying by heat or sun.

Use for adhesion of joint tapes, overlaps and corners a 2K adhesive based on acrylate dispersion en reactief cement poeder (type Kerdi-coll). Please never use a MS polymer adhesive to stick membrane cloth or overlaps, the MS-glue does not dry underneath the membrane.

In combination the membrane should be placed not overlapping the STUC. The placement versus pasting of nonwoven or wallpaper. Do not overlap, always place in strips. Do first the walls and then the floor area. The seams are sealed with joint tapes of the same material. . In the corners, a molded corner membrane should be used. This is to prevent the formation of blisters.

It is advisable to add an extra coat of glue (used to glue overlaps of the membrane) on top of the membrane, to overlap and smoothen out any potential air pockets.

### 6.2.2 Placing the drain

Gutters should be adapted to the application of STUC and drainage of the floor of 2% should be respected. It is important that the connection of the membrane and the gutter is placed faultlessly. The drain may only protrude 5 mm above the concrete (e.g. the thickness of the tile adhesive + membrane + tile + adhesive + StucPrimer + 2 layers STUC). A drain placed too high and insufficient drainage (< 2 cm/meters) ensure that the shower is not completely

without water and stagnant water can cause possible problems. If necessary, adjust the drainage of the level beforehand.

It is not advisable to use MDF in bathrooms, damp spaces or significant difference in temperature. More appropriate are the dry wall systems specially developed for wet rooms. When applying STUC on sheet material always use a reinforcement and then the waterproofing membrane sites.



### 6.3 Preparation of the surface with StucPrimer

StucPrimer is applied prior to the STUC for optimal adhesion and workability. The granulated StucPrimer will prevent sliding on smooth surfaces and by the removal of the suction it will facilitate the processing of STUC. The StucPrimer is applied in 1 layer with a paint roller or brush. StucPrimer will turn yellow when dry and the grain shall feel rough. If a levelling compound was first placed on existing tiles to smoothen the surface, StucPrimer should be applied to remove the suction. The StucPrimer also protects non-waterproof materials at the mixing water to STUC.

It is necessary to always respect the drying time of the surface (screed, anhydrite floor, equalization, plaster ...). Under ideal conditions, ie, a dry floor plate or brickwork, good ventilation and a little heating, can sufficiently dehydrated 1cm STUC in 1 month. For screed, anhydrite floor and anhydrite +/- 1 week drying time is calculated per cm thickness, for anhydrite is at least 1 week of drying considered. In order to exclude all risks is it advisable to always check the residual moisture content this may not exceed 1.5% for cementitious products and 0.5% for anhydrite / gypsum products. In case of doubt contact the manufacturer.

## 7 Applying STUC

### 7.1 Preparation of STUC

Add the pigment to the water and mix mechanically (0.3 L per kg of Stuc). Add the base powder to the water and leave for a few moments to minimize dust formation while mixing. Mix for 3-5 minutes, until a homogeneous mass is formed. Mélangez bien pendant quelques minutes, rajoutez ensuite la partie restante du STUC et mélangez afin d'obtenir une masse homogène.

Once mixed, Stuc remains workable for a total duration of 3 to 4 hours, depending on the atmospheric situation. If you feel that the product has become too hard to be used, then you can mix or/and add a little water. We advise you to mix the batch of product every time before starting a next layer.

Optimally, before placing the next layer, always mix the STUC equally, optional with a additional water, in order to keep the best possible processability.

**TIP:** In order to avoid pigment traces while applying, it is crucial to pay close attention to how well the pigment is dispersed in the water. The better the pigment is mixed with the water and STUC, the less chance you will have to encounter pigment traces. If you still see pigment traces in your first layer, then we advise you to leave the pigment for several hours in the water that will be used for the application of STUC.

