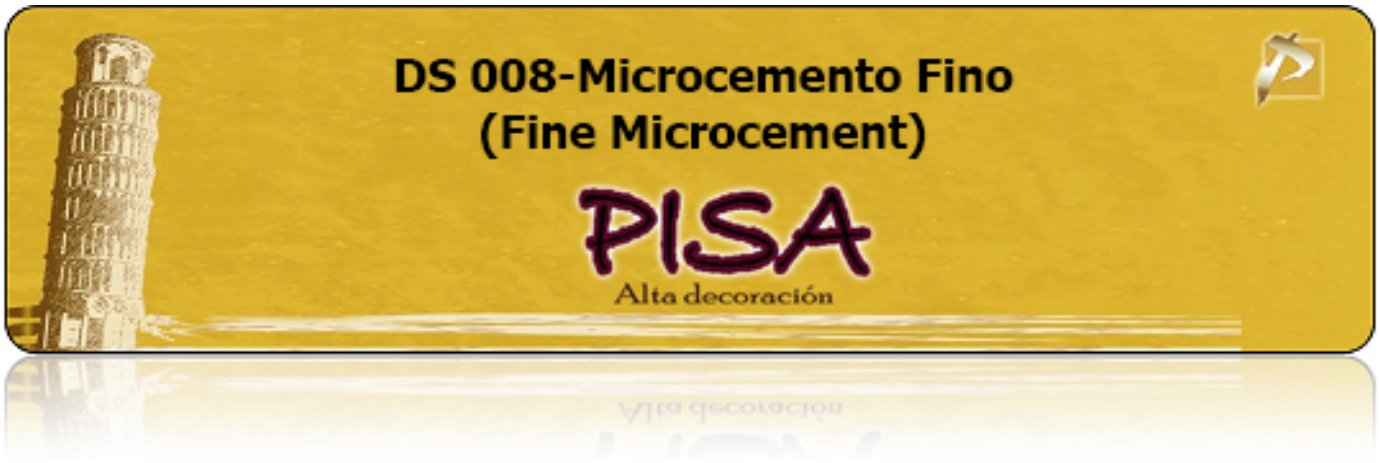

Product Definition:

High performance two-component hydraulic micromortar based on calcium cements and impalpable marble loads in addition to other additives which, when mixed with the previous ones, provide it with superb physical-chemical properties as well as aesthetic properties.

It is used on Medium Microcement to provide it with a more polished or fine finish if desired than when only Medium Microcement is used.

It is also applied to simulate marble or other very smooth textured materials.

Due to its lower resistance to compression, the Fine Microcement finish will only be used on walls and floors with moderate human traffic.

Suggested Applications:

Wall and floor decoration in hotels, offices, malls and venues, schools/nurseries, hospitals and museums with great properties such as:

- Be a continuous coating.
- Flame retardant (due to its mineral nature).
- Breathable (permeable to water vapour molecules).
- Due to its crystalline structure, it reflects the radiations of light and heat.
- Aseptic (high alkalinity: pH 12.5).
- Antistatic.
- Low allergenic levels.
- Magnificent ageing, the action of environmental CO^2 hardens it progressively.
- High resistance to rubbing/wear.
- High adhesion.
- High deformability for a mineral finish.
- Low thermal spread.
- In its simpler finish technique, the burnished smooth, the stylistic contrasts are well resolved, and decorations are not conditioned.
- The possibility of creating unified environments, since the same decoration can be applied to floors and walls.
- The commissioning work is clean compared to other systems/materials and less complex.

Physical Location:

Indoor-outdoor, even in aggressive indoor environments such as wash rooms and kitchens, with the suitable protections and sealing.

Technical Data:

PH: 11.5 ± 0.5

MIX DENSITY: 1.6 ± 0.05 g/cm³

MIX DENSITY: 1.6 ± 0.05 g/cm³

PRESENTATION:

1 tin with Component A, powdered.
1 tin with Component B, liquid.

