

Tecno Produst®

Chemical solutions for construction and maintenance

TECNOCEM CAL ECOLOGIC

Macroporous lime mortar for the refurbishment of walls damaged by rising damp



BREATHABLE
HIGHLY VAPOUR
PERMEABLE

EXTERIOR



INTERIOR



SUBSTRATES

Brick and stone masonry affected by rising damp or condensation. Substrates must be solid, firm, rough and sound, free from loose material and laitance, clean and free from paint, efflorescence, grease, dust or gypsum. On very uneven, weak or non-absorbent substrates, mechanically fix a reinforcing mesh before applying the mortar.

CHARACTERISTICS

- One-component macroporous mortar based on hydraulic lime, reinforced with polypropylene fibres.
- Thermal and dehumidifying properties.
- Highly water vapour permeable.
- Macroporous structure that draws moisture from the substrate and helps it dry out through self-ventilation.
- Significantly delays salt efflorescence on the surface and reduces its damaging effect.
- Very low thermal conductivity: prevents the cold-wall effect and surface condensation.
- Cement-free: compatible with weak and deteriorated substrates.
- Salt-free composition.
- Excellent adhesion to the substrate, no bonding agent required.
- Can be applied in successive coats of up to 3 cm.
- Excellent workability and easy application.
- Reaction to fire Euroclass A1 (non-combustible).
- Suitable for interior and exterior use. White.

R

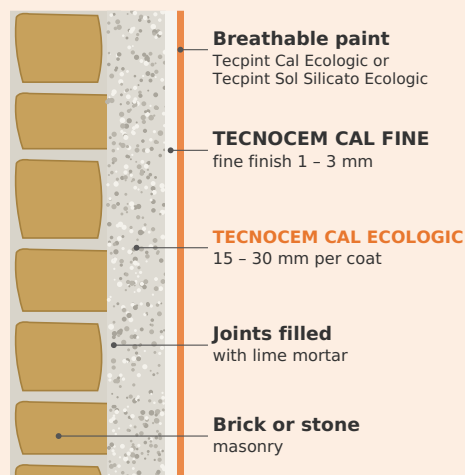
RENOVATION MORTAR
FOR DAMP WALLS

CE

TECNO PRODIST
EN 998-1
R
RENOVATION RENDERING /
PLASTERING MORTAR

FINISH

Externally, after 7 days' curing, finish with TECNOCEM CAL FINE or a breathable lime or silicate paint



Application diagram: remedial render system on brick or stone masonry



TECNOCEM CAL ECOLOGIC

IDEAL FOR

- Treating and eliminating rising damp or cold-wall condensation on walls, partitions and plinths, internally and externally.
- Preventing damage and the appearance of efflorescence on walls.
- Heritage restoration: walls, ceilings and vaults of historic buildings affected by rising damp.
- Remedial work in basements, ground floors and plinths of brick or stone-built homes.

ON-SITE APPLICATION

SUBSTRATE PREPARATION

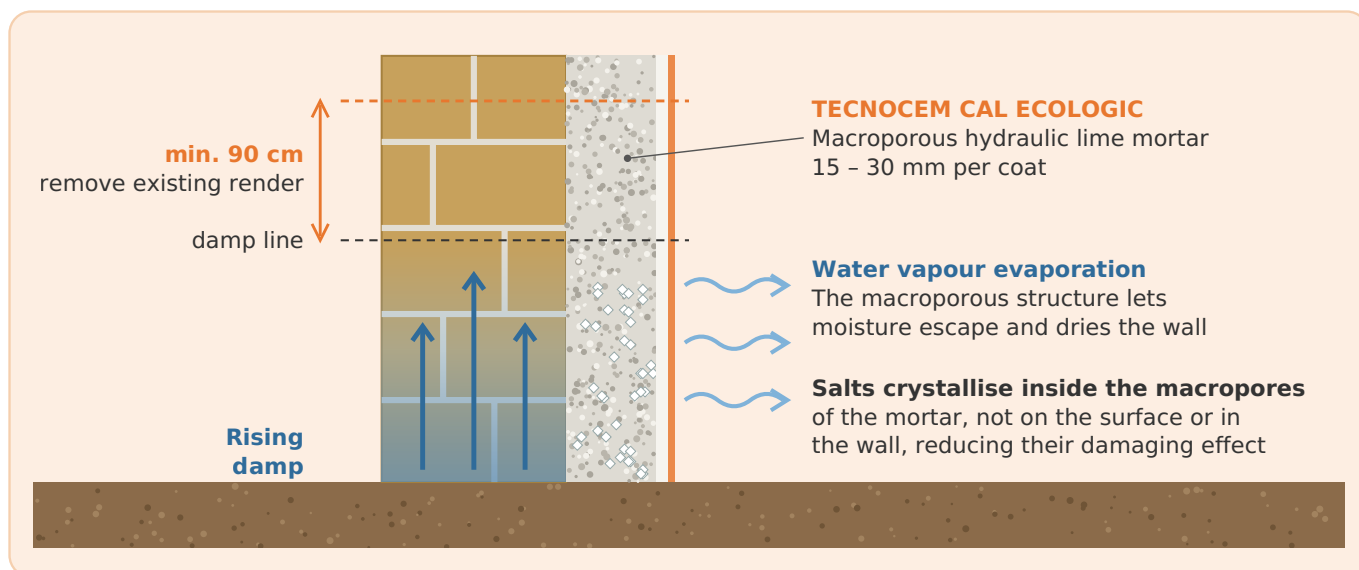
The substrate must be solid, firm, rough and sound, free from loose material and laitance, and as uniform as possible. The surface must be clean and free from paint, efflorescence, grease, dust, gypsum or any other substance that could impair adhesion.

