Clay Undercoat Plaster

Technical Information Sheet

Description

Clay undercoat plaster is a blend of clay, fine aggregate and plant fibres that is supplied as a dry powder. It has an indefinite shelf life if stored dry and requires only mixing with clean water to be ready for use. It hardens by drying - no chemical reaction takes place - and so remains workable for a long time and can be re-worked by the addition of water at any time.

Quality of the product is monitored by tests carried out by the manufacturer

- Tests of physical properties to ensure suitability of clay and aggregates.
- Tests to ensure uniformity and performance of the batched product.

Clay undercoat plaster is available in the following quantities:

Product	Bag Weight kg	No. of bags/pallet	Recommended coat thickness mm	Yield m^3 bag	Coverage m^2lbag
Undercoat	30	42	15 - 50	0.023	1.5-0.45

Design

Clay undercoat plaster is suitable for use on internal surfaces of walls and ceilings It attaches by mechanical bonding to all stable and dry substrates, including masonry, clayboard, reedboard, timber lathing and lime undercoat plasters. Undercoat plasters are not recommended for use on plasterboards because during drying, water will be absorbed by the board which will then become unstable.

It is a practical alternative to using gypsum or lime plasters and is compatible with breathing construction in historic and new buildings.

Clay undercoat plaster can withstand minor movements of the background material without cracking. However the plaster should be reinforced when there is a possibility of structural movement or if different backgrounds are being covered.

Physical properties of plaster:

- Density 1500 kg/m^3
- Thermal conductivity (k) 0.66 W/mk

Resistance to Damage:

- Precautions common to good construction practice should be taken to avoid damage to the new plaster before completely dry.
- Corners should not be reinforced with metal beading as this will lead to differential wear of the softer plaster. They should be slightly rounded (2mm radius or greater) to reduce the risk of damage.

Resistance to Fire:

- Clay plaster is non-combustible.

Resistance to Moisture:

- The plaster will deteriorate if applied onto damp backgrounds or if used unprotected in damp environments. Careful attention to detail is required in kitchens, bathrooms, shower areas, etc. Contact the supplier for advice on particular applications.

Thermal/Moisture Movements:

- Clay plaster is dimensionally stable when used in dry internal conditions and as part of a breathing wall construction.
- Plant fibres in undercoat plaster act as reinforcement and create voids thus controlling cracking due to drying shrinkage and thermal movements. The dried plaster is less brittle than conventional plasters and can withstand small movements of the substrate.

Directions for use

Mixing

- Add the dry plaster gradually to clean water in a large bucket using a plasterer's wheel or drill attachment to ensure even mixing.
- The consistency should resemble conventional lime or gypsum plasters ie. not so dry and sticky that it cannot be spread nor so wet that it cannot be applied.

Application

- Clay undercoat plaster can be applied using tools and techniques common to conventional lime and gypsum plasters. It is also suitable for use with plaster spraying machines.
- Surfaces to be plastered should be stable, dust-free and lightly dampened before applying plaster.
- Smooth surfaces should be keyed using a spatter coat of plaster slurry or a brushed on primer mixed with sand. Reed mats can also be fixed to solid surfaces or over timber beams to provide a key.
- When reed mats and timber laths are used as a key, they should not be pre-wetted
- Undercoat can be applied in a single layer of up to 50mm thickness. Finished thicknesses greater than 50mm should be applied in 3Omm thick layers with a continuous layer of reed mat as reinforcement between the bottom two layers and a continuous layer of jute mesh reinforcement between outer layers.
- Undercoats should be well keyed to provide a mechanical bond with subsequent layers which can be applied as soon as the previous layer is firm
- The surface of each undercoat layer should be reinforced with a continuous layer of jute mesh when the area to be plastered consists of different backgrounds or when basecoat is applied on lightweight or flexible backgrounds
- When patching, the edges of the area to be joined should be well wetted
- Finish plasters can be applied as soon as the undercoat has dried and shrinkage is complete.

Drying

- Drying times vary considerably with the ambient conditions, applied thickness and the suction of the background. In ideal conditions, a l5mm thick undercoat will be dry after 3-4 days.
- To encourage controlled drying, ensure plastered areas are well ventilated. Excess heat or forced ventilation may cause cracking. If cracking occurs, the affected area can be wetted and re-trowelled.
- Some cracks may appear as thicker coats of undercoat plaster dry. These are harmless but each coat should be allowed to dry before applying further coats.

Site Notes

- Clay undercoat plaster is supplied in paper sacks that can be broken by rough handling. They should be stored off the ground and protected from damp.

Health and Safety

- There is a small risk of inhalation of dust when handling clay plaster in the dry state. Clay plaster is non-irritant in contact with exposed skin.

If you have any questions or queries please do not hesitate to contact Womersley's Limited on Tel 01924 400651or call in at our workshop.