

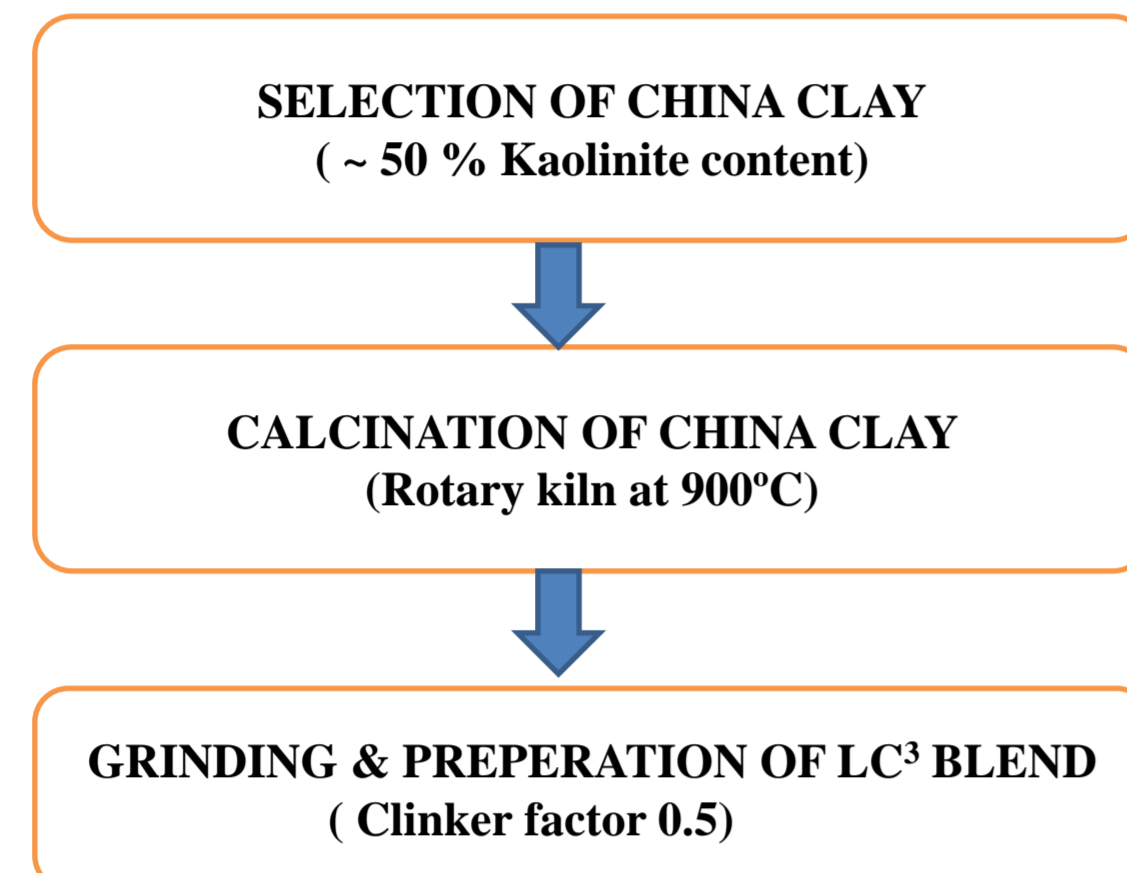
Pilot production of limestone calcined clay cement

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[1] INTRODUCTION

Limestone calcined clay cement is a blended cement composed of clinker, calcined clay, lime stone & gypsum. A substantial amount of clinker is replaced by calcined clay and limestone in the formulation of LC³. It is more energy efficient and emits lower amount of greenhouse gases compared to Portland cement. Pilot blending was done in Gujarat, Western part of India in January'2015 utilizing locally available raw materials. Calcination of clay is one of the crucial steps of the production of LC³. 140 Tonnes of LC³ blend was produced in pilot trial.

