



FAKOLITH[®]
chemical systems

a Fakolith Group Company

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Restoration system, recovery of mineral color and natural appearance of stamped pavements and printed concrete

Description of the problem

During the last decades, many m² of printed concrete pavements have been built all over our geography, with a wide variety of textures and finishes, both in private homes, hotels, camping sites, squares and public roads. We have all read advertisements of printed pavements in which it was said... It is a pavement for ever! Without any type of maintenance! Resistant colors for life! Impossible to separate or to lift or to break! etc.



The reality, after many years, is quite different, and we can all perceive that many of these pavements have progressively degraded, both superficially and internally, especially due to environmental conditions, especially the direct incidence of rainwater and its consequences, the direct effects of UV rays, thermal changes, as well as the traction, compression, abrasion and friction forces to which they are constantly subjected.

The most negative consequence, in general, is that few companies have adequate restoration systems, other than painting and repainting superficially with elastomeric paints or products, acrylics, polyurethanes, epoxies... all of which do not have adequate breathability values, which only temporarily cover up and prolong the problem, turning them into skating rinks, especially on rainy days, with the risk that this entails.

The positive side is that at Fakolith we have developed a system that not only restores the natural appearance of the pavement, but also characterizes it with valuable protective properties. The transpiration values of the concrete are maintained, the polychrome finishes are restored by incorporating them inside the mineral base and the pavement is characterized with water-repellent, oil-repellent and microorganism inhibiting properties with BioFilmStop technology, which delays its degradation and prolongs its useful life with proper maintenance.

Summary of the most common basic solution and procedure

1. INITIAL CLEANING AND STRIPPING OF THE BASE

The stamped pavements, after years exposed generally to environmental inclemencies, to the direct effects of water or humidity, to blows, to traction and compression forces, to the accumulation of pollution in surface, etc, are degraded in a great way and deserve a treatment that gives them back their maximum splendor, where its superficial hardness is optimized, its polychromy is recovered and adequately protected, respecting especially its values of transpiration. Therefore, before proceeding with the mineral glazing and water repellent protection treatments, both of which strictly need to be incorporated into the interior of the mineral bases for their best performance, each mineral base to be rehabilitated will be conveniently prepared to provide it with sufficient receptive capacity for subsequent protections. Surface pollution, hygroscopic salts, microbial infections, "sealers" or remains of these previously used without transpiration values... are natural barriers or pathologies that must be corrected or eliminated before proceeding with subsequent treatments. Hence, our cleaners and strippers are essential in these situations or in situations in general, when it comes to any type of surface treatment.

- **Option A** - FAKOLITH FK-111: In case of surfaces with a severe affectation by pollution, apply the descaler and cleaner of grease, pollution, industrial dirt, and after its cleaning action, rinse with water.

- **Option B** - Macs Asur: After the previous process, if necessary, and always with the support dry, if there are remains of "sealers" or varnishes, free of perspiration used in previous applications, apply on these areas the universal stripper of deep action macs Asur, capable of removing multiple layers in a single application. After rinsing with water, proceed to a general cleaning with FK-12, ending the cleaning process.

- **Option C** - FAKOLITH FK-12: After all the previous cases, even if there was no need for any of them, always apply the damp damage cleaner FK-12, such as mold damage, saltpeter, biofilm, light pollution ... on all surfaces to be rehabilitated. After subsequent rinsing with water and air drying, the base will be cleaned for the following treatment.

2. VOLUMETRIC RECONSTRUCTION

Our family of elite mortars with multifunction additives effectively solve applications from 8 mm to 20 cm, in a single coat, both in repairs of major flaws, cracks, cornices, degradation of other mortars, masonry breaks, cracks, fissures, as well as for finishing new plaster and screeds.

- **Option A** - ELITE CAL PLUS MORTAR: This is the most widely used plaster mortar in the restoration of facades and heritage. It requires its Multilite additive. For vertical applications of very low thickness, up to 2mm, there is the option of Elite Smoothing Mortar, also enriched with its Multilite or FK-19 Plus additive, depending on the most appropriate. The elite smoothing mortar can also be applied over the elite lime plus mortar, in just a few microns, to achieve a very smooth finish.

- **Option B** - ELITE EXTREME MORTAR: The version with greater physical resistance of our elite plastering mortars, it is close in performance to the resistance of concrete, without losing its properties of ease of application and malleability. It is indicated for extreme situations and maximum durability and requires its Multilite additive. For structural repairs, our elite R3 mortar is available.

