

**MLIME**



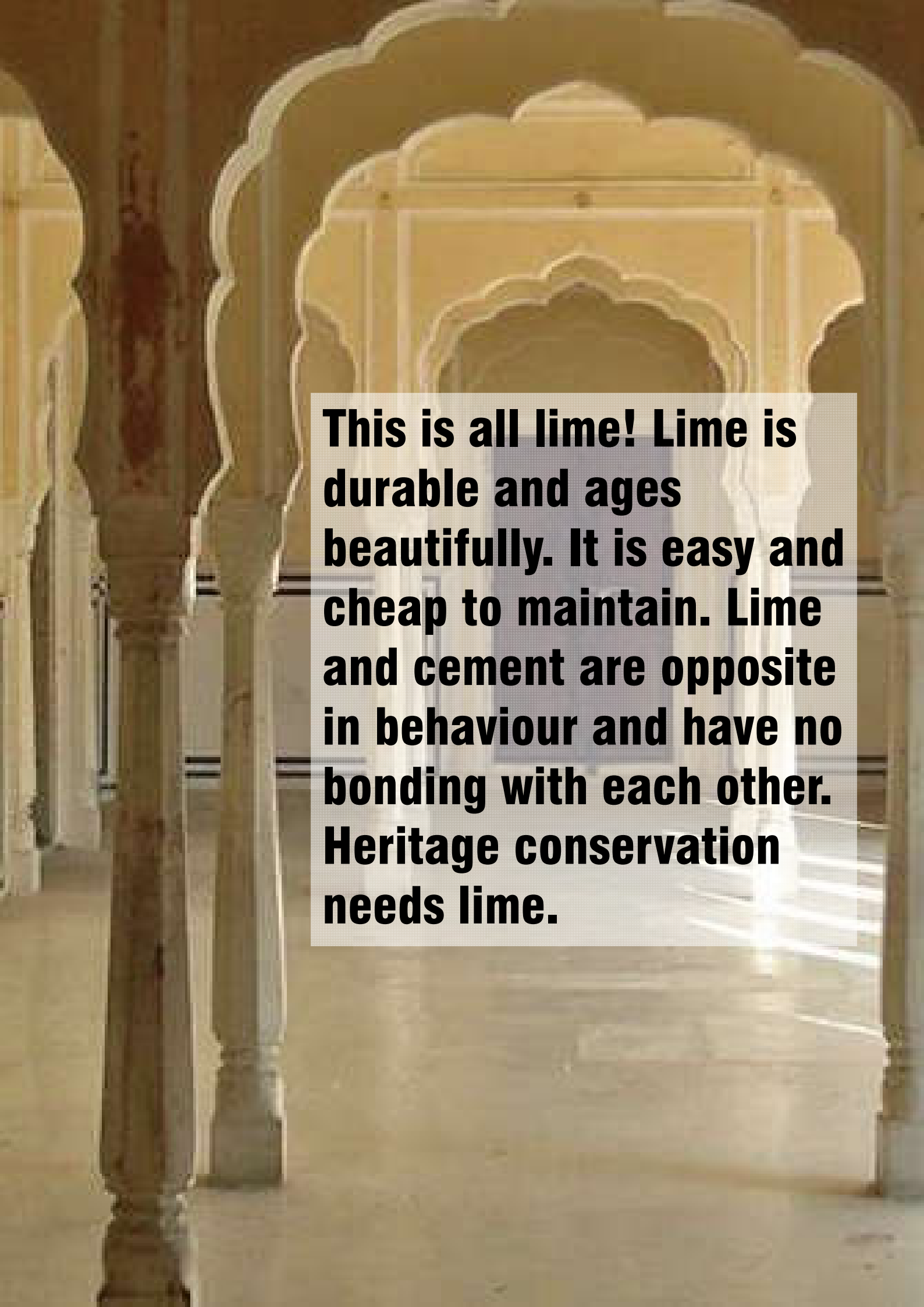
# What is lime चूना ?

Lime an age-old binder that has been used in construction works across the world for the last 7000 years, until the 1950s when cement replaced it as the material of choice.

Lime is a wonderful, breathable, elastic, healthy, anti-bacterial, and easily-recyclable construction material.

**Lime's unique visual character simply can not been replicated by other materials.**





**This is all lime! Lime is durable and ages beautifully. It is easy and cheap to maintain. Lime and cement are opposite in behaviour and have no bonding with each other. Heritage conservation needs lime.**

# Why is lime relevant today?

Lime lives for 300 years easily and is instantly recyclable. Cement on the other hand, takes centuries to degrade in landfills, after living a maximum of only 60 to 70 years.