[2] PROCESS STEPS



[3] CALCINATION OF CHINA CLAY

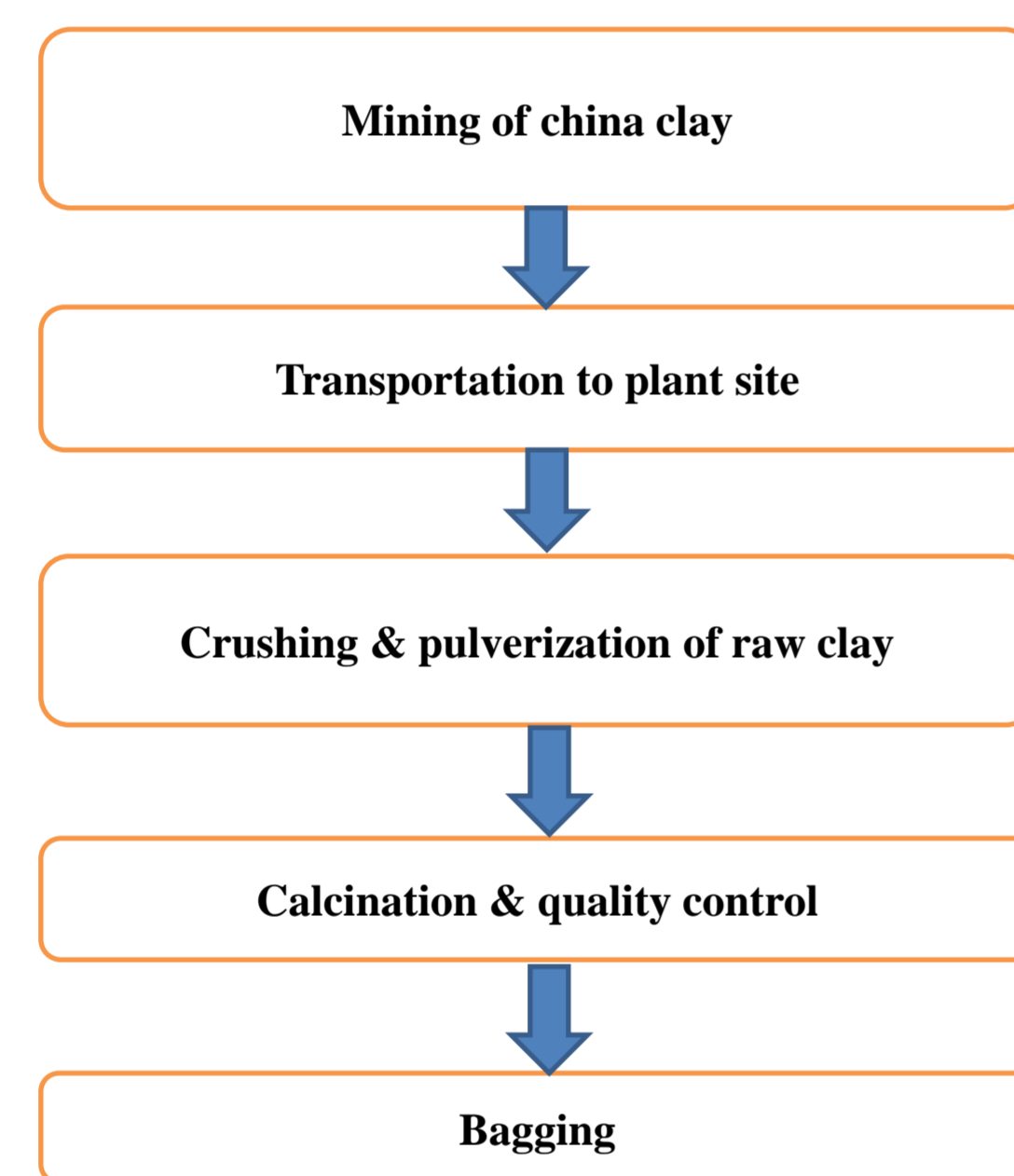


Fig.1 Schematics of calcination process



Fig.2 Pics of different stages of calcination

[4] GRINDING & PREPERATION OF LC³ BLEND

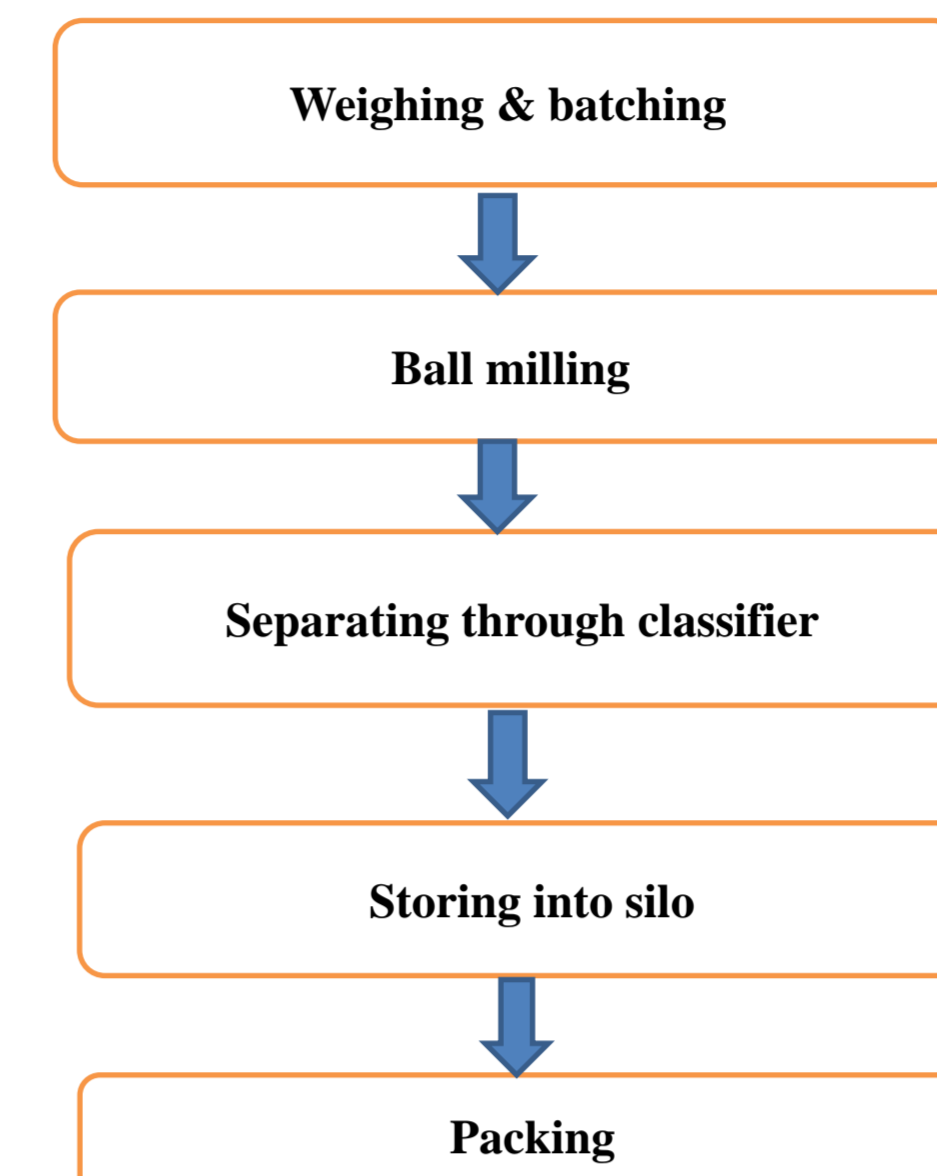


Fig.3 Schematics of grinding process



Fig.4 Grinding units

Fig.5 Ball mill

Color	: Reddish grey
Average Blaine value	: 430
Size fraction +90 μ	: 4%
-45 μ	: 16.52%
LOI	: 6.75%
Initial setting time	: 110 min
Water consistency	: 32.75%
Final setting time	: 335 min

