

Document type	Technical Data Sheet
Name	MAGNESITE TERRAZZO
Description	<p>Natural, mineral-based plaster in two components, for decorative floor coatings. Magnesite is a mineral material that provides a completely eco-friendly alternative to Portland cement and lime. It can be used alone or mixed with aggregates to create stunning Terrazzo floors that can be as thin as 6 mm, and 6 times harder than cement.</p> <p>The two-component product is made from alkaline-earth metal oxides mixed with an aqueous solution of salts, resulting in a smooth paste that is highly adaptable and can be mixed with various aggregates, such as marble or glass. Magnesite is a different material from cement or lime. It doesn't shrink, but on the contrary, it increases its volume of about 0,2-0,3% when it cures. This is a quality that prevents cracks, also when applied very thickly.</p> <p>The dried material has an ivory colour and can be tinted with colourant pigments or marble aggregates to achieve the desired shade.</p> <p>Magnesite Terrazzo is unique for its complete mineral composition, high mechanical strength, and natural antistatic properties, making it an excellent option for seamless interior floorings. Suitable for high traffic areas such as shopping malls and restaurants, Magnesite Terrazzo is not recommended for outdoor use as it cannot tolerate rising humidity.</p>
Composition	Component A: magnesium oxide; Component B: magnesium chloride
Appearance	Component A: powder; Component B: liquid
Colour	Ivory white, it can be tinted in any colour with compatible colourants and / or with stone chips and powders, or other suitable aggregates, such as shell and glass.
Packaging	<p>1 Magnesite Terrazzo Kit is composed of:</p> <p>2 x Component A: 24 kg net polyethylene containers</p> <p>1 x Component B: 20 kg net polyethylene containers</p>
Application	By hand, with suitable tools
Type of Surface	<p>Interior flooring.</p> <p>The substrate must be solid, levelled, stable, and completely dry. The substrates must be treated with our PRIMER Q or GLP at least 18 hours (for PRIMER Q) or 24 hours (for GLP) before the application of MAGNESITE TERRAZZO.</p>
Mix Ratio	<p>Magnesite comes in two components: Magnesite component A is a powder (magnesium oxide) and component B is a liquid (magnesium chloride).</p> <p>The two components must be mixed in a strict ratio of:</p> <p>A: 2.4 to B: 1 in weight</p> <p>See mixing instructions below.</p> <p>Therefore, the normal packaging is: 2 tubs of 24 kg of A (total of 48 kg) and 1 tub of 20 litres of B.</p>
Consumption	Over 1 square meter you need 2,42 kg of MAGNESITE mixture for each millimetre of thickness. For example, to achieve 1 cm of thickness over 1 sqm you will use 10 kg of Magnesite A, 4,167 kg of Magnesite B and 10 kg of cheaper material, like marble aggregates., for a total of 24,167 kg.

With 1 standard set of MAGNESITE TERRAZZO, you will cover approximately 4.8 sqm, and it is composed as such:

STANDARD SET: 4.8 SQM, 1 CM THICK^[1]_[SEP]

Component A: 48 kg (powder)

Component B: 20 kg (liquid)^[1]_[SEP]

Aggregates: 48 kg of different aggregates of your choice

	Component A	Component B	Aggregates	Tot.
1 cm thick / 1 sqm	10 kg	4,167 kg	10 kg	24,167 kg
1 cm thick / 4.8 sqm	48 kg	20 kg	48 kg	116 kg
1.2 cm thick / 4 sqm*	48 kg	20 kg	48 kg	116 kg

***Note** that the first 2mm of the Terrazzo surface will be smoothed during the polishing stage, so a 10mm thick terrazzo will become 8mm high after polishing.