3. MINERAL GLAZES WITH CONSOLIDATING PROPERTIES

- **Option A** - MULTILITE COLOR: Usually, the consolidating mineral glaze will be applied to the silicate, with polychromatic effect, **Multilite Color**, in a minimum of 2 coats, in the mineral color of letter, or pigmented by the applicator in situ with Mixol oxide pigments. The base will be consolidated and the aesthetics will be adequate to the required polychrome effects.

- **Option B** - MULTILITE MONOCROM: Alternatively, we recommend applying the consolidating silicate mineral glaze, multilite monochrom, with monochromatic and uniform effect, in the standard mineral color, or pigmented by the applicator in situ with Mixol oxide pigments. The base will be consolidated and the aesthetics will be adequate to the required color effects. Apply, usually 2 coats, but only what the mineral base is able to absorb, never leave excess on the surface.

4. WATER-REPELLENT AND OIL-REPELLENT PROTECTION

To achieve long-term protection and conservation of mineral bases, water repellent and oil repellent with breathable properties are the most appropriate treatments for this type of flooring. They will provide long-term protection of mineral surfaces against the action of environmental factors and pollution in general. Thanks to our innovative formulations with nano-poly siloxanes and innovative fluorinated compounds C6-C8, our water repellents and protectors penetrate the base without creating a surface film or altering the breathability, respecting the natural appearance of the bases.

- **Option A** - FAKOLITH FK-3 PLUS: In fresh plaster just applied, with high alkalinity, as well as generally in absorbent pavements, this will be the recommended water repellent and oil repellent.

- **Option B** - FK-4 Extreme: In very low absorption surfaces such as polished stone, this will be the most suitable water repellent protector and oil retarder.

- **Option C** - FK-7 NanoTane: For situations or pavements where there is a higher risk of spills or a satin finish is required.

Application process

1.- OPTION A - FK-111

DESCRIPTION AND MAIN USE: FAKOLITH FK-111 is a detergent cleaner for use with grease-based dirt or grime, pollution, biofilms matrix, scorching or industrial grime in general, on surfaces resistant to alkaline solutions. Mainly for use in the food industry, industry in general, construction and civil engineering. Health Register FAKOLITH RGSEAA ES-39.005259/T y ROESP E-0043-E.

RECOMMENDED THINNER: 1 part FK-111 to 4 parts water. Can also be used undiluted if necessary, in more contaminated areas or when speed of action is required.

HOW TO APPLY: Carefully protect all surfaces that are not to be treated from splashing. Apply diluted FK-111 using spray guns, brushes or rollers and immediately activate the product by scrubbing with a brush with stiff plastic bristles, working particularly on the worst affected areas. Allow 15-20 minutes to pass, although always before it has dried, and then wash off and rinse thoroughly using water under pressure. If so required the operation can be repeated. Leave to dry before going ahead with possible additional treatments. For further details consult the specifications sheet and/or application guidelines, along with the safety sheet.

AVERAGE YIELD: Undiluted FK-111 provides a yield of approx. 8-12 litres/m², although depending on the extent of the contamination this may vary considerably.

1.- OPTION B - macs Asur

DESCRIPTION: macs Asur is a gel paint stripper that blends slowly evaporating esters with special solvents. Asur paint stripper is free of chlorinated hydro-carbons, dichloromethane, aromatic hydrocarbons and paraffin and is not corrosive in contact with skin.

MAIN USE: macs Asur is recommended when stripping several coats of paint at the same time, from both small and large, interior and exterior, solvent-resistant surfaces, and is capable of stripping the vast majority of single-component paint systems, such as latex dispersion or acrylic paints, synthetic rendering, synthetic resin and colourless lacquers, nitrogen-alcohol varnishes, antifouling paints, matt or polished finishes, plasters, fibreglass glues and polyurethane foams, on solvent-resistant bases such as natural stone, wood, metal, reinforced with fibreglass, gel-coat... While Asur also acts on some bi-component systems (not epoxy), if it is not sufficiently powerful or fast-acting for your requirements use macs Oxystrip, which is very effective for the removal of bi-component systems. Can be used across a wide range of sectors, including façades, civil engineering, industry in general, the nautical sector, etc.

