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STOOPEN & meeûs

STUC - MANUAL



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1. DESCRIPTION OF STUC

STUC is a high-grade, decorative mineral product used for the seamless covering of floors and walls.

STUC is a mineral product which can be compared with natural stone and hard wood in terms of its decorative aspect, appearance and maintenance.

STUC is sold unpigmented and can be coloured up to 7.5% by adding pigments.

STUC is applied in coats less than 1 mm thick. Even substrates are finished in two layers (total thickness +/- 1.5 mm). Uneven substrates such as screed or tiles should first be smoothed.

STUC is available in two forms: Deco and Granito. STUC Deco can easily create certain colour nuances, similar to Tadelakt. The appearance can vary from a rough, nuanced STUC look to a smooth, glossy Tadelakt look. STUC Granito can easily be applied in very thin, even coats of ± 0.4 mm owing to the perfectly round granules. The appearance can vary from a matte, even look, to a nuanced, rough look.

STUC should be finished with a protective layer (on all floors and in wet rooms on walls and floors).

We advise always doing a test beforehand: a colour sample system is available from our dealers (See website www.stoopen-meeus.com).

Our YouTube channel (<http://www.youtube.com/user/stoopenmeeus>) shows a wide variety of completed projects and a video of the application process. This will give you inspiration for your future projects.

2. STUC SUBSTRATE

STUC can be applied on all mineral substrates, including tiles, solid layers of old paint, MDF, work tops, plumbing fittings, etc., provided that the substrate is sufficiently stable, clean and free of dust and grease. Substrates treated with oil, beeswax or soap (such a linseed oil soap), etc., should always be meticulously degreased.

To avoid differences in tension and the formation of cracks in the STUC, the substrates should be as uniform and coherent as possible.

STUC cannot be applied to metal, plastic, laminate, parquet or solid wood. These materials are not sufficiently stable in the event of fluctuations in temperature and humidity.

STUC can be applied to sheet material in dry construction systems (plasterboard, water-resistant MDF or Multiplex, Wedi, Fermacell, Lux Elements, etc.) which is firmly anchored. To prevent cracking along the joint, preferably the whole surface but certainly all joints should be covered with fibreglass reinforcement.

Sheet material on Metal Stud cannot be finished with STUC: this substrate is not usually sufficiently stable.

3. PREPARING THE SUBSTRATE

3.1. TECHNICAL PREPARATION OF THE SUBSTRATE

STUC is a thin (1-2 mm), hard and relatively inflexible material that adheres particularly well to the substrate. STUC will harden without tension and subsequently follow the substrate. This means that when tensions and cracks occur in the substrate, they will also permeate the STUC.

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Not all cracks can be remedied with fibreglass. Dynamic cracks (resulting from instability, vibrations, etc.) will always occur. Small static cracks resulting from setting, shrinkage, etc.), joints between stable sheet material, corners, transitions between two different building materials, etc. can usually be successfully reinforced.

If the STUC is applied across different substrates (e.g. fixed walls and a floating screed on insulation), the insulation will shrink slightly due to the pressure and a tear will appear in the joint between wall and floor. It is recommended to cut the STUC here in advance so that this becomes a good, straight break line. This can be flexibly dealt with using a suitable polymer kit afterwards.

The fibreglass reinforcement should always be placed beneath the waterproofing. Depending on the thickness of the fibreglass reinforcement used, this can be applied in an initial STUC screed or in a slightly thicker cement plaster.

When using STUC in walk-in showers, bathrooms, etc., the substrate must be protected against seeping water. With new buildings or in-depth renovations, a seal should be fitted in accordance with WTCB guidelines (TV227-03/2003 and TV237 - 10/2009).

A waterproof plaster is more advisable than a membrane combined with STUC. In a wet room, 2% drainage should always be provided.

Walls, floors, decorative elements in Wedi or Lux Elements should be covered with an inexpensive tile beforehand. These materials are not sufficiently resistant to pressure, particularly on horizontal surfaces, to be finished exclusively with STUC.

On floor tiles, a thin levelling layer is applied first to eliminate the joints. On a tiled floor with damaged joints, a reinforced substrate should first be applied, that is either a fibre reinforced levelling compound or fibreglass reinforcement in a thin layer of tile adhesive.

On wall tiles, a waterproof levelling plaster can first be applied to cover the joints. If necessary, fibreglass reinforcement can be provided here, as well.

The dilation joints must be respected but can be flexibly finished afterwards. The distances between the joints are determined by the requirements for the substrate.

For all substrate preparation, it is best to ask the manufacture of the preparatory products for technical advice beforehand. Please observe the prescribed scope of application and the manufacturer's instructions for use.