## 7.2 Application of STUC

STUC is placed with a small stainless steel trowel with rounded corners, it is also possible to work with a larger trowel. A larger trowel will have a smoother effect, because the number of moves decreases. In the S & M range is a Japanese knife "Pajarito" included, this trowel is more flexible than the stainless steel trowel. With this, the STUC can be polished sooner and without trowel, which makes a nice, smooth finishing even easier. Another advantage is that these Japanese trowel exhibits almost no dark markings on white STUC.

A flexible spatula can be used to finish round surfaces.

STUC placed on a flat surface, has a consumption of  $\pm 1,5 \text{ kg/m}^2$  in 2 layers, the consumption of the 2<sup>nd</sup> layer is lower than the 1<sup>st</sup>.

On tiles 3-4 layers are placed and the consumption is  $\pm 3 \text{ kg/m}^2$ .

The drying time between 2 layers is 2-5 hours depends on the circumstances. After complete drying, the STUC is walkable, after 1 week, is it hard and can be fully used. If the corners should be completed in STUC, apply several thin layers, which can dry in between (possibly blow dry), 1 thick layer will only dry slowly and possibly show shrinkage cracks.



### 7.2.1 Application of STUC with intermittent drying

Intermittent drying is recommended when large areas are to be done in STUC. Apply the first layer as smooth as possible with a trowel and let it dry out. When the STUC is walkable, burrs can be swiped away by means of the trowel. After drying a second layer can be applied.



To obtain a more even result, make sure to finish the first layer evenly with a trowel.



In order to obtain a lively, possibly rougher motive, you make a rougher motif in the first layer with your trowel. It is this motive that will determine the vividness of the final outcome.

Apply a second layer of STUC, after the previous one has dried. This layer fills the motif. By doing this due to differences in aspiration, you will create shades and nuances.

If so desired after partial drying you can remove the burrs or polish the surface by means of the trowel. The surface can be finished slightly rougher or rather smooth. To obtain a rougher finish, you flatten the burrs or obtain a smoother finish by polishing the surface with the trowel.

For the polishing the degree of drying is very important. For polishing a Japanese trowel can be used. At the beginning of the polishing keep the trowel almost flat. After further drying, the trowel can be more tilted. When polishing with too much force, very fine shrinkage cracks can appear in the STUC after drying. This can only be fixed with an extra layer STUC.

An even smoother finish can be achieved by sponging or by sanding the surface with a grain of 120-150(or finer).

### 7.2.2 Apply STUC wet in wet

Apply a first rough layer of STUC and leave to dry for 1-2 hours. Please note that the drying process depends of the atmospheric circumstances. Before the STUC is dry, apply a second layer. Because the grains of the second layer can be pushed into the still soft first layer, the second layer can be finished really smoothly.

Afterwards the surface can be polished with the trowel to further smoothen the surface. Therefore one can smooth burrs after drying, or optionally polish the surface firmly with the trowel after attracting, but always before the drying out.

An even smoother finish can be achieved by sponging or possibly by sanding with 150 grain (or finer).

**TIP:** In order to walk faster on not yet dry Stuc, you can use isolation plates to work on and protect zones that are still not fully hardened.

**TIP:** You can cover the surface with a plastic foil to prevent the STUC from drying to fast. This way you can delay the drying long enough to work around, for example for a cooking island. Cover the "start" of the STUC with plastic film until you are completely ready and should eliminate this step.



### 7.2.3 STUC on a floor or tiles

On a leveling layer the StucPrimer is first placed and STUC may subsequently be finished in two layers.

If STUC is applied directly on tiles, then the following measures should be followed:

- a. Apply StucPrimer to eliminate absorption and to improve adhesion
- b. Apply 1<sup>st</sup> layer of STUC and let fully dry (if the joints are not fully dry, there is a chance that they will stay visible)
- c. Apply 2<sup>nd</sup> layer of STUC and let it fully dry
- d. Apply 3<sup>rd</sup> layer of STUC.
- e. Apply 4<sup>th</sup> layer wet in wet on the 3<sup>rd</sup> layer
- f. When the surface is dry enough, softly polish the surface (if desired, one can use a damp sponge to polish the surface)
- g. Polish sturdily
- h. After drying STUC could possibly be sanded (not necessarily)
- i. Always finish wet areas with min. 2 layers of StucVernisPU or StucHardWaxOil (check water resistance)

When renovating old buildings (without basement) keep in mind that STUC is not used on surfaces where humidity can migrate from below. These floors should first fully insulated with a suitable product to lift vapor pressure, as some epoxy primers.

