

MALTA BASE

Epoxy primer and binder

Description

MALTA BASE is a liquid bi-component epoxy binder free of solvents made up of:

- Component A is a mix of functionalised pre-polymers with low molecular weight and additives. Component B is a mix of co-polymerisation polyamines.

MALTA BASE was specially designed for being added in variable quantities to quartz sands (of various grain sizes) for obtaining resin-quartz mortars with far superior physical and mechanical properties compared to cement mortars.

CE Marking

- ▶ EN 13813

MALTA BASE complies with the principles envisaged in the EN 13813 standard ("Screeds and screed materials - Screed materials: Properties and requirements") with the following designation:

→ SR – B2.0 – AR0.5 – IR10

- Synthetic resin screed (SR)
- Bond strength: 4.5 ± 0.3 MPa (B2.0)
- BCA wear resistance: 7 ± 1 microns (AR0,5)
- Impact resistance: 10 ± 1 Nm (IR10).

Colors

MALTA BASE is a transparent yellowish liquid.

Field of application

MALTA BASE is used as a base binder for the formulation of epoxy mortars for the following applications:

- creation of overlays for the formation of slopes from 1 mm thickness to any thickness before the application of resin coatings, in particular for companies in the food processing sector;
- repair of holes and depressions in industrial quartz floors, in all types of industrial sectors;
- construction of fillets and supports on bridges and flyovers;
- creation of fillets connecting the floor and wall before the creation of resin floors;
- creation of overlays and hardening top coats on industrial floors (screed coverings) in the restructuring of old quartz-based concrete floors;
- creation of waterproof overlays with mechanical smoothing, featuring far superior mechanical resistance compared to industrial concrete, intended for the heavy engineering industry.

Advantages

- MALTA BASE can be used to make very thin overlays featuring far superior adhesive power and compressive strength compared to structural cement mortars and industrial concrete.
- When using MALTA BASE, overlays can be covered and made operational a few hours after they have dried.

General preparation of the laying support

- The support must be carefully examined to ensure that it is a suitable and structurally sound base.
- Quartz-based industrial concrete can be covered following milling, shot-peening, grinding with a diamond grinding wheel or an acid wash, with 4% maximum humidity (as per the ASTM 4944 or UNI 10329 standard, carbide method).
- Sand and cement screeds must have:
 - adequate seasoning of at least 28 days;
 - a residual humidity of 3% and 4%;
 - a minimum compressive strength equal to 25 MPa.

If the compressive strength is < 25 MPa, wet the screed deeply with an epoxy mix consisting of 60 parts by weight of FONDO SL + 40 parts by weight of SOLVENTE PER NORPHEN (consult the Technical Sheet of FONDO SL).

The minimum consumption for this operation is between 100 and 150 grams of FONDO SL undiluted for each cm of thickness to be strengthened.

- Screeds made with SC 1 can be covered after 8 days (at 20°C and with 50% R.H.).

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- Rapid-drying screeds made with SC 1 or SC1 F admixed with FASTFLUID 300 (consult the Technical Sheet) can be covered after 48 hours (at 20°C and with 50% R.H.).
- Screeds made with SC 1-BASE-type binder and miscellaneous sand can be covered after 8–15 days (at 20°C and with 50% R.H.), once their residual humidity has been measured.
- Tiled surfaces must be roughened with a grinding wheel fitted with a diamond cup.
- Surfaces consisting of large wooden panels (including OSB, engineered wood or chipboard) can be covered after treating the connection joints with PU SEAL reinforced with a strip of 160 g/m² FIBREGLASS MESH (roughly 5–7 cm wide) and sprinkled lightly with 0.1–0.6 mm quartz sand.

Specific preparation of the laying support

- ▶ If the support has a humidity below or equal to 3%:

Apply one coat of MALTA BASE undiluted using a roller (consumption 0.15 kg/m²) and sprinkle the surface LIGHTLY with 0.4–0.6 mm NATURAL QUARTZ (consumption 1 kg/m²);

- ▶ With dampness in the substrate between 3% and 6%:

- apply one coat of SOLID;
- apply MALTA BASE the following day.

- ▶ Surfaces with dampness exceeding 6% or rising damp:

- treat the support with Q-PRIMER;
- skim coat with Q-RASANTE sprinkled until saturation with 0.3–0.9 mm QUARTZ SAND;
- after 24 hours, remove the excess quartz, sand the surface with a single-disc floor scrubber (double-fabric disc, grit 24/36) and vacuum any residues;
- apply MALTA BASE.

- ▶ Industrial quartz concrete:

apply one coat of MALTA BASE undiluted using a roller (consumption 0.15 kg/m²) and sprinkle the surface LIGHTLY with 0.4–0.6 mm NATURAL QUARTZ (consumption 1 kg/m²).

- ▶ Dividing joints (or fractionation joints):

→ quartz-based industrial floors up to 16 cm thick with a single reinforcing mesh and seasoned for less than 1 year: cover with MALTA BASE, cut and seal bare;

→ floors as above with thickness exceeding 18 cm and two reinforcing meshes or one reinforcing mesh placed in the lower third and steel fibres (or semi-structural plastic fibres): pour PU BASE up to saturation into the joint to create an elastomeric resin band reinforcing it with a strip of 160 g/m² FIBREGLASS MESH roughly 10 cm wide.

Preparing the product

- ▶ Choice of the version depending on the application temperature

Measure the temperature in the room in which work will be carried out to identify the suitable version to be used:

temperature range [°C]	→ optimal version
from 0 to +15	MALTA BASE INV
beyond +15	MALTA BASE EST

Table 1: criterion for choosing the WINTER or SUMMER version.