Drying	3 hours at 20°C / 68°F 24 hours at 20°C / 68°F	to the touch stable
Application Temperatures	min 5 max 30°C – R.U. < 85% ca	
Coat Thickness	Depends on the choice of marble or other aggregates. Usually, 5 to 14 mm.	
VOC Classification	EU Directive 2004/42/CE: EU limit value for this product (cat A/I – water-based decorative effect coating): 200 g/l (2010). This product contains less than 1 g/l of VOC.	
Flammability	European Class of Reaction to Fire A1: non-combustible – no contribution to fire	
Pot life	30 minutes after mixing the two components	
Shelf life	12 months when stored according to the recommended guidelines	
Storage	<p>In original sealed packaging between 5° - 35°C in a dry, dark environment.</p> <p>Component A: The product must be stored in a clean, dry storage area and protected from moisture with PE-foil.</p> <p>MgO rapidly attracts moisture from air and forms lumps.</p> <p>Always re-seal full, partly used pallets and single bags with PE-foil.</p> <p>Component B: Magnesium chloride is very hygroscopic. Store in a dry place and protect from contact with air. Quickly re-seal opened bags.</p> <p>Magnesium chloride flakes can recrystallize and form lumps. Therefore protect from direct sun light, high temperature (+25 °C) and strong temperature variations during storage.</p>	
Safety Norms	Keep out of children. / Avoid contact with eyes. / In case of contact with eyes, clean immediately with water without rubbing them, and consult a doctor. / Wear suitable gloves and eyes / face protection. / In case of ingestion of the products, consult immediately a doctor showing him the can or the label of the product. Danger labelling	

under directives 67/548/EEC and 1999/45/EC and following amendments and adjustments. The product must be transported, used, and stored according to current standards of hygiene and safety.

Disposal

Product must be disposed of according to norms and regulations in force. Containers must be sent for recycling. Follow directions on the packaging

Application Instructions

WARNINGS

We recommend using materials from the same production batch for the same project. To ensure proper usage, dilution, and application of the products mentioned in these pages, please consult the corresponding technical data sheets.

When preparing the surface and applying the materials, we advise using appropriate tools and personal protective equipment (PPE).

During application and for the following 24 hours, protect the surfaces from sudden temperature change, direct sun light and water. Don't apply in temperatures below 8°C or above 35°. During application make sure that the work area isn't too damp to avoid problems with application times.

APPLICATION

Choosing the aggregates:

When preparing aggregates for Terrazzo coating, it's not necessary to follow a specific granulometric curve. However, keep in mind that the thickness of the coating will be determined by the largest marble used in the mix. Therefore, it's important to calculate the material consumption based on the chosen marble size in advance.

To achieve the desired finish, you can use marbles of different sizes and colours. Fine powders (0-0.5 mm) can be used to add colour to the magnesite base, which would otherwise have an ivory hue. Indeed, there are two ways to colour the magnesite base: you can use liquid pigments, or use natural, fine stone powders to create depth in the finish.

Substrate preparation

Existing surface	Action	Primer
Non treated tiles	Clean from grease and dirt	GLP
New solid screed	Clean from grease and dirt	Primer Q
Marble, dirty tiles, old cement, waxed tiles	Abrade the surface, clean	GLP
Uneven / unlevelled surface*	Level the surface	Primer Q / GLP

*Before the application of Magnesite Terrazzo, for best results, the floor must be as levelled and even as possible.

Prepare the work site.

Apply a small sponge band, about 1 cm thick, at the base of the walls to allow a small distance from the wall of the new coating. MAGNESITE increases slightly its volume when drying.

Prepare the material.

Magnesite comes in two components: Magnesite component A is a powder (magnesium oxide) and component B is a liquid (magnesium chloride). **The two components must be mixed in a strict ratio of: A: 2.4 to B: 1 in weight.** To respect the mixing ratio, each MAGNESITE TERRAZZO kit is composed of 48 kg of Component A (powder) and 20 kg of B (liquid). These must be mixed as described below. Never alter the mixing proportion.