Table.1 Physico chemical characteristics of LC³

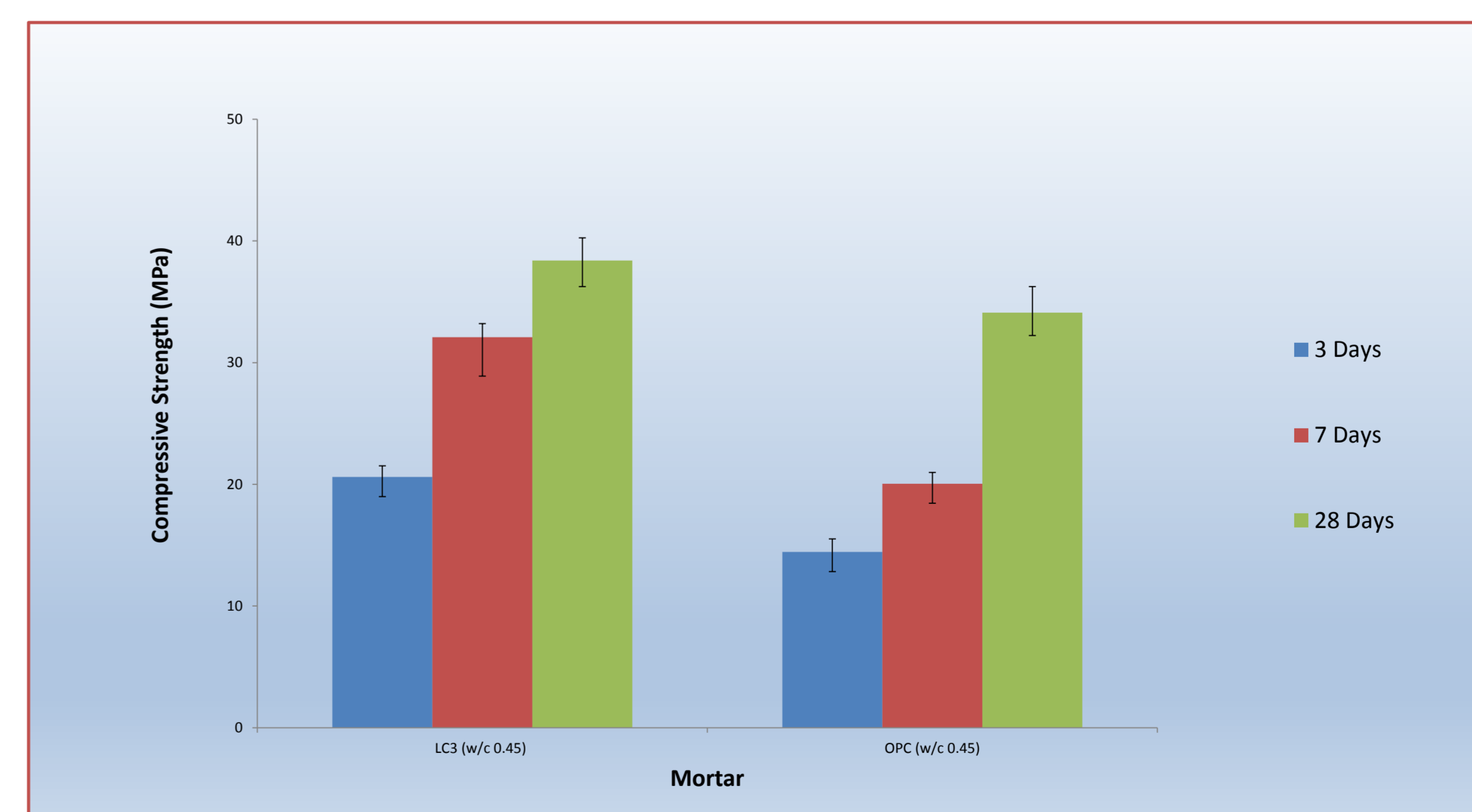


Fig.6 Compressive strength of mortars made of LC³ and OPC