Remove all existing render and coatings to at least 90 cm above the visible damp line. Clean and prepare the substrate by sandblasting or high-pressure water jetting; aggressive mechanical methods are not recommended.

Voids, spalls and static cracks should be opened up to a minimum depth of 2 cm and repaired with TECNOCEM CAL ECOLOGIC without over-compacting the material. On very uneven, weak or non-absorbent substrates, mechanically fix a reinforcing mesh before applying the mortar.

COMPLEMENTARY TREATMENTS

To minimise damage caused by the crystallisation of salts from the substrate, TECPINT CONSOLIDANTE AL SILICATO can first be applied to the surface to prevent efflorescence. In severe cases of rising damp, a horizontal water-repellent damp-proof course installed by injection is also recommended.



How TECNOCEM CAL ECOLOGIC works on a wall affected by rising damp



TECNOCEM CAL ECOLOGIC

DIRECTIONS FOR USE

MIXING

One 15 kg bag of TECNOCEM CAL ECOLOGIC requires 4.8 to 5.4 litres of clean water (34 ± 2 % by weight), depending on ambient conditions and the desired consistency. Mix with a forced-action mixer or paddle mixer: add the powder to 90 % of the water and mix until a smooth, lump-free mix is obtained. Leave to stand for 5 minutes, then remix briefly, adding the remaining water until a workable consistency is achieved.

APPLICATION

Before application, saturate the surface with water, avoiding puddles, and start applying once the surface takes on a matt appearance. If it dries out, saturate it again.

1. Fill all voids and joints between bricks or stones with a lime mortar and allow to set for 24 hours before applying the next coat.
2. Saturate the surface again and apply a coat of TECNOCEM CAL ECOLOGIC with a trowel or float without excessive pressure, or by spray machine, at a thickness of 1.5 to 3 cm per coat in a single pass.

If greater thickness is required, wait 24 hours before applying another coat over the previous one, which should be left rough to provide a key. Finally, rule off and level with an aluminium straightedge, **without pressing, so as not to reduce the porosity of the mortar.**

The higher the moisture content of the substrate, the greater the applied thickness should be, to achieve a higher ventilation capacity.

Externally, allow a minimum curing time of 7 days (20 °C, 50 % RH) and apply HIDRO A as a breathable, water-repellent finish, or a breathable paint such as TECPINT CAL ECOLOGIC or TECPINT SOL SILICATO ECOLOGIC. Lower temperatures and/or higher relative humidity will extend the curing time.

Internally, for a fine finish, apply a finishing coat of TECNOCEM CAL FINE followed by breathable paints such as TECPINT CAL ECOLOGIC or TECPINT SOL SILICATO ECOLOGIC.

APPLICATION CONDITIONS

The optimum working temperature range is 10 °C to 35 °C. Do not apply when substrate and/or air temperatures are below 5 °C, or if lower temperatures are forecast within 24 hours of application. Do not apply onto frozen or waterlogged surfaces, or externally if rain is forecast within the first 24 hours. In high temperatures, strong wind and/or low relative humidity, thoroughly pre-wet the substrate and gauge the mix with a solution of 1 part RESIPRO PLUS to 3 parts water. Avoid direct sunlight in extreme heat.

CURING

In high temperatures, low relative humidity and/or wind, prevent the mortar from drying out too quickly by keeping it damp for at least 24 hours after application, spraying it with water without washing it out.

CLEANING OF TOOLS

Clean tools with water immediately after use. Once set, the product can only be removed mechanically.