As a side, we prepare 48 kg of aggregates, from very fine marbles up to the maximum desired size. In this way, we will mix 1 part of Magnesite A with 1 part of marble aggregates. If desired, we can also increase the part of aggregates up to 1 of Magnesite A to 1.2 of aggregates.

Mix the material. Mixing order:

- 1) 20 kg Component B, which is liquid**
- 2) 48 kg Component A, which is powder**
- 3) The aggregates (marble/shell/glass) ^{SEP}: Starting from the biggest chips down to the finest ones.**

If there are too many fine powders, it is possible that the mixture becomes too thick. To solve this, it is possible to add a little bit of water (80-100 ml). On the contrary, if it is too liquid, it is recommended to insert very fine powders. **Never modify the ratio between component A and B of MAGNESITE.**

Application

Pour the mixture into a wheelbarrow and from it onto the floor.

Metal slats (rails) laid on the floor at 120 -150 cm from each other will help create the working bands. If we use marble aggregates with a maximum thickness of 12 mm, we will have 13mm thick metal slats, and once smoothed out we will obtain a coating of about 10 mm.

Once the material has been poured between the two slats, it is spread everywhere with the help of a trowel.

Then a metal stick (or blade) is slid over the two rails in order to obtain the same thickness everywhere and a flat surface.

Every so often (approximately every 20 minutes) the bubble breaker is passed. We apply it on a three meter long pole in order to do this job more often. As we move on to another area of the floor, we remove the metal slats from the completed area.

Filling the holes

Like the traditional Venetian terrazzo, before the final fine sanding there are small holes due to air bubbles. We therefore have to apply a grout, called Filler for Magnesite, A + B (designed for this purpose and supplied by us with the material) all over the floor. This can be coloured or left transparent. Poured on the floor it is then spread everywhere using a rubber spatula.

Sanding

After 24 hours the floor is ready for polishing, which must be done with the same machines and methods used for the traditional Venetian terrazzo. It can be done dry or with water, which is perhaps preferable. You will need sanding machines for diamond disks + diamond disks in metal support and diamond disks in resin support.

If you sand too early the discs get mixed with material, if too late you are faced with a noticeable hardness. It is very important to start sanding **maximum within 36 hours** from application, or the floor may be too hard for sanding.

Finish Protection

A final protective treatment is necessary to protect the finish. It can be done with our natural oils blend, ECOTOP, and MINERAL WAX, or with PU1C / PU2C polyurethane varnish.

1) ECOTOP + MINERAL WAX: make sure the Terrazzo is dry, especially if the sanding was done with water. Drying can take several days and its time is inversely proportional to the temperature and ventilation of the environment. Pour ECOTOP, a blend of vegetable seed oils, all over the floor and facilitate its penetration by moving it from the areas where it is in excess to those that are dry. After 4 hours dry everything up by removing the excess oil with the help of sawdust. Clean well, let it rest for 24 hours, and then apply our MINERAL WAX over the entire surface in minimum thickness with the help of a metal trowel.

2) PU1C or PU2C polyurethane varnishes: on a dry floor, apply our PRESEALER FOR MAGNESITE with a roller. Then, the next day, you can apply either PU1C or PU2C with a roller in two thin coats. PU1C is a one component water-based polyurethane varnish, while PU2C is a two component water-based polyurethane varnish. We prefer to apply it in several thin coats, diluting the first coat by 5% with water to increase its penetration, and then apply a non-diluted second coat after three hours. If you need an extra protection, you can apply also a third layer.

Maintenance

Clean with neutral detergents. MINERAL WAX can be reapplied when it wears out.

Tools

See above. Clean the tools with water immediately after use.

Aggregate complements

MARBLE AGGREGATES, SHELLS, GLASS

We have drawn up the material presented above to the best of our technical and experiential knowledge. All responsibility for the obtained results lies solely with the method and conditions adopted for the application of the product. Such indications constitute valid support for verifying the product's suitability for the specific case. We reserve the right to make modifications to the present information without previous warning.