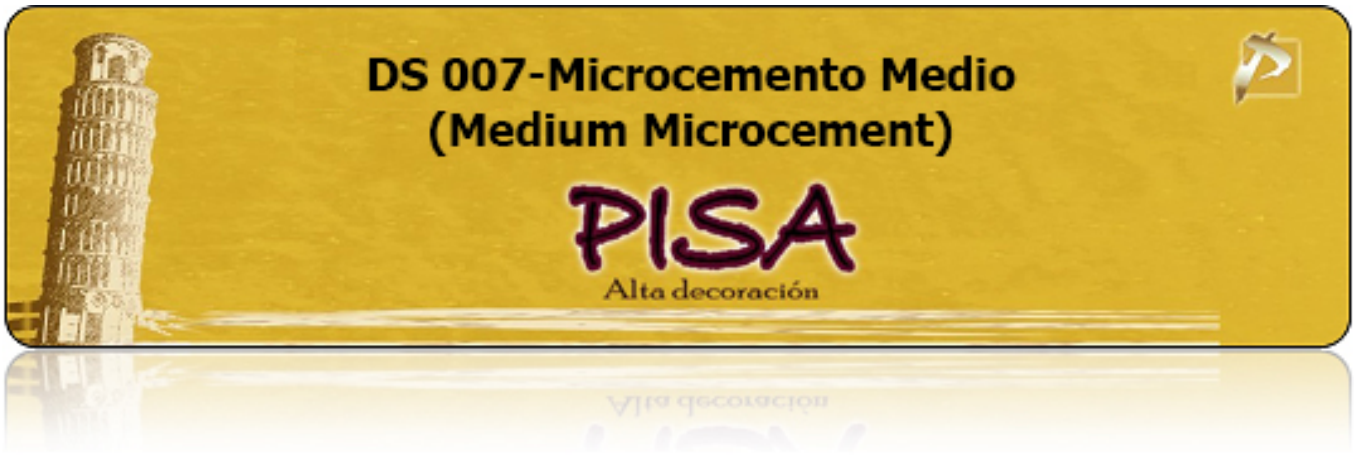


Product Definition:

High performance two-component hydraulic micromortar, based on special cements and sands with different granulometry in addition to other additives that, when mixed with the previous ones, provide it with magnificent physico-chemical as well as aesthetic properties.
It is used for making highly decorative continuous coatings with cement-mineral appearance; in floors, walls, bathtubs, basins.
It is inspired by the Tadelakt, a Berber word for burnished-pressed earth or plaster and refers to a technique/material used in North Africa, although its origin and diffusion date back to the Roman Empire. It is also inspired by the finishes of "polished cements".

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 12,5)
- Antistatic.
- Low allergenic levels.
- Magnificent ageing, the action of environmental CO2 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.
- Clean and uncomplicated commissioning work with respect to other systems/materials.

Physical Location:

Indoors-outdoors. Even in aggressive environments such as wash rooms and kitchens, with adequate protection and sealing.

Technical Data:

PH: 12 0.5
MIX DENSITY: 1.75 0.05 g/cm^3

PRESENTATION: 1 tin with powdered Component A + 1 bottle with liquid Component B.

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- 4kg. Component B- (5lt container)- 4.90kg.	Component A- 4kg. Component B- (1lt container)- 1kg.

LIFE SPAN OF THE MIX: 7-7½ 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°C (min.) and +32°C (max.) 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 the Dyes/Toners on the Colour Chart, added to Liquid Component B before mixing with powdered Component A. They 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, Medium Microcement can be finished with Microcement Glazing, which is available in Gold, Silver, and Bronze and applied using a trowel or spatula. The Glazing option should be finished with any of our two Single-component or Two-component varnishes in Gloss quality.

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

MAXIMUM THICKNESS PER COAT: 3-4 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 one layer over the other when the previous has set/hardened but is still wet (this is only possible with hydraulic mortars as in this case of mortars with thick aerials). It represents a comfortable and fast installation, but leaves less width/thickness in the sum of all applied layers than the "wet on dry" technique.

The hardening/setting of the applied material in walls or floors (depending on the absorption of the surface, temperature, relative humidity, and coat thickness) can range between 2½ and 4 hours.

- **"Wet-on-dry" technique:**

One coat is applied over another after the former has dried between 20-24 h. at 20◦C and with 55% relative humidity.

