

Treatment R-20000[®] Pinta Rulli

Anti-chemical attack treatments for ceramic rollers.
Reduce roller consumption by 50%



The engobe for tiles (back of the tile) is a practice that has been used for decades in the ceramic sector to prevent contamination of the ceramic rollers in the kiln, caused by direct contact with the tile during the firing process.

This direct contact contaminates the ceramic rollers with glazes and creates rings on them. The formation of these rings produces:

- Deformations in the tile, causing irregular curvatures (incorrect planarity).
- Tiles are "pilled up" on top of each other inside the kiln, causing tiles to accumulate in specific areas, which cause the ceramic rollers to break due to the excess weight accumulated.

There are several types of engobers tiles on the market, but they are not the definitive solution, for that reason we propose the **treatment of the R-20000 Pinta Rulli** rollers. A perfect complement.

The incorrect application of engobe tiles entails great economic expenses for the company:

- Production shutdowns to replace broken ceramic rollers.
- Furnace stops for maintenance, more frequent than usual, to clean or replace ceramic rollers.
- High cost of each ceramic roller.
- Failure to meet delivery deadlines due to production delays.
- Loss of "brand image" due to poor quality of the tile back.



Different models of gobbing machines



The increasing competitiveness in the global tile market forces tile producers to look for ways to reduce their costs to increase productivity and competitiveness.

To meet the need to reduce costs, especially in firing processes that account for around 60% of the energy expenditure of a tile factory, it is necessary to consider the high consumption of rollers that currently occurs in some types of production, as there are around 800-1200 rollers per kiln per year.

This consumption means that tile plants have to maintain a high safety stock of rollers to avoid production stoppages. In addition to this breakage consumption, it should also be noted that rollers get dirty very often.

For these reasons, we have developed the **R-20000 Pinta Rulli treatment**, a treatment that reduces the consumption of rollers by around 50% and prevents dirt from adhering. This will make it possible to work with the same rollers from stop to stop.



Furnace with 1500 rollers





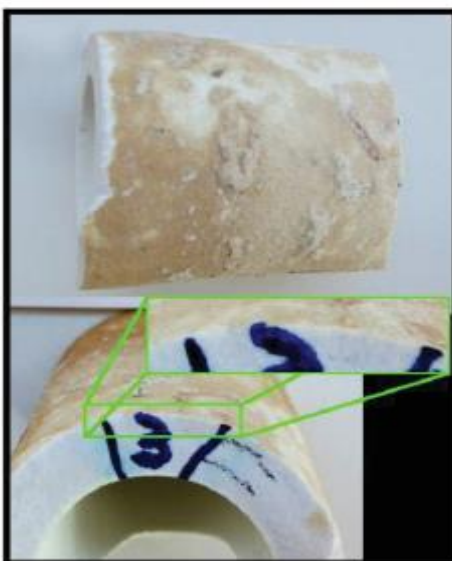
Chemically attacked rollers

Treatment R-20000 Pinta Rulli

With this treatment we will prevent the chemical attack from penetrating the rollers and destroying the mineralogical structure of the ceramic roller, as this is the main cause of breakage of the ceramic rollers. Sometimes we can overthink that the rollers do not resist thermal shock, but what really happens is that the roller is chemically attacked and "is sick" and therefore does not withstand temperature changes.

It must be taken into account that the rollers are in an atmosphere continuously exposed to high temperatures, strong chemical attacks, high loads, continuous friction of the tiles and suffer constant fatigue. With the R-20000 Pinta Rulli revestement we protect the roller as much as possible.

It is a revestement developed exclusively for this application and with the same coefficient of expansion of the rollers.



Chemical attack penetration on roller.



Rodillo con suciedad incrustada

The texture and bending of the rollers are aspects to consider.

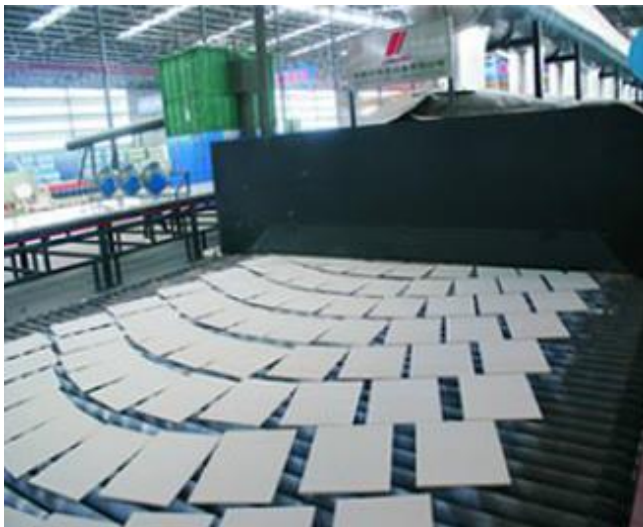
The rough texture of some rollers makes it easier for dirt to adhere to the roller. After the R-20000 Pinta Rulli treatment on the rollers, the surface of the roller is extra smooth and thin, making it much more difficult for dirt to adhere.

The same thing happens as when we remove condensation in the kiln with our R-5000 revestement, because what we do is we cover the pore of the ceiling bricks in the first 9 modules and we prevent condensation from sticking because we create an extra thin surface and condensation escapes through the chimney.

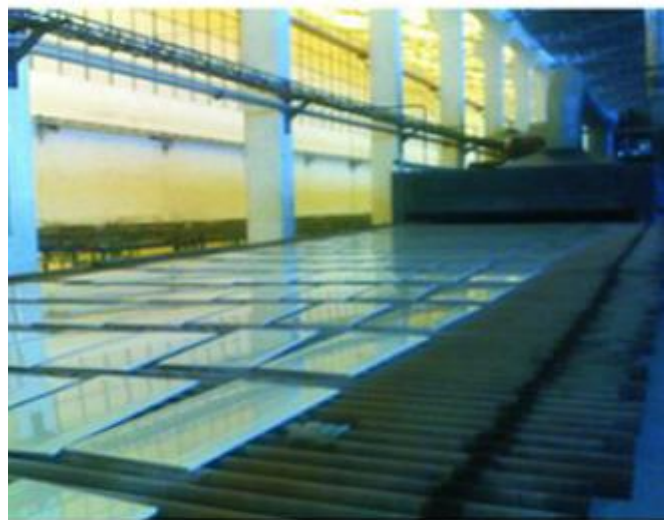
Regarding bending, in order to prevent the bending roller and our material from advancing uncontrollably inside the furnace, we resort to buying rollers with a higher flexural strength, at a much higher cost than conventional ones.

We observe that when the rollers are assembled in the kiln, the first few months bend little and our material progresses normally, but in the third month we see that the races of tiles begin inside the kiln. This is due to the fact that the attack has contaminated and the roller begins to lose its properties, increasing bending day after day. This type of problem is accentuated in the new generation kilns, with widths of 3500 -3750 mm. and equipped with rollers with a diameter of 60 x 4700 mm.

This is where our **R-20000 Pinta Rulli revestement** plays an important role, preventing the roller from becoming contaminated and bending.



Advance uncontrolled material



Advance material the right way