## 7.2.4 Smooth finishing of STUC by sponging or sanding

### 7.2.4.1 Sponging

Pour obtenir en toute simplicité un beau résultat lisse, on peut polir la surface avec une éponge. To easily obtain a smooth result, polish the surface with a damp sponge and afterwards immediately polish with a trowel, preferably a pajarito trowel. This will make the surface extra smooth and make any burrs and the movements of the trowel disappear. Note that sponging will always result in a lighter colour.

**TIP:** Sponges may, if necessary, make the work of several performers (everyone has a slightly different 'stroke') merge together into a beautiful whole.

The sponging should be done when the surface is semi-dry. Sponging is done with a lint-free, synthetic sponge, a plastering trowel with sponge or abrasive pad (depending on the extent to which the STUC has already dried). The surface is first slightly moistened with a sponge, this will create a thin paste and all the burrs are smoothed out. This "paste" is then to be polished off with a trowel. If bubbles arise, let the STUC dry further. Polishing even harder will only create more bubbles. The sponging will always create a clouded faux Tadelakt effect.



### 7.2.4.2 Sanding

It is possible to smooth an already dry STUC surface, by dry sanding the surface with a 120 to 150 grain (or subsequently possibly even finer). (always assess it to your own feelings, perhaps with the sanding of an even finer grain).

Please pay attention when the first layer of STUC has been placed roughly, as more nuances will be shown by sanding.



## 7.3 Renewing of the colour of STUC / Applying colour shades

If there are irregularities in colour, these can be restored with some pigment and water. Afterwards STUC must be finished with StucHardWaxOil or StucVernisPU (Carefully rub in locally). This technique can also be used on walls in order to apply very different shades of colour with different pigments. Pigment mixed with water can be manipulated prolonged. Subsequently, finish it with StucHardWaxOil or StucVernisPU.

## 7.4 Finishing large surfaces with several people

Depending on the size of the surface and the number of people working, everybody can start working on the first layer. As soon as the Stuc is dry enough to walk on, the application of the 2<sup>nd</sup> layer can start. Afterwards, someone can start to polish while there is still someone finishing the 1<sup>st</sup> layer.

## 7.5 Finishing 2nd layer in one go

One can first apply the 2<sup>nd</sup> layer along the sides or serrated so that it remains accessible. After 10-20 min. this slightly dried STUC-layer can already be smoothed (preferably with a thin flexible blade of the Japanese knife Pajarito). Thereafter one can gradually apply the STUC layer.

## 8 Finishing STUC with a protective layer

STUC is waterproof, even after prolonged contact with water, there will be no damage. All STUC applications at risk to be spoiled, or coming in contact with moisture, should be protected with a protective coating in order to counter stains and white lime haze.

After complete drying of the STUC protection products can be applied. STUC applied in thin layers (<1mm) is normal after 24h completely dried. Film-forming systems such StucHardWaxOil and StucVernisPU may never be applied to a wet surface. Walls must not be protected, but may optionally be protected invisible with StucProtect.

Dans des habitations de particuliers, où il y a une charge de saleté et de fréquentation peu élevée, le In private homes, where is a low dirt and course load, then STUC can be finished with a non-film-forming system such as StucSoap. StucSoap is preferably maintained with a vacuum cleaner or occasionally with a damp mop. With heavier loads StucVernisPU offers higher scratch resistance e.g. Offices,... At high moisture load such as bathrooms and showers STUC should be finished with a film-forming finishing such a sStucVernisPU or StucHardWaxOil.

In steam rooms (hammam ...) StucVernisPU is preferred because of the excellent temperature resistance of the 2K system.