3.2. PREPARING THE SUBSTRATE WITH STUCPRIMER

The fast-drying StucPrimer, drying time +/- 1 hour, is applied to the STUC beforehand to ensure optimal adhesion and processability.

4. USING STUC

4.1. PREPARING STUC

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Add the pigment to the water (+/- 0.3 l water per kg STUC) and mix mechanically. Add half of the basic powder. Mix thoroughly for a few minutes, then add the remaining STUC powder and mix until smooth.

Once mixed, the STUC will thicken slightly and then remain useable for 3 - 4 hours. If the STUC is too stiff, it can be mixed again and if necessary, a little more water can be added. Take care when adding extra water to the STUC in the final layer as the colour may become slightly lighter. The best idea is to mix the STUC before applying the next layer, possible with a little extra water, to ensure optimal processability.

TIP: To avoid pigment stripes when polishing the STUC, it is important to mix the pigments well in the mixing water and then blend properly with the STUC. If you have pigment stripes in the first layer, mix the STUC more thoroughly or allow the pigments to dissolve in the mixing water for a few hours before mixing the coloured water with STUC.

4.2. APPLYING STUC

STUC is applied using a stainless steel trowel with curved edges.

The S&M range includes a 'Japanese Pajarito knife' which is more flexible than a stainless steel trowel. Using this tool, the STUC can be gently polished sooner, without the trowel 'catching', making it easier to achieve a lovely glossy finish. Another advantage is that this Japanese trowel leaves virtually no dark outline on white STUC.

STUC applied on even surface has a covering capacity of +/- 1.5 kg/m² in two layers. The quantity used for the second layer is somewhat less than for the first layer.

STUC should always be applied in successive thin layers of a maximum of 1 mm. A thicker layer of STUC, in excess of 2 mm, applied in one stage, will dry more slowly (more than 48 hours) and may develop shrinkage cracks.

The drying time between two layers is 2-5 hours, depending on the conditions. STUC can be walked on when it is fully dry. It is hard and will attain its full load-bearing capacity after one week.

If the STUC layer has to be applied round corners, use several thin layers which can dry in the meanwhile (possibly blow dry). One thick layer will take time to dry and may show shrinkage cracks.

4.1.1. APPLYING STUC WITH INTERIM DRYING

On large surfaces, the first layer of STUC is applied and allowed to dry fully before the second layer is added.

Apply the layer as evenly as possible using a trowel and allow to dry. When the STUC is sufficiently dry to be walked on, any remaining burrs can be removed with the trowel. Once dry, a second layer of STUC can be applied.

To achieve a vivid, possibly rougher pattern, use a trowel in the first layer. This pattern will determine the vibrancy of the end result.

Apply a second layer of STUC once the first layer has dried. The pattern is filled in with this layer. Nuances in colour are created by differences in absorption.

The level of absorption and drying is very important for polishing. A Japanese knife can be used for this purpose. When you first start polishing, the knife should be held virtually flat. After further drying, the knife can be held at more of an angle to exert more pressure.

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If it is polished too quickly with too much pressure, the STUC may develop very fine shrinkage cracks after drying. These can be remedied with an extra layer of STUC.

A smoother finish can be obtained by sponging or possibly sanding with a grain size of 120 - 150 (possibly even finer later on).

4.1.2. APPLYING STUC WET ON WET

On smaller surfaces, STUC can be applied wet on wet. In this way, coarser quartz grains from the second layer can be pressed into the first layer for a faster, smoother and smoother result.

Apply a first layer of STUC roughly and leave for 0.5 - 1 hour to be absorbed. The drying speed depends on the conditions. Before the STUC is totally dry, a second layer is applied.

An even smoother finish can be obtained by sponging or possibly sanding with a grain size of 150 (or finer). The surface should be sponged when the STUC has been absorbed but is not too dry. Sponging can be done using a lint-free, synthetic, colourless sponge, a plasterer's trowel with a sponge or possibly a scouring pad (depending on the extent to which the STUC has already been absorbed). The surface should first be moistened slightly with the sponge and then wiped until a thin 'pulp' forms and all imperfections have been smoothed out. This pulp can then be vigorously polished away with the trowel. If air bubbles appear, allow the STUC to dry more and then polish (polishing harder creates even more air bubbles). This sponging creates a cloudy Tadelakt effect.

The second layer can first be applied along the edges or following a jagged line, so that this remains accessible. After 10-20 minutes, this slightly dried STUC layer can already be carefully smoothed (preferably using a thin flexible Japanese Pajarito knife). After this, the STUC layer can gradually be continued.

TIP: To be able to walk on STUC that has not yet fully hardened sooner, lay PU insulation sheets to protect areas that are still wet.

