



To be read in combination with the Quick Lime Technical Data Sheet

Description

Tŷ-Mawr hot mixes are a ready mixed dry lime mortar made with specially selected aggregates and Quicklime (Calcium Oxide). Lime mortars require exposure to Carbon Dioxide in the presence of moisture to harden. So preparation and protection are just as important as correct application to aid carbonation/ process of airing.

Please note

The mixing of hot Quick Lime is more involved than using conventional lime mortar. It is highly recommended that this product only be used by experienced personnel, as it is not possible to cover every point in detail here. Steps should be taken to avoid dust.

Preparing the Mortar

This guide is written to be used in conjunction with the Quicklime Technical Data Sheet to assist with the mixing of dry hot mixes made with either Tŷ-Mawr ML90 (Microlime), Tŷ-Mawr FL2 or Tarmac Cal90. LIME IS CAUSTIC so as well as carefully reading the Material Safety Data Sheet please also see safety information below.

- Establish a ratio - as a rough guide, we would recommend that you will **need between 100-160 litres of water per tonne of mix.** This roughly equates to **3L per 20L lime/aggregate mix.** More water may be required depending on the reactivity of the lime and the application. This will be down to the experience of the personnel. Trials should be done.
- **Put on PPE.**
- Add a bucket of the dry mix to the mixer. Use a 20l bucket to gauge the mix. Add any pozzolan (if required) at this time, usually a ratio of 350ml per 20l bucket. **PLEASE CHECK POZZOLAN DATA SHEET AS VARIOUS POZZOLANS EXIST.**
- Start mixer to carefully combine all dry ingredients. Care must be taken at this point to avoid dust.
- Mechanical mixers like whisk are only suitable for small quantities. For large mixes pan mixers, forced action mixers or barrel mixers are suitable. Pan mixer can be operated from the PTO of a tractor or hydraulics of a fork lift truck.
- If using a whisk, only mix in a heat proof/ metal bucket/ trugg.
- You may put a lid in front of/ enclose mixes to reduce dust while mixing. Always consider heat output and working environment.
- Once the dry ingredients, have been mixed add 2l of water. Add water cautiously, as the water and quick lime will react vigorously.
- Have an additional 1-2l of water to hand, too add if required lime reacts differently each time. So more water may be needed as the lime pulls it in.
- Once all water is added leave to mix for approx 20

mins.

- Once mixed, you will be left with a wet slurry.
- As the lime activates heat is produced and the mix will stiffen up.
- It is a good idea to remove the mix from the mixer, when cool enough, take care, it will still be hot, into a robust heatproof trugg to store. This will avoid having to dig out a stiff mix from the bottom of a mixer.
- In the case of mixes using GL5 (Granulated/Kibble) there could be white flecks that will appear in the mix. This is the lime that has expanded in the mix and is no cause for concern.
- **These mixes can generate significant heat.**
- Please note, during the day the mix will also start to 'dry out' due to heat generated, so the mix may need more water adding, and the whole mix will need reworking.
- Care must be taken in cooler temperatures as the mix will cool quickly if you are needing to use it hot.

Consistency

- Mortar for pointing should be kept as stiff as possible in order to compress it into the joint without smearing.
- Take care not to get mortar on the face of the brick/ stonework.
- Mortar for laying/bedding work needs to be a little wetter but should still be kept as stiff as possible to avoid excessive shrinkage. The mortar needs to be just wet enough to be workable.
- See Mortar Application Guide attached or on www.lime.org.uk.

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Safety Personal Protective Equipment

A mask, goggles and protective clothing must be worn when using this product. Heat will be generated when the water is added to the mix. So if it must be handled with extreme caution.





Health & Safety information:



WARNING

Skin Irritation 2 H315: Causes skin irritation

STOT SE 3 H335: Cause; respiratory irritation

DANGER



Eye Damage 1

H318: Causes serious eye damage

Precautionary statements:

P102: Keep out of reach of children;

P280: Wear protective gloves / protective clothing / eye protection / face protection;

P305+P351+P310: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and safe to do so. Continue rinsing. Seek medical attention as soon as possible;

P302+P352: IF ON SKIN: Wash with plenty of water

First Aid – Please see Material Safety Data Sheet but note:

- **Contact with eyes** - Wash immediately and abundantly with clean water and seek medical advice. **This is extremely important.**
- **Contact with the skin** - In case of prolonged contact with the skin
 - If Mortar products are in a dry state, eliminate as much as possible the dust. Wash abundantly with clean water.
 - If Mortar is in a wet mortar state, was abundantly with clean water.
 - Make sure that no product is left between skin and clothing or accessories (watches, shoes etc...). It will gradually rub through and burn skin without you noticing.
- **Inhalation** - In case of inhalation of large amounts of dust:
 - Bring the affected person outside the dusty area
 - Consult a doctor in case of respiratory problems.
- **Ingestion** - In cases of significant ingestion
 - Rinse mouth, drink potable water and consult a doctor.

Approximate coverage rates

Wet Mortar - Building

- 1 tonne will lay 900 bricks in a 225mm thick wall.
- (1 x 25 kg bag will lay 22 bricks in a 225mm thick wall.)
- 1 tonne will lay 4sqm of 450mm thick rubble stonework (varies depending on size of stone).
- (1 x 25 kg bag will lay 0.1sqm of 450mm thick rubble stonework.)

Wet Mortar - Pointing

- 1 tonne covers 100sqm brickwork.
- 1 x 25 kg bag covers 2.5sqm brickwork.
- 1 x 25 kg bag 45 linear metres @ 10mm x 25mm joints.
- 1 x 25 kg bag covers 30 linear metres @ 15mm x 25mm joints.
- 1 tonne covers 40sqm stonework (varies depending on size of stone and joints).
- 1 x 25 kg bag covers 1sqm.
- See our quantity calculator on www.lime.org.uk for assistance with calculating the quantity as well as the type of materials you may require.

Disposal Information

- Do not dispose of Mortar in sewers, drains and on surface waters.
- After hardening, as a mortar waste it can be disposed of together with other construction site waste and stockpiled in discharge sites following the regulations current at the time of disposal.

Associated Documents

- Ty-Mawr Hydraulic Lime Mortar Application Guide
- Quicklime - Material Safety Data Sheet
- Ty-Mawr Guidance for Protecting Lime Work

For further information about the whole subject and illustrated diagrams of lime plastering and pointing techniques, see The Lime Handbook now available to order on www.lime.org.uk

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