Finish	StucSoap	StucProtect	StucVarnishPU	StucHardWaxOil
<b>Protection</b>	Limited dirt resistant	Hydrophobic	Good stain resistance	Good stain resistance
<b>Scratch resistance</b>	none	none	Good scratch resistance	little
<b>Watertight</b>	Water soluble	Not watertight	Watertight	Watertight
<b>Application</b>	Bedroom, living room	Solely walls	Bathrooms, floors	Bathrooms, floors
<b>Colour</b>	Darkens	Almost no influence	Little influence	darkens
<b>Yellowing</b>	Yes	No	No	yes
<b>Gloss</b>	Little	Matte	Matte	little
<b>Application</b>	Easy with a sponge	Roller (short)	Roller of max 5 mm	Very thin sponge (short)
<b>Repair</b>	Easy	Easy	Sand & redo	Easy
<b>Remove</b>	alkaline cleaner	alkaline cleaner	Sanding	Sanding

Note: Some of the above findings are highly colour-dependent.

Protective coatings usually affect the colour and might add gloss, please make sure to take this effect into account when choosing a colour. It is recommended when applying the 1st layer to make a sample of the STUC on a MDF board, to polish it smooth (possibly sponges) and after drying the finishing layer. In this way, the final colour can be assessed and the pigmentation in the 2 ° layer may, if desired, still be adjusted. There is also a sample system available to make samples in advance, and to test a particular finish to assess the colour and the view.

### 8.1 StucSoap

StucSoap is a simple and nearly invisible protection for STUC Granito & Deco. Please use the StucSoap where the risk of contamination and stains is rather small. Apply StucSoap in 1 to 2 undiluted coats with a lint-free, synthetic uncoloured sponge.

Remove excess StucSoap or dry foam with a damp sponge. StucSoap is dust dry after 2 hours, waiting time between 2 layers is ± 2 hours. StucSoap will darken all colours and yellow bright colours, but gives little shine.

For CLEANING and MAINTENANCE: Clean preferably dried, sporadically mopping with 0.5 liters StucSoap dissolved in 10 liters of lukewarm water. Maintenance frequency depends on strain and pollution. Reapply StucSoap undiluted when STUC absorb moisture ie when dark moisture stains appear during mopping. If the StucSoap is to be removed, this can be done with an intensive alkaline cleaner.

Stucsoap can be used to finish StucVarnishPu or StucHardWaxOil. First time apply pure, afterwards add StucSoap to the cleaning water.



## 8.2 StucProtect

StucProtect is a simple and nearly invisible protection for STUC. To use where the risk of contamination and stains are rather small, but where the hydrophobic character of StucProtect provide better protection for contact with water.

Le StucProtect est appliqué en 1 à 2 fines couches non diluées de manière croisée avec un rouleau à StucProtect in 1 to 2 thin coats undiluted, applied with a paint roller without rolling too long (will form white marks). Always avoid to further roll out already absorbed product, in order to prevent white haze. StucSoap is dust dry after 2 hours, waiting time between 2 layers is  $\pm$  2 hours.

StucProtect is invisible and does not shine. If the StucProtect is to be removed, this can be done with an intensive alkaline cleaner.

## 8.3 StucVernisPU

StucVernisPU is a protection for STUC Granito & Deco, to use where the risk of contamination and stains is high. StucVernis PU is film forming, and closes the STUC completely from all contamination. StucVernisPU offers 24h protection including against water, cola, juice, lemon, coffee, oil, tomato concentrate, alkaline and acid detergents. Extended contact with e.g. vinegar, undiluted bleach, ... makes stains in the StucVernisPU. StucVernisPU is applied in a minimum of 2 layers with a felt role of max. 5mm. The StucVernisPU should be vigorously rolled out in all directions to ensure maximum markings in lains to obtain a good penetration of the StucVernisPU in the STUC.

Apply StucVernis PU in minimum 2 coats with a roller, applied crossed. mix PU hardener, stir well, at 1:3 proportions, then 10 min rest (Defoaming).

