deGruchy's LIME G WORKS™.us

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Makers of
ecologic® Brand
Mortar & Plaster
For Historic Restoration
and Green Building

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Goat Hair
Natural Fiber Reinforcement for Traditional Lime Plaster

Goat Hair is a natural fiber reinforcement used in traditional lime plastering to give extra cohesion and flexibility. Historically, a variety of animal hairs were used, most commonly the hair of horses, oxen or cattle, pigs, and goats. The advantage of goat hair is that it is tough and textured enough to make excellent plastering reinforcement, while remaining thin enough to be used in single coat applications. When plastering directly to masonry, plaster relies on suction and typically does not need hair. However, because plastering over lath requires the formation of keys that protrude between the lath, hair was traditionally added to strength the key and ensure a good bond. While modern stucco systems do not typically require hair, hair can still be added to give extra authenticity to a historic repair plaster or when attempting to use traditional materials and methods in modern construction. When using lime-based plasters in modern construction, Goat Hair is a better renewable alternative to synthetic fiberglass fiber reinforcement as synthetic materials are often too smooth for lime to grip tightly to. Though not required in most cases, Goat Hair is the preferred fiber for use with Ecologic™ TOPCOAT™ plaster systems. Hair is not appropriate for Portland cement-based renders as the high alkalinity of the cement will destroy the hair.

Uses

- Preferred alternative to synthetic fiberglass fibers when using lime-based plasters, including the Ecologic™ TOPCOAT™ Platinum and TOPCOAT™ Customized plaster line.
- Single coat repair plasters over Ecologic™ TAKCOAT™ Platinum for added historic authenticity.
- Reinforcement for plaster brown coats of traditional plaster-on-lathe systems, and modern strawbale or hempcrete construction.
- Added for more authentic repair or replacement plasters in structures that have existing historic haired plasters.

General Application

In most cases, Goat Hair is only necessary for the brown coat of a plaster system but can occasionally be added to the scratch coat to help prevent cracking. Hair is added to the plaster *after* mixing, but *immediately before* applying to the wall. Hair should not be added if the plaster is not going to be used immediately as the alkalinity of the mix can damage the hair and decrease its effectiveness. Adding hair before the plaster has been mixed will result in clumps of hair and uneven distribution.

Preparation: A plaster mixed with Goat Hair should ideally have between 5-8 hairs per inch of plaster. To achieve this, approximately 2g of hair should be used per 1kg of plaster. Hairs should be cut to between ¼"- ¾" lengths, with longer lengths for ceiling work.

Teasing by Hand: Pour the mixed plaster into a trough or other suitable container about 1" deep. Spread the cut hair evenly over the surface and then use a hair hook, trowel, or thick-tined rake to chop the hair into the plaster, folding it until the hair is evenly teased into the mix. Repeat as necessary until the full working batch of plaster has been haired.

Teasing Mechanically: When using a mechanical mixer, mix the plaster to the appropriate plaster consistency and then slowly add the cut hair while continuing to mix until the full dosage of hair is added and is consistently teased into the mix. Ensure

that the plaster is teasing evenly into the mix and not clumping or forming balls.

Checking the Mix: To ensure the mix has been evenly haired, with a gloved hand, form a ball of plaster and break it in half. Flatten the broken halves and look to see how many hairs are protruding from the edge. Repeat this process three to five times with different balls of plaster. The average should be between 5-8 hairs per inch of plaster.

Technical Data
Storage:
Store in a sealed container to protect from dust, debris, and pests. Store in cool, dry, conditions away from direct sunlight, flammable materials, or strong acids or bases. Keep bailed and whole until ready to cut for use.

Average Coverage:

- Bundles are sold in approximately 0.5 lbs units, individual bail sizes may vary.
- 1 bundle contains enough hair for approximately 6.5 38.5 lbs pails of Ecologic™ TOPCOAT™ Customized or approximately five 5 50 lbs bags of Ecologic™ TOPCOAT™ Platinum.
- 1 bundle contains enough hair for approximately 1 55lbs bag of St. Astier® NHL when mixed to a ratio of 1 part lime to 2.5 parts sand.
- 1 bundle of goat hair is enough to mix in to the equivalent amount of material needed to do 71 square feet of plaster at 3/8" thickness.

Shelf Life:
No known expiration date under recommended storage conditions.

Safety:
May cause irritation to those allergic to animal hair. If irritation occurs, remove from presence and flush area with soap and water. If a known animal allergy exists, wear appropriate safety gear and minimize contact with exposed skin. To protect from accidental ingestion or inhalation, wear dust mask when cutting and teasing hair into plaster.

Disposal:
Sweep and place bulk material in containers and safely remove for disposal. Dispose of excess material in a landfill in accordance with all local, state, and federal regulations.

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