PRODUCT PREPARATION: Pour Component B first, then the chosen Toner Dye and finally the powder, blend-knead the mixture with an electric mixer.

DILUTION: The mixture of Component A + Component B gives a relatively paste-like/dense mortar with the aim that it can be applied "vertically" (walls) while avoiding runs. If the mixture needs to be thinned for any reason, a maximum of 2% water can be added, however, it should be considered that the mixture may be less dense with some Dyes/Toners, or with some concentrations of them.

PACKAGING:

Component A - 14 Kg. Component B - (5lt container)-5.79kg.	Component A - 3 Kg. Component B - (1 l container)-1,1kg.

LIFE SPAN OF THE MIX: 5½-6 hours in the tin, under 20°C temperature and 55% relative humidity conditions. The working-setting times will vary accordingly depending on higher temperature and lower humidity conditions. Do not mix the components A and B when the temperature of the liquid and powder exceeds 28-30°. Store on site in places protected from high and low temperatures.

LIFE SPAN IN CONTAINER: Approximately 14 months in stable environmental conditions.

5 ºC min. - 32 ºC max. and without opening the tin. Avoid frost and high temperatures.

Application Technical Data:

FINISH: Matte or high satin depends on the degree of polishing (compacting) with the trowel in the finish coat, but fundamentally depends on the final protection/seal chosen.

INDOORS COLOURS: 27 obtained from Toner/Dyes from the Colour Chart, added to the neutral Fine Microcement (that is, as it is after mixing), considering that, in order to achieve the same colour intensity for Medium Microcement, it is necessary to add 16% to 18% more Toner Dye to the Fine Marmorino than to the Medium. Toner dyes can be mixed together to obtain new colours.

OUTDOORS COLOURS: Only use the Dyes/Toners referenced in the Colour Charts as Outdoors. For a more extensive range of colours in this location, contact our commercial department.

METALLIC FINISH: Once finished and dry, Fine Microconcrete Finish can be finished with Microcement Glazing, which is available in Gold, Silver, and Bronze and applied using a trowel or spatula. If this option is chosen, the work must be finished with either of the two varnishes: Single component or Two-component, in Gloss quality.

THINNER: Water (If water is added, use the same dilution in all containers).

The mixture of Component A + Component B gives a relatively paste-like/dense mortar with the aim that it can be applied "vertically" (walls) while avoiding runs, since it can always be diluted with up to 2% water for other applications.

If an intense colour was chosen, with the addition of Dye/Toner, the Finie Microcement will be fluid enough, making the dilution with water unnecessary.

MAXIMUM THICKNESS PER COAT: 1.5—2 mm.

REQUIRED TOTAL THICKNESS: 2.5-3mm, for the material to have the ideal mechanic resistance qualities and a good cohesion, i.e., 2 1.5mm coats ± or 3 1mm coats. This condition is necessarily given in floors or façades.

INTERVAL BETWEEN COATS:

- **"Wet-on-wet" technique:** It involves applying the Fine Microcement coat over the last Medium Microcement coat once it has set/hardened but is still wet. It is a comfortable and quick installation but leaves less thickness than in the "wet on dry" technique.

*The hardening/setting of the applied material in walls or floors (depending on the absorption of the surface and thickness of the coat) can range between 1 and 1/2 to 2 hours.

"Wet on wet" technique: One coat is applied over another when the previous one has dried, either on Medium or Fine Microcement, during 20-24 h., at 20ºC and 65% relative humidity.

TOTAL DRYING: 48 hours (20ºC at 55% relative humidity). Progressive hardening by carbonation, after 30 days it presents a considerable hardness.

APPLICATION TOOLS: Stainless steel trowels and spatulas. Another way to finish the Fine Microcement is by mechanical polishing using glass sandpaper discs with numbers ranging between 220-320 for polishing if the finish was semi-smooth after the last trowel coat.

CLEANING OF TOOLS: Clean with soap and water immediately after use. Keep in mind that the product is highly adherent. If it dries, it must be cleaned by abrasion/sanding.