TOTAL DRYING: 48 hours at 20ºC and 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 microcement is by mechanical polishing using glass sandpaper discs with numbers ranging between 80 for roughing down (if the surface is very rough or crude) and 180-220 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 of the Microcement or its previous primers, if any.*

ACTUATION SYSTEM

Types of Surfaces	Application Method
Cement, lime or mixed wall plasters.	Clean the dust and be sure that the surface is not gritty and is set up. Apply Ultrafine Binding Primer, if necessary, before IMPRIMACIÓN AL CUARZO **(*Quartz Primer*)**. Let dry and proceed with the MICROCEMENT.
Outdoor spackling and plastering for the repair/levelling of floors/walls.	Clean the dust (if any as a result of sanding or pollution), apply Quartz Primer, then Microcement.
Screed mortar surfaces for floors	Clean the dust and be sure that the surface is not gritty and is set up, carefully checking that no other problems are present. Apply Ultrafine Binding Primer, if necessary, before Microcement.
Screed self-levelling mortars or levelling for floors	The same observations as for the previous case.
Special mortars for floors with underfloor heating.	The same observations as for the previous case.
Concrete.	If necessary, fix holes or imperfections with ENDUIT REPARACIÓN/ NIVELACIÓN (***Enduit Repair/Levelling***), apply IMPRIMACIÓN AL CUARZO **(*Quartz Primer*)**, and then proceed with the Microcement.
Emulsion paints (plastic matte paints) on walls. ***On these surfaces the application can only be performed indoors.**	Verify that they are well adhered and do not have any problems. Apply 2 undiluted coats of FONDO AISLANTE **(*Insulating Base coat*)**, leave to dry and apply the Microcement.
Satin emulsion paints, water-based acrylic enamels, on walls. ***On these surfaces the application can only be performed indoors.**	Verify that they are well adhered and do not have any problems. Apply 2 undiluted coats of FONDO AISLANTE **(*Insulating Base coat*)**, leave to dry and apply the Microcement.
Synthetic enamels, polyurethanes, on walls. ***On these surfaces the application can only be performed indoors.**	Verify they are well-adhered, that there are no problems, and that at least 1 month has passed: Apply first 2 coats of Impritex 4 x 4 and then Microcement.

Epoxy and polyurethane coats on floors. *Note:* Application is only possible indoors on these surfaces.	Verify that they do not have any contamination or other problems and that at least 1 month has passed before applying the Microcement, which is done directly.
Cardboard/Water-resistant plaster, normal and flame retardant.	Apply 2 coats of Quartz Primer, allow to dry and apply Microcement.
Ceramics	Apply the Repair/Leveling Spackle or the Microcement itself, then 1 or 2 coats of Impritex 4 x 4, let dry, and then the Microcement.
Terrace	Apply the Repair/Leveling Spackle or the Microcement itself, then 1 or 2 coats of Impritex 4 x 4, let dry, and then the Microcement reinforced with a fibreglass mesh.
Granites-marbles	Same as in the previous case.
Ceramic vitreous tile (glass tiles with joints)	Same as in the previous case.
Mixed Surfaces: Ceramic, terrazzo or stones that are scored with dints, or repairs with various mortars.	Leave time for the filler mortars to acquire their volume and show any retractions or breakage. In all other cases, follow the same steps as above, except for prior dints binding. If the sand is loose, this operation may be carried out using Ultrafine Binding Primer.
Sprayed plaster and perlite plaster without fine plaster finish.	Clean the dust and be sure that the surface is not gritty and is set up, carefully checking that no other problems are present. Apply Ultrafine Binding Primer, if necessary, before Quartz Primer. Let dry and proceed with the Microcement.
Plasters with fine plaster finish	Clean the dust and make sure that they are not uneven or gritty; ensure that they do not present any other problems. Apply the Ultrafine Binding Primer before the Quartz Primer; let dry, proceed with the Microcement.
Wood shavings boards (waterproof MDF)	Apply 2 coats of undiluted Insulating Base coat, leave to dry and apply the Microcement.