TIP: If the STUC dries too quickly to be able to work wet on wet, it can be covered with plastic film to slow drying. You can also use this method to work the STUC around a kitchen island, for example. Cover the 'start' of the STUC with plastic film until you have gone all round and have to remove this first step.

5. FINISHING STUC WITH A PROTECTIVE LAYER

STUC is a perfectly waterproof finish. No damage will occur even after lasting contact with water. All STUC that may become dirty and come into contact with moisture should be given a protective layer to prevent stains and a white lime wash.

Once the STUC is fully dry, protective products can be applied.

STUC applied in thin layers (< 1mm) is usually fully dry after 24 hours. Film-forming systems such as StucHardWaxOil and StucVernisPU may never be applied on a wet substrate.

Decorative walls do not have to be protected but can, if you wish, be given invisible protection with StucProtect.

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The more even the STUC, the better a film-forming finish can be applied and the smaller the risk of wear and tear. Protruding parts, finished with StucHardWaxOil or StucVernisPU, will suffer wear fastest.

In private homes, where there is little dirt and pressure, the STUC can be finished using a non-film-forming system such as StucSoap. StucSoap should preferably be cleaned with a vacuum clean or from time to time with a damp mop.

In rooms that are often wet, such as bathrooms and showers, STUC must be treated with a film-forming finish such as StucVernisPU or StucHardWaxOil.

Finish	StucSoap	StucProtect	StucVernisPU	StucHardWaxOil
Protection	limited, dirt repellent	hydrophic	good resistance to stains	good resistance to stains
Scratch resistance	none	none	better scratch resistance	little
Waterproofness	Soluble in water	not waterproof	waterproof	waterproof
Application	bedroom, living room	walls only	bathrooms, floors, etc.	bathrooms, floors, etc.
Colour	darkens	virtually no effect	little effect	darkens
Yellowing	yellows	does not yellow	does not yellow	yellows
Gloss	slight gloss	remains matte	remains matte	slight gloss
Application	easy with sponge	roll in short bursts	felt roll, max. 5 mm	very thin with sponge
Repair	easy to retouch	easy to retouch	sand and reapply	easy to retouch
Removing	alkali cleaner	alkali cleaner	sand	sand

Note: some of the above findings depend heavily on the colour.

Protecting STUC usually affects the colour and degree of gloss. Please take this into account when choosing the colour. It is advisable to put a sample of the STUC on an MDF sheet when the first layer is applied. Polish this until it is smooth (possibly with sponges) and then apply the finishing layer when dry. This way, the final colour can be assessed and the pigmentation for the second layer can be adjusted accordingly. A sample system is also available to make samples beforehand and text a particular finish to assess the colour and appearance.

5.1. STUCSOAP

StucSoap is a natural, simple protection for STUC Granito and Deco. To be used when the risk of stains and soiling is slight.

StucSoap is applied in one or two undiluted layers with a lint-free, synthetic, colourless sponge.

Excess StucSoap or dried foam can be removed with a slightly damp sponge. StucSoap is dust dry after two hours. The waiting time between two layers is approximately two hours.

StucSoap will darken all colours and cause light colours to yellow, but creates little gloss.

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For **CLEANING** and **MAINTENANCE**: Preferably clean dry, mop from time to time with 0.5 litres of StucSoap dissolved in 10 litres of lukewarm water. The frequency of cleaning depends on the soiling and use.

Apply StucSoap again undiluted when STUC absorbs moisture, that is when dark moisture stains appear when the surface is mopped.

If the StucSoap has to be removed, this can be done with an alkali intensive detergent.

5.2. STUCPROTECT

StucProtect is a simple, virtually invisible protection for STUC on walls. To be used when the risk of stains and dirt is fairly small but when the permanent slightly hydrophobic properties of StucProtect offer better protection for contact with water.

StucProtect is applied undiluted in one or two layers, criss-crossing with a varnish roller without rolling for too long. Always avoid further rolling product that has already been absorbed in order to prevent a white haze. StucProtect is dust dry after two hours. The waiting time between two layers is approximately two hours.

StucProtect is invisible and does not create a gloss.

If the StucProtect has to be removed, this can be done with an alkali intensive detergent.

5.3. STUCVERNISPU

StucVernisPU is a protection for STUC Granito and Deco, to be used when there is a high risk of stains, soiling or scratching. StucVernisPU is film-forming and seals the STUC against all pollution. StucVernisPU provides protection against water, cola, fruit juice, lemon, coffee, oil, tomato concentrate, alkali and pure detergents, etc. Lasting contact with vinegar, undiluted bleach, etc. causes stains in the StucVernisPU.