Durée de vie d'un pot : 2 heures, dilué avec de l'eau jusqu'à 3 heures.

1<sup>st</sup> layer: StucVernisPU is applied undiluted by means of a felt roller of max. 5 mm and powerful roll out in a thin layer in various directions.

Apply the 2<sup>nd</sup> layer between 5 - 24 hours later, if you wait longer than 24 hours to apply the 2<sup>nd</sup> layer, the 1<sup>st</sup> layer has to be sanded. The 2<sup>nd</sup> layer can be used undiluted with a max. 10% water.

StucVernisPU is (undiluted) dust dry after 20-30 min. Full cure after 7 days, before this certainly not entrust with water. Check afterwards with a damp sponge if PU layer is closed. If necessary, apply an extra layer.

Processing conditions: inside in a well-ventilated room, outside must be dry. Ambient temperature minimum 10°C and relative humidity max 80%. The surface needs to be fully dry.

It is recommended 24 hours / low of 1 mm STUC, as drying time. If thicker layers are more than 1-2 mm STUC were applied (e.g. in corners) or if the surface was humid or with high humidity and poor ventilation it may be necessary to meet a longer drying time.

Attention: If Stuc has been applied in thick layers: layer thickness x2, time to cure x8!!! This means that a STUC application with a layers in excess of 3 – 4 mm will need at least 4 to 5 days to fully cure, even though the surface seems dried though the underlying layers are not yet.

If StucVernisPU is applied on a damp surface there is a risk that the PU will react with the calcium dissolved in the residual moisture. Apply the StucVernisPU undiluted in a very thin layer so that it can dry out quickly, and reduce this risk.

Applying the StucPrimer ensures that all moisture from the STUC should evaporate, so that the drying time is longer than on an absorbent surface.

If the surface is moist (new construction which still needs to dry out, new screed, new concrete, walls, rising damp, ...) the dry out will take very long. It is always recommended first to let dry out the surface, before applying the damp inhibitory STUC. STUC on a damp surface may require several weeks to fully dry out, even though it seems that the surface of the STUC already dried dry after 24 hours



*Locally the STUC was still damp.*

*On the edge the PU is rolled out sufficiently.*

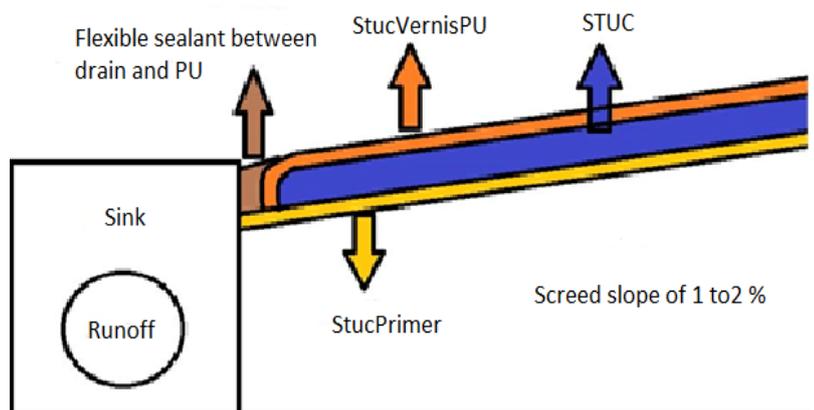
On dark colours and large areas, pay attention to overlaps when applying StucVernisPU. An extra layer StucVernisPU will make earlier overlaps often less noticeable. The application of an additional layer

StucSoap after 1 week shall also hide any overlaps and facilitate maintenance afterwards. StucSoap gives a little darker colour and a slight gloss.

If the varnish is walked or worn, it must be fully sanded and re-applied.

**TIP :** Connections between the STUC and other materials (acrylic shower, taps, ...) should be done, after the completion of the STUC with StucVernisPU, with MS Polymer suitable for natural stone.