Application conditions:

PREVIOUS PREPARATIONS: Surfaces must be dry, firm/set up, well adhered, free of salts, free of any biological contamination such as mould, algae, lichens, free of environmental contamination (grease stains, soot, substances of unknown nature, etc.); i.e., free of any visible or invisible substance or contaminant that prevents the perfect attachment and finish of the Microcement or its previous primers.

ACTUATION SYSTEM

Types of Surfaces	Application Method
Medium Microcement	Apply one or two coats of Fine Microcement until the desired effect is achieved.

GENERAL OBSERVATIONS

➢ Working temperature of both the environment and the surface: minimum 7ºC -maximum 32ºC.
➢ Screed floors on which Fine + Medium Microcement will be applied must be installed according to regulations that mark minimum plate thickness according to mortar type, distance-width-depth of retraction joints, expansion and hardening/maturation time. To avoid strong retractions that are manifested in the breaking of the plate. ➢ It is necessary to respect expansion, retraction, and dilation joints in the application of the Fine Microcement.
➢ For screeds in floorings or wall parge coats, use industrially manufactured mortars with suitable typology for each case that guarantee homogeneous dosing and additives. ➢ Those fabricated on site are forbidden because of the generation of retractions for at least 3 to 6 months depending on the thickness and type/dosing of the cement.
➢ Apply the Ultrafine Binding Primer on very absorbent floors or floors in which this property is increased by the effect of high temperatures for better workability of the Medium + Fine Microcement system. The same applies when the surface is uncoated with loose sand that is impossible to vacuum or sweep.
➢ Check that concrete and mortars do not contain any harmful water-resistant material that may affect adhesion or generate contamination that will appear as stains.
➢ When applying the Medium + Fine Microcement on filling or levelling decks/mortars, perimeter expansion joints -or other similar joints- and dilation joints must be respected. Retraction joints can be covered once they have fulfilled their function, i.e. when enough days have passed and the mortar has reached its final volume.
➢ Fine Microcement coloured with the same amount of Dyes/Toners as Medium Microcement will have a lower shade.
➢ If you would like to avoid a "greying" in light colours caused by the wear of the steel trowel against the wet microcement surface, apply using a plastic trowel and polish it mechanically once it has dried.
➢ If an intense colour has been chosen with the addition of a lot of Dye/Toner, the hardening time slows 1-3 times, something that must be taken into consideration in the case of the execution of floors, for varnishing and subsequent use.
➢ The setting time in the tin can be increased or decreased depending on the Toner Dye chosen and the amount used.
➢ Bathrooms often have poor air recirculation. This must be considered for the products drying process.
➢ Fine Microcement is not a waterproof material. Therefore, waterproofing in the execution of bathtubs, toilets, etc. comes from the construction itself.
➢ Preserve from the direct action of water when it is being applied outdoors and protections/proofings have not been applied yet. The same applies when applying the latter with the aim of forming a protective and durable film.
➢ When applying on bathrooms, keep in mind most of them have poor ventilation and, therefore, drying times may be slower. To partially prevent this, consider using air convectors.

➢ The resulting colour will be more or less intense depending on the amount of friction applied using the trowel or other tools.
➢ If a floor/wall is to be later made with the same colour, both surfaces have to receive the same amount of coats and the same treatment to avoid changes in the decorative effects and the colour intensity.
➢ In façades as well as in large floors, if you do not want to address the finish by polishing in the latter case, it will be necessary to carry out day-to-day assessments apart from using the correct work equipment in order to not produce unsightly "joints."
➢ The colour may lower in intensity after finishing/smoothing with water.
➢ For proportional colour calculations it is necessary to take into account that the Dyes/Toners are presented in 200ml tins, but their weight is 250 grams.
➢ If only ½ or ¼ of component A (powder) is going to be used, pour the appropriate proportion of component B (liquid), so that the mix does not lose properties.
➢ The "wet on dry" technique is the most viable when working in several or large spaces and several work teams.
➢ The floors made with Medium Microcement + Fine Microcement are only fit for moderate to intense human traffic.
➢ Pisa is exempt from responsibilities for damage and problems in regards to stains, detachment, lack of cohesion, exposures, produced by deficiencies of the direct surface or structure.