HOW TO APPLY: Before applying macs Asur the product must be mechanically stirred until it has taken on a homogeneous consistency. Above all make sure that the product application is saturated. In the case of very thick coats of paint first scrape off any loose layers before the application of ASUR. Apply uniformly, using an airless spray gun, natural pig-bristle brushes or rollers. In order to optimise consumption and accelerate the process, particularly on extensive surfaces, we recommend that after application the surface be covered with a plastic film, pressing gently down with a roller, applying hardly any pressure. In general the product should then be left to act for anything between 1 and 24 or even 48 hours. After 1 hour has elapsed use a scraper to test whether the product has effectively impregnated as far as the base surface, as this is the ideal moment to eliminate it, initially using trowels or scrapers to remove thick coats, and then rinsing with water (preferably hot) under pressure. Always work from the bottom up. In general, subsequent light cleaning using our FK-12 detergent cleaner is recommended. For further details consult the specifications sheet and/or application guidelines, along with the safety sheet.

AVERAGE YIELD: macs Asur provides a yield of approx. 0.5 to 4 litre/m², although this may vary considerably

depending on the number of coats and the product to be stripped. As a guideline you should allow for a minimum consumption factor of 1 to 1.4, i.e. in order to strip a dry thickness of 100 microns, apply a thickness of at least 100-140 microns of macs Asur, depending on the type and state of the paint that you are stripping.

1.- OPTION C - FK-12

PRODUCT SUMMARY: Concentrated water-based detergent cleaner, free of chlorine and formaldehyde, biodegradable and compatible with moisture. Wide range of applications and sectors, for use both indoors and outdoors, on horizontal and vertical surfaces.

For cleaning moisture damage on surfaces of various materials; saltpetre blooms, lime blooms, surface damage caused by the action of microorganisms such as mould, moss, bacteria and biofilm matrix, as well as medium-grade pollution. Mainly used in industry in general, food industry, health sector, establishments in general, restoration of facades and heritage, civil works.

It presents a notorious descaling power of penetration, leaving the pore of the base, clean, open and receptive for later treatments; consolidators, protectors, waterproofing impregnations, primers, paints and coatings, anti-graffiti protections, etc. Its tensoactive components facilitate the neutralization of the base, after rinsing with water. With Declaration of Conformity.

MODE OF APPLICATION: Application from concentrated to dissolved 1:4 in water as a general rule. Adapt the dissolution according to the needs and conditions of each surface. The higher the concentration, the faster the action, and the higher the capacity to clean the damage. Especially to eliminate lime and microorganisms in wood will be applied without dilution.

Once the dissolution is done, apply preferably from the upper area, with brush, sponge, mop, spray, as appropriate in each case:

- Insist where the reaction is triggered and rub the affected area with brushes.
- Rinse with water before the product and the dissolved dirt dry.
- Allow to dry before proceeding with other treatments.

CONSUMPTION - PERFORMANCE: It is very variable, depending on the solution used, type and absorption of the surface, method of application, type and degree of dirt or affection, so its average performance can vary between 4 m² and 15 m² per litre of concentrate.

2.- OPTION A - MORTERO ELITE Cal Plus Crema

DESCRIPTION: Mortero Élite Cal Plus is a rendering mortar, mixed with lime, category F1 CS IV W2, with EC Marking. In a standard issue cream-colour, with a granulometry of 01, excellent thixotropy that, along with the elite system additives, will always allow for applications of thick coats in cases of volumetric re-composition. Brings excellent workability, plasticity, along with optimised times for subsequent cutting and finishing. Its lime composition increases compatibility with old surfaces, on which its setting, congruity, melding, breathability and durability values are of particular importance.

MAIN USE: Mortero Élite Cal Plus mortar is ideal for restoration work and the creation of rendered elements that will work on both functional and decorative levels, for the restoration of façades and heritage work, new-builds, civil engineering in general, construction, the food industry, the health sector, industry in general, etc. Mainly for use on vertical and horizontal surfaces, as well as surfaces in immersion, including saltwater immersion.

ALWAYS USE WITH ÉLITE ADDITIVES:

- MULTILITE: Silicate additive that provides plasticity, consolidation, open-time workability and an increase in physical/chemical resistance.

- FK-19 Plus: Pure acrylates/polyurethane additive that provides impermeability, plasticity and an increase in physical/chemical resistance.

HOW TO APPLY: Carefully protect all surfaces that are not to be treated from splashing. The support must be consistent, clean, free of hygroscopic salts, microorganisms, dust, mould-release agents, paint or any other substance that could affect adherence. The base needs to have been duly primed and all possible fissures or cracks in the base, caused by retraction or settling, etc. will need to have been stabilised.