**TIP:** Be careful with other qualities of polyurethane varnish, it can add more gloss and may show higher risks of overlaps than StucVernisPU. Some PU varnishes show a strong white haze after drying.



## 8.4 StucHardWaxOil

StucHardWaxOil is a protection for STUC Granito & Deco against most of the impurities. Please use the StucHardWaxOil where the risk of stains and contamination is high.

StucHardWaxOil offers 24hrs protection against e.g. water, cola, juice, lemon, coffee, oil, tomato concentrate, alkaline and acid cleaners. Prolonged contact with e.g. vinegar, undiluted bleach, ... stains the StucHardWaxOil. Acetone and other strong solvents dissolve the StucHardWaxOil completely.

**TIP :** In order to improve resistance against stains and to facilitate maintenance, StucHardWaxOil can be finished with a layer of StucSoap. The STUC is then cleaned with water to which was added StucSoap, to clean the STUC and protect it against stains. In StucSoap any dirt will accumulate and can be removed easily. The StucSoap must be removed before reapplying the StucHardWaxOil.

StucHardWaxOil must be applied in two very thin layers by means of a lint-free, synthetic sponge. If some pores are not watertight, re-apply these only locally. De StucHardWaxOil has to be dispersed really well (comparable to wax on furniture or shoes), so that no "stripes" remain visible. Do not apply StucHardWaxOil by means of a brush or roll as this will increase the thickness of the layers and will have a negative effect on adherence and curing. At colder temperatures, it is advised to render SHWO more liquid by heating it up or by diluting it with white spirit this will facilitate the application and penetration. If the very thin StucHardWaxOil is applied and is polished with a sponge this will obviate in STUC and a particularly good protection against penetration of moisture and dirt.

This obsoleted StucHardWaxOil is insensitive to scratches and drain and still provide protection. The 2nd layer will always provide a film formation on the STUC, but is slightly more fragile, and therefore needs to be placed very thin. If the StucHardWaxOil is applied too thick with a knife or brush shall it dry as a film without penetration. This makes it susceptible to damage and can even peel off. Dark spots after having taken a shower indicate local penetration of humidity in STUC. STUC only allows for slow humidity migration and is not damaged by potential water penetration. In order to avoid dark spots and the formation of a white haze, the user should be pointed out that damage to the StucHardWaxOil by scratches or cracks, the StucHardWaxOil needs immediately be finished locally. StucHardWaxOil is dust dry after 2-3 hours. Waiting time between 2 layers is  $\pm 10$  hours. Full cure after 7 days, do not load with water before this time. Check protection to wet it slightly after 12 uur with a sponge. If dark spots arise from moisture penetration, after the dry period it needs to be finished with StucHardWaxOil.

If StucHardWaxOil is stained, worn off or damaged, it is imperative to clean, repair and/or redo the protective layer.

Processing conditions: ventilate well inside. Ambient temperature less than 15°C and relative humidity of the environment must not exceed 50%. StucHardWaxOil must be kept for 24hrs at room temperature before application. Clean tools with acetone or white spirit. Safeguard surplus of StucHardWaxOil in smaller metal or glass container and keep in a dark place, to prevent hardening. StucHardWaxOil makes all colours darker and yellows bright colours, but only gives a little shine

**TIP:** StucHardWaxOil may optionally be pigmented in order to eliminate this influence: add 0.3-1% Ivory pigment to StucHardWaxOil for bright colours, for Ivory itself : add 3 max 10% Ivory pigment to StucHardWaxOil. (Always perform a small test to assess the final colour).

**TIP:** Connections between the STUC and other materials (acrylic shower, taps, ...) should be done, after the completion of the STUC with StucHardWaxOil, with MS Polymer suitable for natural stone.

**ATTENTION:** It is inherent to oil-based products that they yellow and darken when they are covered. When StucHardWaxOil is covered for an extended period, there will be a strong yellowing and darkening, which will not subsequently disappear. The extent to which the StucHardWaxOil will darken / yellow is related to the film thickness, penetration and the colour of the STUC.