- ▶ Preparation of the epoxy mortar

Resin + quartz epoxy mortars must be prepared using kneaders with a fixed body and an internal impeller system. An exception applies when preparing mix quantities up to 50 kg at a time, for which the small kneaders readily available on the market can be used, consisting of a plastic bowl (impeller) and a system (fixed) of blades (kneaders for cementitious binders).

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The type of mortar obtained from the resin and quartz mix depends on the resin/quartz ratio adopted in the preparation phase:

→ Epoxy mortars with “damp earth” consistency:

Mix MALTA BASE (1 part by weight of A+B) with 12–15 parts by weight of QUARTZ MIX.

→ Closed-pore epoxy mortars:

Mix MALTA BASE (1 part by weight of A+B) with 6–8 parts by weight of a mix of NATURAL QUARTZ sands made up of:

- 1 part by weight of 0.1–0.3;
- 1 part by weight of 0.1–0.6;
- 1 part by weight of 0.3–0.9;

Application of the product

► Mortar with “damp earth” consistency

- Bring it to the work zone.
- Pour the epoxy mortar on the surface pre-treated in advance with MALTA BASE undiluted.
- Spread the mix with a rake and adjust the thickness by levelling the product using a straightedge (similarly to a cement screed).
- Saturate the porosity with a base skim coat consisting of a mix obtained with 1 part by weight of MALTA BASE (A+B) loaded with 1 part by weight of 0.1–0.3 QUARTZ SAND and EPOXY SILICA as required for obtaining the desired (normally 2–3%) viscosity (and thus the penetration).
- As soon as possible, complete the successive processes of the project or apply one top coat of NORPHEN 300, NORPHEN 200 or NORPHEN 200 HCR depending on the required aesthetic/functional performances.

► Closed-pore mortar

- Bring it to the work zone.
- Pour the product on the zone to be treated and adjust it with a straightedge (to restore the surface's flatness) or fill or repair the surface by adjusting and smoothing the product with a steel float (to repair holes or cut parts).

Consumption

Primer 0,15 – 0,20 kg/m²

Mortar binder 0,3 kg /m² + 2,00 kg of quartz sand to obtain 1 mm thick coat

Cleaning of tools

- Wet product: clean with ACETONE, SOLVENTE PER NORPHEN or nitro thinner.
- Hardened product: remove mechanically, soak for at least 24 hours in ACETONE or nitro thinner, or use paint strippers (FLUID STRIPPER or GEL STRIPPER).

Useful application tips

- Do not apply on linoleum, PVC, rubber (of various types) and surfaces with serious expansion problems at the connection joints.
- In summer keep MALTA BASE in a cool place to prevent an excessive increase in the system's reaction speed.
- In winter keep MALTA BASE in a warm place so that the product does not lose its fluidity and workability.
- When using MALTA BASE INV (winter version), apply the product as quickly as possible because it hardens rather rapidly even at temperatures between +8 and +15°C.
- mechanical compacting with a power trowel considerably increases the compressive strength of mortars prepared with MALTA BASE.
- Read the Safety Sheet carefully before using the product.

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Technical data

► DATI IDENTIFICATIVI DEL PRODOTTO	u.m.	valore
Density (comp. A) at 23°C, 50% R.H., EN ISO 1675	kg/L	1,10 ± 0,02
Density (comp.B) at 23°C, 50% R.H., EN ISO 1675	kg/L	1,00 ± 0,03
Density (A+B) at 23°C, 50% R.H., EN ISO 1675	kg/L	1,05 ± 0,05
Dry residue, A+B	-	100%
Appearance (Component A)	-	Liquido trasparente
Appearance (Component B)	-	Liquido ambrato
Brookfield apparent dynamic viscosity (A+B, WINTER version, at +12°C / 50% R.H. ASTM#5 spindle, 150 rpm), EN ISO 2555	mPa·s	2000 ± 100
Brookfield apparent dynamic viscosity (A+B, SUMMER version, at +25°C / 50% R.H. ASTM#5 spindle, 150 rpm), EN ISO 2555	mPa·s	650 ± 80
► APPLICATION DATA AND FINAL PERFORMANCES	u.m.	valore
Mix ratio by weight (A:B)	-	2 : 1
Pot-life (thermometric), SUMMER version, from +15°C to +40°C, EN ISO 9514	min	15,0 ± 0,2
Pot-life (thermometric), SUMMER version from +23°C to +40°C, EN ISO 9514	min	10,0 ± 0,1
Pot-life (thermometric), WINTER version, from +5°C to +40°C, EN ISO 9514	min	20,0 ± 0,2
Pot-life (thermometric), WINTER version, from +15°C to +40°C, EN ISO 9514	min	8,0 ± 0,1
Application temperature (SUMMER version)	°C	Da +15 a +30
Application temperature (WINTER version)	°C	Da +5 a +15
Shore D hardness, A+B, curing for 72 hours at +13°C/70% R.H., DIN 53505	-	(69 ± 2)°
Shore D hardness, A+B, curing for 72 hours at +25°C/70% R.H., DIN 53505	-	(73 ± 2)°

Storage of the product

- 24 months in the closed original packaging, in a dry and covered place away from direct sunlight, at a temperature between +5°C and +35°C.
- Protect the product against frost.

LEGAL NOTES

Advice on how to use our products corresponds to the current state of our knowledge and does not involve the assumption of any guarantee and / or responsibility for the final result of the work. They do not refore exempt the customer from the responsibility of verifying the suitability of the products for the use and the prefixed purposes through preventive tests. The website www.nordresine.com contains the latest revision of this datasheet.