1. Prepare the elite additive mix and add water, in a proportion of 1 litre of additive for every 6 litres of water. Immediately before adding the mortar prime the mineral base using the same solution of elite additive and water that you used for the mix.
2. Mix the mortar with around 5.7 to 6.2 litres of the solution for every 25 kilos of the Élite Cal Plus mortar until you have obtained a homogenous blend, free of lumps, and then go ahead with immediate application, either by hand or by spraying. The indicated range for mix ratios will vary depending on the ambient temperature, absorption of the base and whether or not it is to be applied by hand or using a mortar spraying machine. In each case we recommend using as little as possible of the solution. If cracks or fissures appear after drying this will be because too much liquid has been used. In case of doubts prepare previous samples to determine the ideal ratio.
3. Manual application: Firstly spread a fine coat over the support, pressing down to squeeze any air out and then gradually build up until you obtain the required thickness, up to a recommended maximum of 15-20 cm. For machine applications, spray directly onto the surface until the required thickness has been obtained.
4. After the mortar has been levelled you will have to wait for approx. 1 to 2 hours before you can give it shape, etching, scraping or theming it. The mortar will remain workable for at most 4 to 12 hours following application, although this will vary depending on temperature and humidity conditions.
5. After doing the texturing work leave to dry for 24 hours, in which time the last effects can be added, before going ahead with the finishing work.
6. At singular points, such as structural joints, areas where different materials meet, such as windows, and in general for significant thicknesses when doing volumetric reconstruction and professional theming work, etc, it is recommended that an intermediate mesh be incorporated to reinforce and hold the coat together, increasing both resistance to stresses and shrinkage.
7. When application is complete clean the utensils, the machinery and/or hoses with water immediately after use, before the mortar can go off.

NOTE: This is a thixotropic mortar; if it starts to solidify re-stir it and it will recover fluidity. Under no circumstances add more water. For more information regarding special applications consult the specifications sheet and/or application guidelines, along with the safety sheet.

AVERAGE YIELD-CONSUMPTION: Approx. 16 Kg/m² of Mortero Élite Cal Plus mortar, plus 0.55 litres of elite additive per centimetre of thickness. Approx. 0.85 litres of elite additive will be consumed for each 25 kg of Mortero Élite Cal Plus.

2.- OPTION B - MORTERO ELITE Extreme

DESCRIPTION: Elite Extreme mortar is a plastering mortar category CS IV and CE marked (more than triples the standard resistance of 6 N/mm², reaching up to 20 N/mm² with proper curing). Standard in white color and granulometries 01 and 0.2, excellent thixotropy that always together with the additives of the elite system, allows the application of large thicknesses for volumetric recomposition, with excellent workability, plasticity and optimized open time for subsequent carving and finishing.

MAIN USE: Elite Extreme mortar is recommended wherever the best possible performance in a CS IV plastering mortar is required. Due to its special composition, it provides high hardness and resistance, for the creation and restoration of horizontal and vertical surfaces, both indoors and outdoors, as well as for immersion. High

thixotropic performance, applications from 0.5 cm to 15 cm volume in a single coat. Suitable for the creation of plaster elements, both functional and decorative, in the restoration of facades and heritage, in new construction, civil works in general, construction, food industry and health sector, industry in general, etc.. mainly in vertical and horizontal surfaces and in immersion even in salt water in special situations such as theming work in general, in aquariums, zoos and the like.

ALWAYS USE WITH ELITE ADDITIVES:

- MULTILITE: silicate additive that provides plasticity, consolidation, open time workability and increases physical/chemical resistances.

- FK-19 Plus: pure acrylate and polyurethane additive, which provides waterproofing, plasticity and increases physical/chemical resistance.

WAY OF APPLICATION: Protect well all surfaces that should not be treated or splashed. The support must be well consolidated and consistent, clean, free of hygroscopic salts, microorganisms, dust, release agents, paint or any other substance that may affect its adhesion. The mineral substrates where it is applied must be properly primed and all possible existing cracks due to shrinkage, settling, etc., must also be stabilized.