StucVernisPU is applied in at least two layers using a felt roller of max. 5mm. StucVernisPU should be rolled on undiluted, exerting pressure in all directions to prevent track marks and ensure that the StucVernisPU penetrates the STUC properly. The subsequent layers may be diluted by 2-3% with water and be somewhat thicker. Always sand gently by hand between two layers using a 220 grain size to remove dust particles and/or air bubbles.

In terms of optimal protection, the number of layers is secondary to the final layer thickness. For optimal protection, always apply at least 1l/5m² StucVernisPU.

StucVernisPU that is applied too thickly in the first layer, certainly when combined with poor drying conditions (humidity, temperature, ventilation), may display a permanent white haze owing to a reaction between PU and STUC. This reaction never occurs if the StucVernisPU can dry quickly enough.

5.4. STUCHARDWAXOIL

StucHardWaxOil provides protection for STUC Granito and Deco against most forms of soiling. To be used where there is a significant risk of stains and soiling.

StucHardWaxOil provides protection against water, cola, fruit juice, lemon, coffee, oil, tomato concentrate, alkali and pure detergents and more. Lasting contact with vinegar, undiluted bleach, etc. causes stains in the StucHardWaxOil. StucHardWaxOil dissolves in acetone and other strong solvents.

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StucHardWaxOil may be warmed slightly or diluted with a little white spirit and then applied in two thin coats. It is essential to polish StucHardWaxOil well with a sponge so that no excess product remains (as soon as it has been applying, the surface should not glisten with excess product). If StucHardWaxOil is applied too thickly, it may come loose as it dries. It is important to apply the StucHardWaxOil thinly in less accessible places as well, because a coat that is not evenly applied will not yellow evenly. Never apply using spatulas or rollers as this usual produces a layer that is too thick.

6. MAINTENANCE AND AFTERTREATMENT

In terms of appearance, capacity to take strain and maintenance, STUC can be compared with natural materials such as natural stone, floor planks, etc.

6.1. DAILY/WEEKLY CLEANING OF STUC

Non-film-forming systems such as StucProtect and StucSoap are best cleaned dry. StucSoap can also be cleaned with water from time to time. Always add StucSoap to the water to feed the protective layer.

Film-forming systems such as StucVernisPU and StucHardWaxOil can be cleaned dry and with water. Do not use unnecessarily hard scouring brushes or scouring sponges. Do not leave aggressive cleaning products to penetrate for too long and always rinse carefully.

If the STUC darkens due to moisture, the protective layer should be repaired immediately. With StucSoap and StucHardWaxOil, this can easily be done locally.

Damage in the protective layer that is not repaired can lead to the penetration of moisture and dirt. Stains caused by this moisture may not disappear and can also lead to a white haze below the surrounding protective layer.

6.2. LONG-TERM MAINTENANCE OF STUC

This maintenance depends on the protection applied and the load. The physical pressure and the amount of soiling determine the lifespan of the protective layer. If care is taken to ensure that the protective layer always remains sufficiently efficient, the STUC will have a lifespan comparable to that of classic materials.

Non-film-forming systems such as StucProtect and StucSoap should be reapplied when the STUC darkens due to moisture. If the STUC becomes very dirty, the StucProtect and StucSoap can first be removed with an alkali detergent before being reapplied.

StucHardWaxOil can be touched up locally or if it is very dirty it can be removed and reapplied.

Film-forming systems such as StucVernisPU should be carefully cleaned, lighted sanded by hand (grain size 220) and an extra layer applied before the layer has been entirely penetrated / becomes worn.

TIP: To prevent damage to the STUC and its protective layer:

- Do not drag any heavy, hard or sharp objects across it
- Do not cut directly on a worktop or table
- STUC is heat-resistant. Nevertheless, pads should be used in the kitchen
- Do not use industrial cleaning machines
- Do not exert too much pressure when using a scouring sponge
- Do not allow stains and damp to remain. Clean immediately

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- Ensure that showers, etc. have sufficient drainage so that puddles of water do not remain
- Ensure that there is sufficient ventilation so that wet rooms can dry out
- Dirt containing sand acts as scouring paper on the STUC protection

7. NOTE

The information provided in this manual constitutes a general product description. On the basis of our experience, a few tips are given about the processing of our product. However, every actual situation in which the product is used is different. We therefore invite our customers to always carry out representative tests, taking into account the nature and condition of the substrates, before going ahead with processing.

It is up to the customers to check our website, www.stoopen-meeus.com, to see whether the current manual and technical data sheets have been replaced (updated) by more recent versions.

Stoopen & Meeûs takes responsibility for the quality of its products but not for the processing of these products.

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