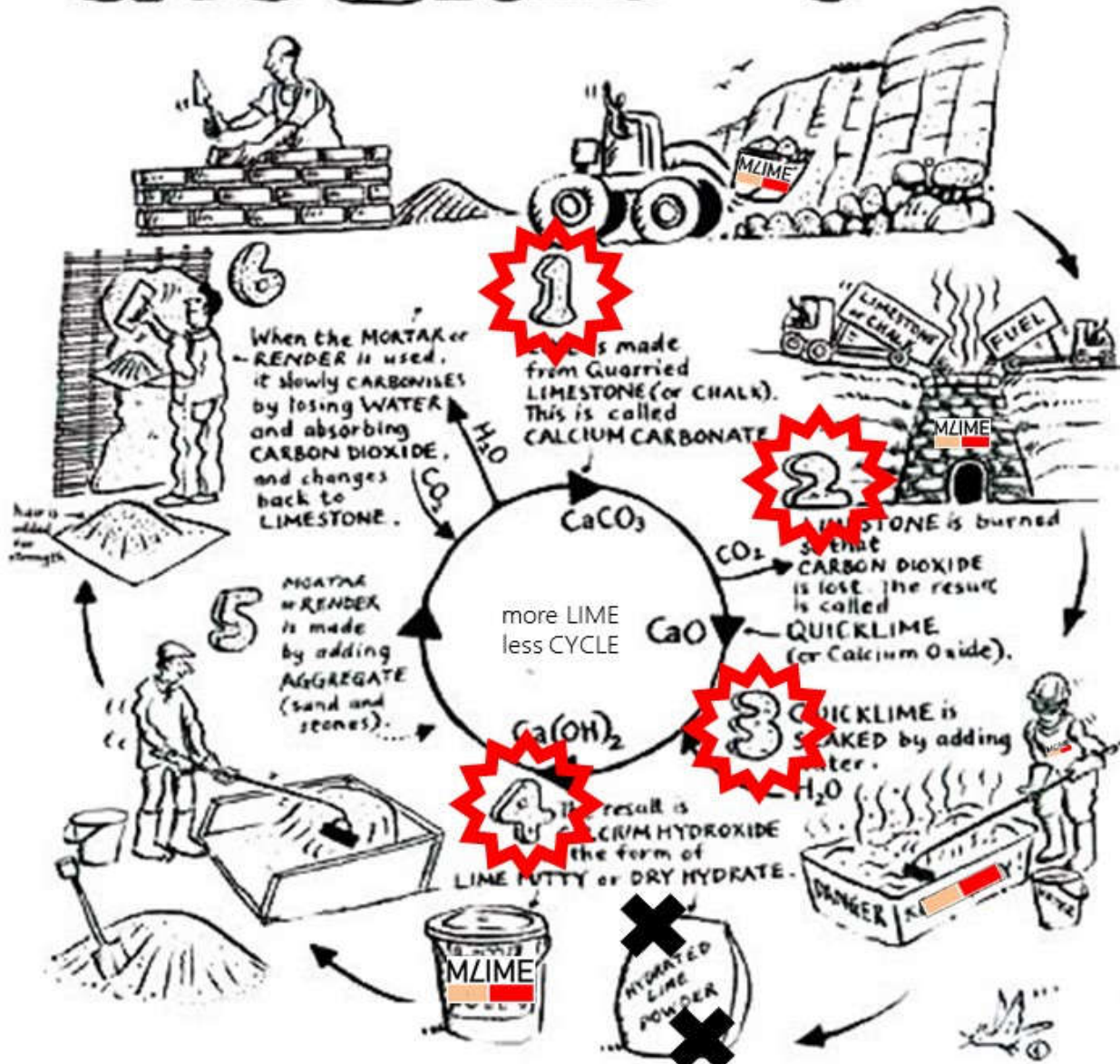
Lime is breathable- this means water vapour can pass through it, making it great at handling seepage and rising damp. There is no need to provide waterproofing membranes in lime-based constructions.

Lime absorbs CO<sub>2</sub> from the atmosphere as it sets in walls and floors. Lime does not use chemicals and cancer-causing VOCs. It is natural, purely mineral and healthy.

## **MLIME reimagines lime as the material of the future.**



# the Lime Cycle



Original image borrowed from Parsons Healthy Materials Lab

**The closed loop of lime's lifecycle explains why it is sustainable, low-energy, easily recyclable and more relevant than ever.**



# Why is the practice of lime crumbling in India?

In India we still use the 300 year old DIY practice of preparing usable lime putty on site from its raw materials. This is a slow, beautiful, mindful practice but construction sites today expect ruthless efficiency!

It is equivalent to having a little cement factory on every construction site. It is expensive, labour-intensive and gives very inconsistent results.

Most projects then end up with a compromised version (or worse, simply use cement!)

The defective practice of the recent decades has led to people losing faith in the very material!