1. Prepare the mixture of multilite or FK-19 Plus + water in a proportion of 1 liter of additive for every 5 liters of water. If it is applied over a mineral base, prime it with the same elite + water admixture solution that will be used for its mixing, just before applying the mortar.
2. Knead the mortar from 4.2 to 5.2 liters of solution per 25 kg of elite Extreme mortar, until a homogeneous, lump-free mass is obtained, to proceed with its immediate application, either by hand or sprayed. The indicated range of mixing ratio varies depending on the temperature of the environment, absorption of the base, thicknesses and its use by hand or with a spraying machine. We recommend in each case, to use the smallest possible amount of solution; if after drying it presents cracks it is because too much liquid part has been used, in case of doubt make a previous sample to determine the ideal ratio.
3. For its use by hand: Spread first a very thin coat on the support pressing so that the air comes out, and then build up again until obtaining the required thickness, with a recommended maximum of 15-20 cm.
4. For use with a machine, spray directly until the desired thickness is reached, adjusting the appropriate viscosity just at the beginning of the projection.
5. Once the mortar has been levelled, wait approximately 1-2 hours to be able to give it the required shape or planimetry, trim, scrape, theme, with the maximum period of workability starting from 6-12 hours from its application, variable depending on the thickness applied, the temperature and the ambient humidity.
6. Once the texture works have been carried out, it will be left to dry for 24 hours, time in which the last effects can be carried out, and proceed with the finishes.
7. In special situations or singular points like structural joints, unions between different materials, windows, and in general for great thicknesses in volumetric reconstruction and professional thematization, etc, it is convenient the incorporation in the intermediate part of a reinforcement mesh to reinforce it, increasing the resistance against tensions or dilatations.
8. After the application, clean the tools, machinery and/or hoses with water immediately after use, before the mortar sets.

NOTE: It is a thixotropic mortar, if it loses fluidity, shake it again and it will fluidize. Never add more water. For further details and special applications, consult technical data sheet and/or application guides, and safety data sheet.

CONSUMPTION - AVERAGE YIELD: Approx. 18-20 Kg/m² of elite Extreme mortar + 0.55 l of elite additive per 1 cm of thickness. Approx. 0.85 l of elite additive is consumed per 25 kg of elite Extreme mortar.

With Multilite in hand application:

- For plastering up to 1-1.5cm / thickness: between 4.4l.- 4.6l. of solution / 25kg bag (0.75l.-0.80l./multilite / 25kg bag).
- In applications over 1,5cm: between 4,2l.-4,5l. of solution/bag 25Kg. (0,70-0,75l./multilite/bag 25Kg.)
- Application with spraying machine: between 4,8l.-5l. of solution/bag 25Kg) (0,80-0,75l./multilite/bag 25Kg).

With FK-19 Plus, application by hand:

- For plaster up to 1-1,5cm thickness: between 4,6l.- 4,8l. of solution/bag 25Kg (0,75l.-0,80l./FK-19 P./bag 25Kg).
- In applications over 1,5cm: between 4,4 l. - 4,6 l. /bag 25Kg. (0,70-0,75l./FK-19 Plus/bag 25Kg)
- Application with spraying machine: between 5 l. - 5,2 l. /bag 25Kg) (0,85-0,9l./FK-19 Plus/bag 25Kg)

3.- OPTION A - MULTILITE Color

DESCRIPTION AND MAIN USES: Multilite is a modified potassium-methyl-siliconate concentrated multipurpose additive exclusively for use on mineral bases and mortars. It does not alter breathability or the diffusion of vapour and is compatible with damp. Easy to apply and manage it provides a considerable consolidating effect, due to the chemical process of silicification, through which it establishes insoluble chemical bridges with the mineral products that will fuse the Multilite to its mineral base. This product's multipurpose characteristics enable it to function as an additive that will improve the performance of elite mortars, as a consolidated mineral primer or as a mineral glaze, when pigmented with Mixol oxides. Multilite can also be used as a primer, both for consolidation and decoration during the restoration of façades and for heritage work, new build, civil engineering in general, construction, theming work, embossed paving, the food industry and the health sector, industry in general, etc. For use on vertical and horizontal surfaces, or even for immersion in salt water. Can be applied at ambient and base temperatures of 5°C and over.

HOW TO APPLY AND AVERAGE YIELD/CONSUMPTION DEPENDING ON FUNCTION:

Carefully protect all surfaces that are not to be treated from splashing, particularly glass, metal or lacquered surfaces... The support will have to be consistent, clean, free of hygroscopic salts, micro-organisms, dust mould-release agents or any other substance that could affect adherence. Applicable at temperatures over 5°C.

- Consolidating mineral glaze: Multilite Color, whether pigmented using Mixol oxides or the series colours of the Fakolith consolidating mineral glaze colour chart, is an excellent consolidating translucent glaze for virtually all absorbent mineral surfaces, vertical, horizontal and also immersion, where the pigments are encapsulated in insoluble silicon crystals. When used in this way Multilite provides a variable yield of approx. 3-5 litre/m², depending on function and type of base. For optimum durability the system can be improved with the subsequent application of the waterproof protectors FK-7 or FK-3 Plus Nano.

