NEW TECHNOLOGIES FOR THE PRODUCTION OF CERAMIC SLIP TO MANUFACTURE HIGH-QUALITY CERAMIC PRODUCTS

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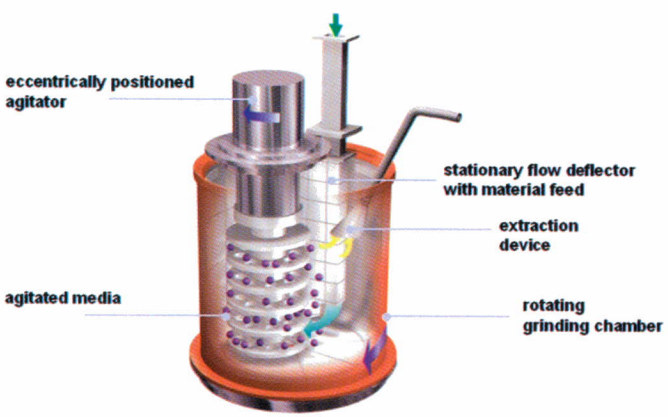
1. TODAY'S STATE OF TECHNOLOGY

A variety of technologies is applied for the preparation of slips. The most common technology involves grinding all the raw materials together in ball mills to the final fineness.

From the published grinding curves "grinding of ceramic slips with ball mills" you can see that approx. 40-50% of the total grinding energy is necessary for coarse grinding at a screen residue of 10-15% > 63μm. In the area of fine grinding, i.e. to reach a screen residue of approx. 1% > 63μm, the ball mill requires the same amount of energy or even more than for "coarse grinding".

The key point for this new technology is that the coarse grinding of the slip from the feeding, down to **a screen residue of 10-15% > 63μm**, is done in ball mills, while the fine grinding, with the required fineness down to **< 1% > 63μm, is performed in the MaxxMill®**.

2. THE MAXXMILL®



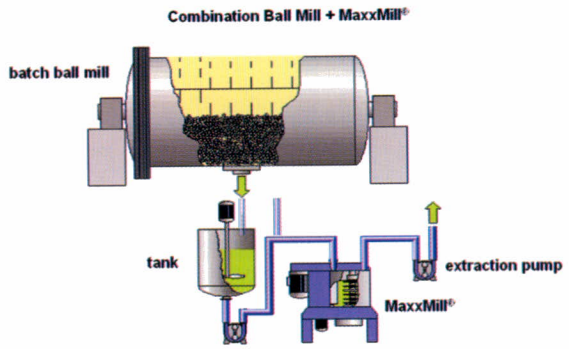
The MaxxMill®, a new generation of agitated media mills, is especially designed for fine, dry and wet grinding.

Main features:

- Rotating cylindrical grinding chamber.
- One or two eccentric agitator(s).
- Small grinding balls from 3 to 7 mm in diameter.
- Energy input controlled by speed of the agitator(s).
- High number of grinding media (grinding beads).
- The slip has to pass through the agitated media packing.
- Continuous feed of the product to be ground into the area of the agitator.

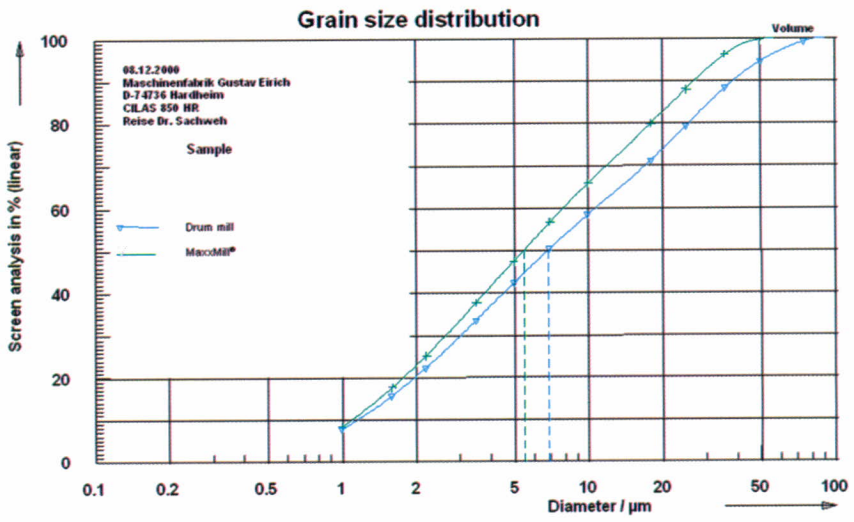
Application "fine grinding of ceramic slip in the MaxxMill®"

- Preground slip screen residue **5% < 63µm.**
- Final slip screen residue **< 1% < 63µm.**



3. GRINDING RESULTS

As a result, intense grinding action and a high refinement of the product are achieved.



- Preground slip screen residue **5%< 63µm.**
- Final slip screen residue **< 1% < 63µm.**
- Increase in production.
- Increase in fines of the slip for a higher quality product.

4. BENEFIT FOR PRODUCTION

- Low energy consumption.

- Less grinding media consumption.
- More flexible production.
- Less space requirement.
- **Low production costs.**

5. ENERGY SAVINGS