TECNOCEM CAL ECOLOGIC

TECHNICAL DATA

PRODUCT CHARACTERISTICS	
CE marking	EN 998-1 · R
Appearance and colour	White powder
Maximum particle size	< 1.0 mm
Bulk density of dry mortar	0.80 ± 0.10 g/cm ³
Mixing water (% by weight)	34 ± 2 %
Fresh mortar density	1.26 ± 0.10 g/cm ³
Air content of fresh mortar (EN 1015-7)	25 %

APPLICATION AND CURING CONDITIONS	
Minimum application temperature (substrate and air)	> 5 °C
Optimum working temperature	10 – 35 °C
Pot life (20 °C, 50 % RH)	25 – 35 min
Curing before finishing (20 °C, 50 % RH)	7 days
Full cure (20 °C, 50 % RH)	28 days

HARDENED MORTAR PROPERTIES	
Dry bulk density of hardened mortar (EN 1015-10)	1.00 ± 0.10 g/cm ³
Compressive strength at 28 days (EN 1015-11)	1.7 MPa · CS II
Flexural strength at 28 days (EN 1015-11)	1.5 MPa
Adhesion and fracture pattern (EN 1015-12)	> 0.3 N/mm ² · FP: A
Capillary water absorption after 24 h (EN 1015-18)	c < 1.5 kg/m ² ·min ^{0.5} · W0
Water penetration after absorption test (EN 1015-18)	< 5 mm
Water vapour permeability	μ < 15
Thermal conductivity λ _{10,dry} (tabulated value)	0.3 W/m·K
Reaction to fire (EN 13501-1)	Class A1

CONSUMPTION / THICKNESS	
Minimum – maximum thickness per coat	15 – 30 mm
Consumption per m ² per mm thickness	1.0 kg
Approx. coverage per 15 kg bag at 15 mm	≈ 1 m ²
Approx. coverage per 15 kg bag at 30 mm	≈ 0.5 m ²

Consumption may vary depending on the texture, porosity and condition of the substrate, as well as the application method. A trial area on site is recommended to determine the exact value.

USEFUL INFORMATION

The manufacturing process of the TECNOCEM range is batch-controlled, ensuring full traceability in the event of any incident. The quality system applied includes the in-house design of each product and inspections throughout production, covering both the raw materials used, to guarantee consistent manufacturing, and the finished product.

- Non-toxic product, but abrasive in composition. Avoid contact with skin and eyes, and avoid inhaling dust.
- Wear protective gloves and safety goggles when handling, mixing and applying the product.
- In case of skin contact, wash with soap and water. In case of contact with eyes, rinse with plenty of clean water without rubbing; if irritation persists, seek medical advice.



TECNOCEM CAL ECOLOGIC

STORAGE

- Maximum recommended shelf life: twelve months in the original, unopened and undamaged packaging.
- Store in a cool, dry place, protected from moisture, frost and direct sunlight, at temperatures between 5 °C and 35 °C.
- The product and its packaging must be disposed of in accordance with current legislation; this is the responsibility of the end user.
- Comply with current health and safety at work regulations.

For further information on protective measures and first aid, refer to the product Safety Data Sheet.

REMARKS

- Do not add cement, lime, additives or aggregates that may affect the properties of the product. Do not mix with any other material, as it will lose its technical properties.
- Observe the specified mixing water proportions.
- Do not use leftovers from previous mixes to prepare a new batch.
- Observe the recommended thickness per coat (15 – 30 mm).
- Do not over-compact the mortar during application or levelling, so as not to reduce its porosity.
- Do not apply onto water-repellent-treated substrates, bituminous materials, metal, timber, gypsum or paints.
- **Do not cover TECNOCEM CAL ECOLOGIC with coatings that prevent it from breathing.**
- Substrate and ambient temperature: minimum + 5 °C. Optimum working range: + 10 °C / + 35 °C.
- Use the product within its pot life. Beyond this time, its properties may be adversely affected.
- A prior inspection of the condition of the substrate is essential before each application.
- Please read the technical data sheet before use to ensure proper use and correct application of the product.
- The data given in this technical data sheet are for guidance only and are not binding. They were obtained under normal laboratory conditions on standardised substrates and may vary depending on site conditions (substrate absorption, applied thickness, temperature, ambient humidity, etc.). Consumption, dosage and coverage should be determined on the actual site where the product is to be used. Slight deviations above or below the stated ranges will be accepted at our internal technical discretion and will not affect the quality or performance of the final product.
- Users' working conditions are beyond our control.
- The product must not be used for purposes other than those specified. Strict adherence to the application recommendations is advised.
- For any application not covered in this technical data sheet, or for any queries, our technical sales team is at your disposal to advise you.