Clean utensils immediately after use with soap and water. For more information consult the specifications sheet and/or application guidelines, along with the safety sheet.

3.- OPTION B - MULTILITE Monocrom

PROPERTIES: Mineral glaze/veil based on a complex potassium silicate micro-emulsion, in a water-based dispersion, for use on interior and exterior mineral bases. With an organic material content of less than 5% of total formula weight, in compliance with the German DIN 18363 Standard. Specifically designed for exclusive use on mineral bases, as Multilite Monocrom ends up forming a part of the substrate, due to a process of silification, by chemical bonding, to form a single body that is insoluble in water but highly breathable (SD < 0.02). Can be pigmented using Mixol Óxidos and/or other oxide colours, subject to order. Multilite Monocrom, unlike Multilite itself, unifies the different oxide pigments used in pigmentation, mostly blending them into a unique colour in order to provide a homogeneous tone. Should you wish to make up a glaze colour of your choice, Multilite Monocrom is transparent and white and is available with a chart of colours and can also be pigmented, using at most 3%-5% of Mixol oxides. Because it does not form a surface film, due to its penetrating qualities, Multilite Monocrom will not alter the

texture of the mineral base treated, making this an extremely natural, effective and lasting treatment.

MAIN USE: Multilite Monocrom is used as a penetrating, coloured mineral glaze for absorbent mineral bases, concretes, mortars, micro-mortars, paved floors, façades, heritage work, professional theming, etc.

HOW TO APPLY: Carefully protect all surfaces that are not to be treated from splashing, particular glass, metal or lacquered surfaces, wood, etc. Apply Multilite Monocrom using brushes, rollers or an airless spray gun. It must not be diluted with water or solvents. We recommend the application of 2 coats, leaving a drying interval of 12 hours between each coat. Clean utensils immediately after use with solvent. For optimum durability the system can be approved through the subsequent application of FK-7 or FK-3 Plus Nano water-repellent protector. For more information consult the specifications sheet and/or application guidelines, along with the safety sheet.

AVERAGE YIELD: Multilite Monocrom provides a yield of approx. 4-6 m²/litre and an average consumption of between 150 and 250 ml/m², although this may vary considerably, depending on how it is applied and the texture and absorption of the base.

4.- OPTION A - FK-3 Plus N (CE Marking)

DESCRIPTION: FK-3 Plus N is a water-based, concentrated, (low Voc) micro/nano emulsion water-repellent and oil-retardant, with CE Marking test data, solvent free and formulated on the basis of nano-silanes, siloxanes and innovative, modified C6 fluorinated compounds, free of PFOA and PFOS, providing excellent in-depth action and high resistance to alkalinity. The finish is colourless, although it does tend to enhance the tone of the base, particularly higher concentration applications are used. Provides protection against deterioration of horizontal and vertical surfaces, due to water absorption, and against the adherence of dirt and grime. For colourless, oil-retardant and water-repellent conservation and protection of virtually all absorbent mineral material surfaces, both interior and exterior. Does not form a surface film as it penetrates into the pores of the base material, providing long term protection against pollution dissolved in water, against frost deterioration, against the spread of micro-organisms, hindering the in-depth adherence of dirt and grime, and facilitating both cleaning and maintenance work. Does not result in significant physical changes to the treated base, particularly in terms of breathability (Value SD = 0.02). Because it is highly breathable, FK-3 Plus N will not negatively affect the correct curing of the base. The oil-retardant properties do not come fully into effect until several days have elapsed following correct application. The water-repellent effect usually shows itself in the form of dew drops or beads. FK-3 Plus N is a product that does not form a film, and has been designed to notably improve the qualities of resistance to water, oils grime and dirt, facilitating maintenance and extending useful life.

BIOFILMSTOP SANITARY TECHNOLOGY: FK-3 Plus Nano is an intelligent water-repellent, treated with BioFilmStop Inhibition Technology, and highly resistant to mould and microorganisms, DIN-UNE EN 15457:2008 (Aspergillus, Cladosporium, Penicillium, Algae...), as well as bacteria ISO 22196:2011. The products in the BioFilmStop range positively contribute to compliance with (EC) 852/2004, and are manufactured subject to HACCP and GMP (EC) 2023/2006, also notably improving HACCP, food safety and asepsis for the user company. Declaration of Conformity – Health Register FAKOLITH RGSEAA ES-39.005259/T y ROESP E-0043-E.