**MLIME hopes to fix this-  
bringing the ease &  
accessibility of cement  
to lime.**



**MLIME is an enterprise to engineer, produce and provide high quality, cost-effective and easy-to-use lime-based materials for new and old buildings.**

# MLIME Fat Lime Putty

Also known as Wet Lime, Putty Lime, Non-Hydraulic Lime, Slaked Lime

## ONE MATERIAL FROM BASEMENT TO ROOF

Fat Lime Putty is a soft, flexible, breathable and ready-to-use binder for application in concretes, mortars, plasters, renders, top coats, including arrais and tadelakt. It sets only by exposure to CO<sub>2</sub> in the air through the process of carbonation.

## CLASSIFICATION

Class C Lime as per IS 712-1973


## CHARACTERISTICS

Fat Lime Putty is manufactured by engineers who burn uniformly graded limestone, immediately slake the resulting quicklime in clean water and then leave it to mature.

- The resulting Fat Lime Putty is already 95% pure\* at the time of packaging. Unwanted impurities are less than 2%. Further storage under water will only improve its purity.
- It is exceptionally smooth, does not require sieving and is ready-to-use.







**Use MLIME Fat Lime Putty as  
breathable chemical-free  
lime paint!**

# **MLIME Fat Lime Putty is created by the traditional method but comes with a specification sheet.**

## **COLOUR**

Pure White

## **PARTICLE SIZE**

Sieved through  
150mesh

## **COMPOSITION**

Calcium Hydroxide

## **CONCENTRATION OF LIME**

60 to 62% by weight

## **CHEMICAL**

### **CHARACTERISATION\***

CaO 94.6%

SiO<sub>2</sub> 0.17% MgO 0.03%

Al<sub>2</sub>O<sub>3</sub> 0.11% Fe<sub>2</sub>O<sub>3</sub> 0.35%

\*As per lab-tests conducted  
by Vellore Institute of  
Technology in May 2019

## **SHELF LIFE**

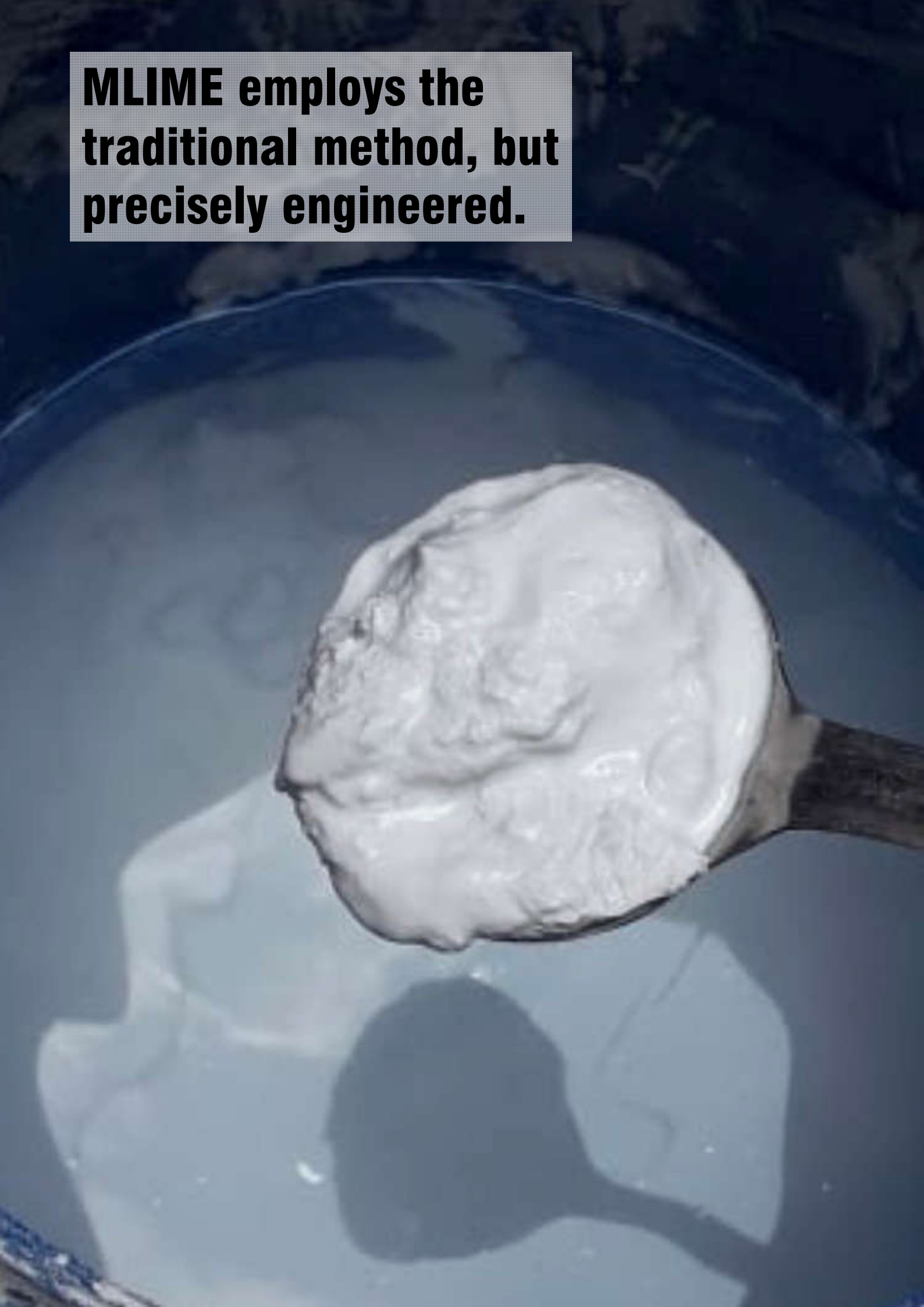
Infinite when stored  
under water

## **PACKAGING**

Available in 25kg vacuum  
sealed bags



**MLIME employs the traditional method, but precisely engineered.**



# Why is MLIME Fat Lime Putty wet?

In India, we mostly use non-hydraulic lime\* which sets when exposed to air. Most lime, usually sourced from informal markets is dry- which means it begins setting when its still in the bag!

By shipping the lime putty wet, MLIME not only protects its purity but also keeps improving in quality.

There is no need to build makeshift infrastructure on site to slake, prepare and sieve lime.

**MLIME Fat Lime Putty is painlessly slaking in its vacuum-sealed bag while waiting to be used on site.**







**Use MLIME readymixes  
and pigments to invent  
your own site-specific  
textures and surfaces in  
a thickness of 2-4mm!**



# **Why is MLIME easy even for the first-time contractor/ architect/ house owner/ engineer?**

Lime in itself is an honest material, and one will know immediately (not years after!) if there are issues with its application, adhesion, cracking etc. Usually its an easy fix!

Moreover, MLIME converts the elusive intuition of the artisan *karigar*- an increasingly rare breed- into numbers and parameters that are inclusive, and accessible even to first-time users of lime.