Medium + Fine Microcement Protections:

In order to prevent penetration of dirt, water, or other contaminants, and to avoid colour bleeding or staining, in certain locations: façades, bathrooms, kitchens, bars, restaurants, houses... and especially in floors in general, it is necessary to thoroughly apply any of our protective systems listed below:

Aggressive locations such as kitchens, bathrooms, restaurants, hair salons.	Apply 4 coats of undiluted water-based Single Component Varnish (220grs/m2) and a final coat of Fabertano AR Two-component Polyurethane varnish diluted from 8 to 10% (80-86grs/m2) matt, satin, or gloss qualities.
House floors	Apply 1 coat of undiluted water-based Single Component (74grs/m²) and 3 coats of water-based Two-Component (220grs/m²). *If greater chemical resistance is desired, a final coat of Farbetano AR two-component Varnish can be applied in matt, satin, or gloss qualities.
Floors in non-aggressive commercial premises or subject to high transit	Apply 1 coat of water-based Single Component (74grs/m²) and 3 coats of water-based Two-Component (220grs/m²).

Observations on the application of varnishes to achieve effective protection:

- The smoother the Microcement surface is, the easiest it will be to close the pore and, therefore, to achieve waterproofing.
- Although it can be applied using a roller/brush, we recommend application of at least the final varnish coats using a turbine or **airless**, both being continuous pressure systems, which leave an even coat of material.
- If applied manually, perform the varnishing carefully and by leaving a coat.
- Estimated consumption of varnishes, so that it results in a consistent film, is 0.30-0.33lt./m² in 3 coats.
- Varnish coats can be applied with an interval of 8-10 h under 20°C and 55% relative humidity environment conditions.
- Maintenance of the Microcement finished with only water-based Single Component Varnish or adding Fabertano AR Varnish is the same for a varnished wood platform; specific cleaners and neutral soaps.
    - For any of the two varnishes to have acceptable hardening properties, waterproofing and chemical resistance, 5 to 7 days will have to pass; they reach their maximum performance after 30 days.

Application methods:

Although there are many application methods with very different finishes, we describe the step-by-step on-site application using pictures:

1) Apply an initial coat of Medium Microcement using a stainless steel trowel.

2) Apply a second coat of Medium Microcement once the first coat has hardened, leaving it semi-smooth.

3) *Apply a third coat, this time with* Fine Microcement, smoothing the material as it is being applied.



Technical data of the applied and dry product:

Determination of resistance to bending	UNE-EN 1015-11:2000 and 1015-11:2000/A1:2007	Resistance to Bending (N/mm²) **8.2**	
Determination of resistance to compression	UNE-EN 1015-11:2000 and 1015-11:2000/A1:2007	Resistance to Compression (Nmm²) **15.4**	
Determination of the elasticity modulus in compression	UNE-EN 13412:2008	Elasticity modulus (MPa) **8200**	Resistance to compression (MPa) **17.6**
Resistance to adhesion on concrete	UNE-EN 1015-12:2000	Fn (MPa) **1.24**	
Determination of water vapour permeability	UNE-EN 1015-19:1999 1015-19:1999 Erratum 1015-19:1999/A1:2005	Water vapour permeability (Kg/P·a·m²·s) **$2.27 \cdot 10^{-10}$**	Water vapour permeability (Kg/Pa·m·s) **$4.62 \cdot 10^{-13}$**

THEORETICAL PERFORMANCE: The consumption informed may vary depending on the product's roughness, planimetry and absorption. With this consumption, we will reach the requested 2—2,5mm of thickness so that the Medium + Fine Microcement presents good resistance, especially in floors.

0.5 -0.8kg/m² in 1 or 2 coats

PRECAUTIONS FOR USE: Alkaline material. Protect skin and eyes.