MAIN USE: FK-3 Plus N is ideal for all manner of absorbent natural and artificial stone, micro-cements, mortars and concretes, even when recently set and with high levels of alkalinity, mineral paints and claddings, refractory, clinker, exposed, roof tiles, lime stucco and similar; earthenware floor and absorbent ceramic tiles, swimming pool copings, slates, etc. Mainly for use on façades, heritage work, flooring tiles, theming, civil engineering, industry in general, the food industry, housing, hotels, skirting boards, tourist establishments, public squares, chalets, restaurants, kitchens, washrooms, etc. Limitations: Any type of polished base that lacks capacity for absorption (in these cases use FK-4 Extreme), vertical mineral surfaces with previous infections (in this case use FK-7) and interior or exterior natural stone surfaces with water lixiviation with surface creep.

WATER THINNING: Depending on the type of surface, the level of protection and the visual finish required, for maximum protection it is recommended that the product be applied in a minimum solution of 1:6 (generally on floor tiles), or up to a solution of 1:14 (generally for waterproofing work on façades). The more diluted in water it is the less the oil-retardant affect will be, and the less it will enhance the surface colour. The more concentrated it is the greater its oil and water resistance characteristics will be, as well as the enhancement of the tone of the base.

HOW TO APPLY: Carefully protect all surfaces that are not to be treated from splashing. Following suitable preparation of the base, and on dry surfaces, apply FK-3 Plus N 2 or 3 times in a row using brushes, rollers or spray guns, each time on top of the previous coat while it is still wet, and always working from the bottom up. Once dry it will not take a second coat. Clean utensils immediately after use with water. Only apply the quantity that can be absorbed by the surface to be covered and avoid applications that will leave excess product on the surface. Where necessary eliminate any excess product applied using a rag before it can dry, as it will leave yellowish stains if this is not done. Any splashes or dry remains left on other surfaces will have to be eliminated as quickly as possible using a solvent. Will resist rain 24 hours after application, although the full water-repellent affect does not occur until several days have passed. For more information consult the specifications sheet and/or application guidelines, along with the safety sheet.

AVERAGE YIELD: FK-3 Plus N, when undiluted, provides a yield of approx. 20-60 litre/m², although this may vary considerably depending on type of surface and method of application. Average consumption in solution is approx. 250 ml/m², although this may also vary between 100 and 500 ml/m².

4.- OPTION B - FK-4 Extreme

DESCRIPTION: FK-4 Extreme is a high-performance micro/nano dispersion, impregnation water-repellent and oil-retardant that provides a high level of in-depth action and resistance to alkalinity, with BioFilmStop micro-organism inhibition technology, providing a colourless finish that does not alter the tone of the surface. A solution based on silanes, siloxanes and innovative C6 modified fluorinated compounds, free of PFOA and PFOS. Provides protection against surface deterioration resulting from water absorption, also and against the adherence of dirt and grime. Provides colourless, oil-retardant and water-repellent conservation and protection on the vast majority of absorbent mineral material surfaces, both interior and exterior, particularly on low-porosity surfaces. Does not form a film as it penetrates into the pores of the base material, providing long term protection against pollution dissolved in water, frost deterioration and the spread of micro-organisms, inhibiting the in-depth adherence of dirt and grime and facilitating both cleaning and maintenance work. Does not result in significant physical changes to the treated surface, particularly in terms of breathability (Value SD = 0.10). The oil-retardant properties will not appear until 24 hours have passed. Unlike some varnishes, following application and once dry, FK-4 Extreme will not alter the inflammable qualities of the mineral bases onto which it has been applied and will act as a flame retardant. FK-4 Extreme does not form a film, and has been designed to notably improve the qualities of resistance to water, oils grime and dirt, facilitating maintenance and extending useful life.

MAIN USE: FK-4 Extreme is ideal for all manner of absorbent natural and artificial stone, and particularly useful in cases of low porosity, such as marble, granite, travertine or micro-cements, and also for other mortars and concretes, even when recently set and with high levels of alkalinity, mineral paints and coatings, refractory, clinker, exposed, roof tiles, lime stucco and similar; earthenware floor and absorbent ceramic tiles, swimming pool copings, slates, etc. Mainly for use on façades, heritage work, flooring tiles, theming, civil engineering, industry in general, the food industry, housing, hotels, skirting boards, tourist establishments, public squares, chalets, restaurants, kitchens, washrooms, etc. (Not suitable for direct contact with foods)

SOLVENT THINNING: It is recommended that the product be applied undiluted to provide maximum protection, mainly on floors, marble work surfaces, etc., or in solutions of 1:1, combined with FK-45 Solvent, for generalised water proofing of façades and similar.