By creating a binder with batch-to-batch consistency, a structural engineer can easily work with it and specify designs, mixes and ratios.

## **Therefore, just like cement, simple repeatable ratios guide the mixing and laying of MLIME that can be executed by anyone.**





# Is MLIME cost-effective?

MLIME is significantly cheaper, faster and better than the DIY on-site slaked quicklime and hydrated lime powders.

MLIME is not as cheap as cement's upfront cost per kg, However lime's lifespan is at least 5x that of cement's. Just the use of lime plasters and mortars will regulate interior temperatures by 5-6degrees, saving significantly on heating/cooling costs.

Moreover, MLIME also allows one to take advantage of other free (and natural!) materials available on site such as mud, bamboo. and stone.

Lime as an alternative to the conventional cement plaster + POP/ gypsum punning + primer + acrylic paint, costs the same if not less! Lime can be applied using just one or two layers- as pigmented lime plaster or punning, with or without limewash, will saving costs, time and effort.

**Lime will bring down project costs significantly- it's really a matter of taking a holistic view!**







**Previous MLIME users include Mehrangarh Fort (Jodhpur), Gulab Haveli (Mandawa), Bichli Haveli (Udaipur) and new constructions by Nature Resort (Gurgaon) and Uttarakhand Hemp Association (Rishikesh).**

# MLIME Products and Services

MLIME is set up by a practicing architect who herself encountered problems of quality, consistency and cost when working with lime. Below is a list of MLIME's current offerings:

MLIME FAT LIME PUTTY is a ready-to-use binder that can be mixed straight from the bag with various aggregates to form concretes, mortars, plasters, finishes and paint.

MLIME PLAY is a ready-mix for 2-3 mm thick punning layer that will adhere to any plaster, flyash, cast concrete substrate. This can be creatively pigmented and textured to serve as a final finish.

MLIME PIGMENT is a range of lime-fast, high quality pigments that can be used in all lime-based applications.

MLIME GRIND is a ready-to-install, affordable, lime-finished panelling, custom-produced for each project. This is recommended for projects that want to enjoy the beauty of lime without any wet work on site.

MLIME CREW travels across India to offer on-site lime-based applications, including the traditional polished lime finish called *Arraish*.

**Contact MLIME via email**  
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**and Instagram @mlime\_lime**







**MLIME CREW offers on-site application for *arraish*- a premium, polished, sealed finish in lime loved for its soft cracking and patina.**




**Use MLIME for  
lime concrete and  
seamless polished  
*arraish* flooring**



**Use MLIME  
on furniture**



**Use MLIME in toilets**



**Use MLIME on a  
variety of substrates**



**Use MLIME  
on exteriors**



शरीर के लिए शुद्ध घी,  
घर के लिए शुद्ध चूना