GENERAL OBSERVATIONS

➢ Working temperature of both the environment and the surface: minimum 7ºC -maximum 32ºC.
➢ Bathrooms often have poor air recirculation. This must be considered for the products drying process as it can be slower. Dryers can be used.
➢ The seams, staples and repairs to join split plates should be made with high solid or polyester epoxy by applying one or more coats behind the material chosen for repair, reinforced with a fibreglass film.
➢ 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.
➢ The reinforcement meshes must be in the middle of the mortars; neither close to the surface nor glued to the support. The mesh light suitable for the Repair/Levelling Spackling or the Microcement is 4X4 mm. and 80 grams.
➢ Screed floors on which 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 Medium 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 Microcement. The same applies when the surface is uncoated with loose sand that is impossible to vacuum or sweep.

➢ The average relative drying and retraction calculation for medium and high thickness self-levelling and screed mortars is: 1 day x every 1.5 mm thickness. The process is accelerated at a lower thickness (by the total water content of the plate).
➢ When applying the 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.
➢ Calculation of maximum moisture of the surface for the application of Microcement: 5 to 7%.
➢ The same goes for terrazzo, granite, and marble plus the reinforcement of the plaster for possible movements of the plaques, especially in the case of terrazzo.
➢ Medium 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.
➢ 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."
➢ 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.
➢ If you would like to avoid a "greying" in light colours caused by the wear of the steel trowel against the wet Microcement surface, finish using Fine Microcement, applying it with a plastic trowel and polishing it mechanically once it has dried.
➢ 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.
➢ The colour may lower in intensity after finishing/smoothing with water.
➢ For proportional colour calculations, keep in mind the Dyes/Tones are offered in 250 gr tins.
➢ 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 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.

Protections for the Medium Microcement:

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:

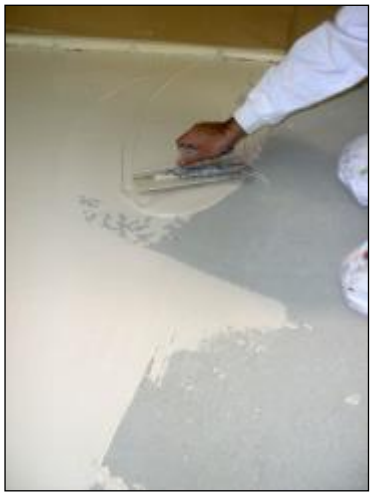
Aggressive locations such as kitchens, bathrooms, restaurants, hair salons.	Apply 4 coats of undiluted water-based Single Component Varnish (220grs/m2) and a final coat of Fabertano AR Two-component Polyurethane varnish diluted from 8 to 10% (80-86grs/m2) matt, satin, or gloss qualities.
House floors	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.
- 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. They can also be applied with a roller/brush.
- 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 an average of 0.300grs/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.
- 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.
- 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.

Application methods:

Although there are many application methods with very different finishes depending on whether they are mechanically polished-sanded or manually applied using a trowel, we describe the step-by-step on-site application using pictures:

a)  b)  b) 

a**)** Apply an initial coat of **Medium Microcement** using a stainless steel trowel. Allow to harden. Details in INTERVAL BETWEEN COATS section.

b) A second coat is applied and, when the Medium Microcement has hardened/set but is not dry, reverse the process with the clean trowel to fill the sand and finish smoothing, using a water sprayer if desired, as there is another technique called waterless smoothing.

The section applied before smoothing will vary depending on the temperature, environmental humidity, surface absorption, and coat thickness.

c) Varnishing-sealing, as shown in the previous section "Medium Microcement protections".

Technical data of the applied and dry material:

Determination of resistance to bending	UNE-EN 1015-11:2000 and 1015-11:2000/A1:2007	Resistance to Bending (N/mm²) **8.9**	
Determination of resistance to compression	UNE-EN 1015-11:2000 and 1015-11:2000/A1:2007	Resistance to Compression (Nmm²) **19.4**	
Determination of the elasticity modulus in compression	UNE-EN 13412:2008	Elasticity modulus (MPa) **8600**	Resistance to compression (MPa) **21.6**
Resistance to adhesion on concrete	UNE-EN 1015-12:2000	Fn (MPa) **1.63**	
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) **$2.57 \cdot 10^{-10}$**	Water vapour permeability (Kg/Pa·m·s) **$5.13 \cdot 10^{-13}$**

*values certified by Cidemco-Tecnalia.

THEORETICAL PERFORMANCE: depending on the product's roughness, planimentry and absorption.

3kg/m² in 2 or 3 coats

With this consumption, we will reach the requested 2—2,5mm of thickness so that the Medium Microcement presents good resistance, especially in floors.

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