

# i.pro RENOBAT

## *Lime concretes*

*A slab is a flooring that blade the ground and gives it strengths. A slab can be covered by a screed if necessary, then tiles floor. In restoration, traditional and natural construction it's useful to use lime concrete, for slab applications. Those limes concretes are also chosen for wine and spirit storehouses to make easier wine maturing and to regulate the hygrometry.*

### Mix design

Lime concrete is necessarily prepared with natural hydraulic lime, aggregates and clean water.

- Slab is realized with calcareous sand or calcareous and siliceous sand (0/15 mm) and a clean water. The recipe sets three aggregate fractions:
  - Sand: 0/3 round or crushed
  - Fine gravel: 3/8 round or crushed
  - Gravel: 8/16 round or crushed
- The concrete mixing, in a mixer or in concrete plant, lasts minimum 55 seconds to 2 or 5 minutes
- In a mixer, introduce first a little part of water, then half-part of the aggregates and the lime. At the end introduce the rest of aggregates

### Preparation of the substrate

- Level the ground
- If water content in the soil is too important, it's possible to avoid it with addition of natural hydraulic lime on 15 cm thickness (around 15 kg/m<sup>2</sup>)
- With a soft ground use calcareous aggregates and compact. Apply a layer of hardcore (20/40 mm). It's not useful for a wine and spirit storehouse concrete
- Add the rest of the aggregates and adjust the amount of water to obtain a dry concrete
- Fix the machine in the mixing position, for 2 to 5 minutes

### Concrete application

- Mark out in squares the soil with natural stones or terra cotta
- Concrete is poured on 12 cm thickness then floated with a roller or a rammer
- Never use any plastic film which would avoid the regulation of the hygrometry
- Make expansion joins for large spaces to avoid cracks
- Wet the concrete one or twice a day during around three weeks to facilitate the carbonation (easy with a pierced garden hose)
- When a layer of hardcore has been applied it's an obligation to ventilate the concrete with a hole in the walls to avoid gas formation

### Indicated quantities

<b>i.pro RENOBAT</b>	1 bag of 35 kg	9 buckets of dry aggregates	Around 20 Litres of water
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### Indicated consumption (for 1 m<sup>2</sup>)

#### Slabs of 15 cm of thickness

<b>i.pro RENOBAT</b>	58 kg	141 L of dry aggregates
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## Why use a lime concrete?

- Lime is a natural and ecological product
- Its high PH destroys bacteria and helps to clean areas
- Its high porosity facilitates the regulation of hygrometry (moisture content)
- Lime allows to reduce considerably the water upwelling in the walls and the floors
- In restoration, the lime concrete will behave similarly as building mortars and lime plasters also
- The flexibility of the lime concrete and its regular strength over time enable them to adapt to the movements of the supports

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