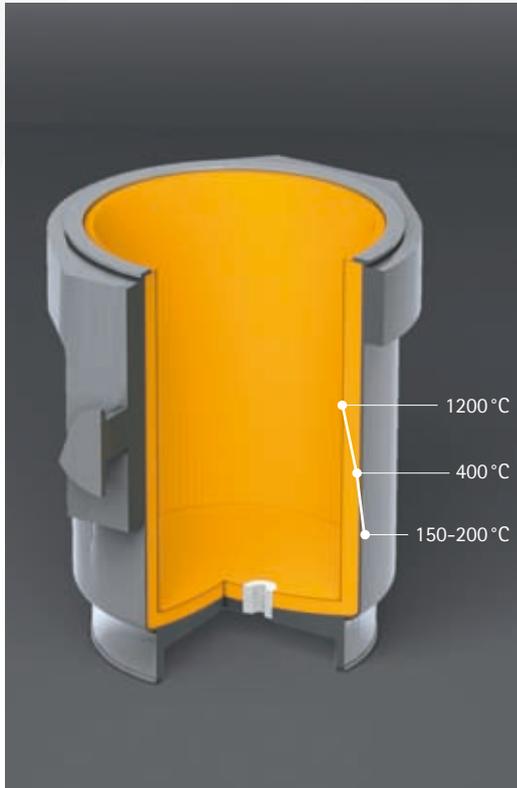


Drying monolithic Linings



MAPEKO
economical preheating

Product-Information 3



Theory ...

All heating and drying curves prescribed by lining manufacturers refer to the material temperatures.

Unfortunately, it has never been exactly defined, at which point (in which depth) the temperature should be measured. It rather seems that the heating rates and dwell times of the curves are determined with a test cube in a laboratory furnace.

However, the heating process in a vessel varies substantially in that only one side is heated, while the other side has ambient temperature.

... and Practice

For the regulation of a drying process, a temperature must be measured and fed to the controller as the actual value. The temperature easiest to measure is the exhaust gas temperature.

When regulating according to the exhaust gas temperature, it has to be taken into consideration that for the heat transfer into the wall a temperature difference is necessary.

This difference is larger at lower temperatures, when the heat is transferred by convection only, than at higher temperatures, when the radiation proportion is predominant. These differences are well known from comparative measurements.

Based on many Years of Experience MAPEKO recommends:

- Start with exhaust gas temperatures higher than 100°C - this prevents combustion-generated condensation of the water in the wall.
- Avoid dwell times in the programme as much as possible. It is better to reduce the heating rate (°C/h) instead. This way, any shock on the lining due to a sudden increase of the burner output is avoided.
- Bring the final temperature up to the later preheating temperature (minimum 1.000°C). This ensures that a temperature guaranteeing complete drying even in the outermost bottom corners is reached.

A guide to an efficient use of technology