HOW TO APPLY: Carefully protect all surfaces that are not to be treated from splashing and ensure that interiors are well ventilated. Following suitable preparation of the base, and on dry surfaces, apply FK-4 Extreme 2 or 3 times in a row using brushes, rollers or spray guns, each time on top of the previous coat while it is still wet, and always working from the bottom up. Clean utensils immediately after use with a solvent. Only apply the quantity that can be absorbed by the surface to be covered and avoid applications that leave excess remains of the product on the surface. Where necessary eliminate any excess product applied using a rag before it can dry, as it will leave yellowish stains if this is not done. Any splashes or dry remains on surfaces will have to be eliminated as quickly as possible using solvent. Will resist rain 24 hours after application, although the full water-repellent affect does not occur until several days have passed. For more information consult the specifications sheet and/or application guidelines, along with the safety sheet.

AVERAGE YIELD: FK-4 Extreme, when undiluted, provides an average yield of 3-10 litre/m², and when diluted 1:1 with the solvent indicated on the label, of 6-20 m² per litre of pure product.

4.- OPTION C - FK-7 NanoTane

DESCRIPTION: FAKOLITH FK-7 NanoTane is a concentrated, consolidating, solvent free micro/nano dispersion, (low Voc) water-based hybrid, water-repellent and oil-retardant, formulated on the basis of nano-silanes, siloxanes and innovative C6 fluorinated compounds, free of PFOA and PFOS, reinforced with polyurethane and combining in-depth action with surface protection. Colourless, although it will enhance the tone of the base a little, providing a satin finish. Protects against deterioration of horizontal and vertical surfaces, resulting from water absorption, and against the adherence of dirt and grime, or friction wear, providing colourless, oil-retardant and water-repellent conservation and protection on virtually all absorbent mineral material bases, both interior and exterior. Forms a fine film that penetrates into the pores of the surface and provides long term protection against pollution dissolved in water, frost deterioration and the spread of micro-organisms, making it difficult for in-depth adherence of dirt and grime, facilitating both cleaning and maintenance work. Does not result in significant physical changes to the treated surface, particularly in terms of breathability (Value SD = 0.10). Its protective properties will not come fully into effect until at least 7 days have passed following correct application.

MAIN USE: FK-7 NanoTane provides protection against deterioration and the accumulation of dirt and grime on mineral surfaces, particularly on floors, such as micro-cements, cements, concretes, etc.

HOW TO APPLY: Carefully protect all surfaces that are not to be treated from splashing. Following suitable preparation of the base, and on dry surfaces, using a short-pile roller apply a total of 3 coats. Wait until the previous coat is dry to the touch before applying the next. Apply the first coat diluted 1:3 with water (1 part product to 3 parts water). When dry apply a second coat diluted 1:2 with water. When dry apply a last coat, diluted 1:1 with water. Clean utensils immediately after use with water. Actual drying times will be determined by ambient temperature. Do not subject the surface to high levels of stress until 48-72 hours have elapsed following application. The water-repellent properties will not come fully into effect until at least 5-7 days have passed following correct application. For more information consult the specifications sheet and/or application guidelines, along with the safety sheet.

AVERAGE YIELD: FK-7 NanoTane, when undiluted, provides a yield of approx. 15-35 litre/m², although this may vary considerably depending on type of surface, function and method of application. Average consumption in solution is approx. 250 ml/m², although this may also vary between 100 and 400 ml/m².

IMPORTANT NOTE:

This implementation guide is a general recommendation. On particular cases there may be additional recommendations or variations. If you have any doubts or would like a personalised technical prescription, please contact us using the [contact form](#) on this website.

APPLICATION GUIDES LEGAL ADVICE:

FAKOLITH CHEMICAL SYSTEMS, S.L.U. (FCS) applies a quality management system, and manufactures under HACCP for the food industry and health sectors, among others. Fakolith is certified by TÜV Rheinland Cert GmbH for ISO 9001: 2015 standard. FCS is a company of the FAKOLITH group in Spain, dedicated to developing, manufacturing, importing and commercializing paints and special industrial treatments. As our corporate purpose reflects, the legal responsibility for the application of the products is always out of our reach. FCS has a policy of R.C. of products with international coverage, except USA and Canada, of up to three million euros for damages caused by possible manufacturing defects.