**TIP:** Pay attention to other qualities of oil or wax, this display possible: irregular staining, more shine, more influence on the colour, drying / curing may not occur.

## 8.5 Advantages op StucVernisPU compared to StucHardWaxOil?

StucVernisPU can be applied simpler and faster than StucHardWaxOil, by means of a felt roller. StucVernisPU has less influence on colour and gloss than StucHardWaxOil and will never yellow.

With a local damage (walked, scratches, ...) StucHardWaxOil can be finished locally almost virtually invisible, StucVernisPU must be completely redone. StucVernisPU emits much less gloss than StucHardWaxOil.

StucVernisPU offers better protection against scratches through the thicker and stronger PU film.

## 9 Maintenance and after-treatment

STUC is similar in appearance, durability and maintenance compared with natural materials like stone, wooden floor, etc.

### 9.1 Daily/weekly maintenance of STUC

Non-film-forming systems such as StucProtect and StucSoap are best cleaned in a dry way. StucSoap can be wet cleaned sporadically. Film forming systems such as the StucVarnishPu and StucHardWaxOil can be maintained clean and wet. Do not use hard brushes or sponges. Do not leave aggressive detergents on the surface and rinse well. If the STUC turns dark because of moisture, you should immediately restore the protective layer. With StucSoap and StucHardWaxOil this can be applied locally

Damaged protection layers that have not been repaired, may lead to penetration of dirt and humidity. Stains caused by this moisture may do not dry out invisible and can also cause a white haze below the surrounding protective layer.

Film-forming systems such as StucVernisPU StucHardWaxOil and can be maintained with StucSoap.

## 9.2 Long term maintenance of STUC

This depends on the maintenance and protection of the load applied. The physical load and contamination determine the lifetime of the protective layer. If it is ensured that the coating still remains sufficiently efficient, the STUC have a lifetime comparable to conventional materials.

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Non film-forming systems such as StucProtect and StucSoap must be reapplied if the Stuc goes dark when moisture touches the STUC. If the STUC is contaminated, apply an alkaline cleaner to remove the protection and reapply StucProtect or StucSoap.

StucHardWaxOil can be locally repaired and removed in case of heavier soiling and reapplied. If the StucHardWaxOil is protected with StucSoap this will be an even better protection and offer an easier maintenance. Film-forming systems such as StucVernisPU should be light sanded and applying an additional layer before the layer is completely walked / worn. Here the use of StucSoap allows an easy maintenance

**TIP:** Avoid damaging the STUC and its protection by (among others):

- Not dragging heavy, hard or sharp objects
- Do not cut directly on the countertop or table
- STUC is heat resistant, but use pads in the kitchen
- Do not use industrial cleaners
- Do not put too much force when using a scrubbing sponge
- Do not allow prolonged contact of stains and moisture with the surface, but clean immediately
- Ensure adequate drainage in showers etc., so that no puddles remain
- Provide adequate ventilation allowing wet areas to dry out
- Contamination with sand acts like sandpaper on the protection of the STUC

## 10 Reparation of STUC

Because STUC usually has a nuanced appearance, it can be locally repaired with our sample system, in which all colours are included.

Remove the protection upfront. StucSoap and StucProtect should be removed with an alkaline detergent. StucHardWaxOil can be removed with acetone or by sanding. StucVernisPU has to be removed by sanding. Thereafter repair the STUC and sand softly. After drying reapply the protective layer. The extent to which this restoration can happen "invisible" depends on the existing colour nuances and the care with which the repair is performed.

# 11 Attachement

## 11.1 Instruction videos



## 11.2 Comments

The information provided in this manual is a general product description. Based on our experiences, we share information on how to work with these products. However, each situation is different practical implementation. That is why we invite our clients to first organise a representative test, taking the nature and stability of the concerned surfaces into consideration, before starting the works.

It is also to the clients to verify our site [www.stopen-meeus.com](http://www.stopen-meeus.com) or current manual and technical specifications in the meantime were not replaced (updated) by more recent versions.

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