Kneading / Plasticizing in the EIRICH mixer

- **clay bodies** (for extruded tiles, split tiles, roof tiles, clay bricks, stoneware pipes, earthenware, etc.)
- **oxide and non-oxide ceramic materials** (for catalysts, carbon black filters, etc.)
- **refractory bodies** (for plastic bodies, taphole bodies, etc.)
- **carbon bodies** (for graphite electrodes, anodes, furnace linings, cathode blocks, carbon electrodes, electrical applications, etc.)
- **viscous or pasty products** (sealing compounds or crayon leads, etc.)

The unique working principle

- **Rotating mixing pan** for material transport
- **Variable-speed mixing tool, slow to fast** for mixing and kneading
- **Separation between material transport and the mixing process**
  - This allows the speed of the mixing tool (and thus the power input into the mix) to be varied within wide limits.

This working principle offers the following options:

- Introduction of shearing forces; the material flow is guided downwards by means of the mixing tools
- Dry mixing, kneading and plasticizing in a single unit
- The tool can be run variably, slow to fast
- Optimal distribution of very small amounts (even in the ppm range)
- Quick and homogeneous admixing of liquid components, also in small amounts
- Optimal distribution of liquid (often leads to a reduction of the quantities to be added)
- Quick subsequent moisture corrections

Further advantages:

- No dead zones in the mixer; the material is fed toward the mixing tool, not vice versa
- Short processing times, high volume-specific throughputs
- No shaft passages in contact with the product, little wear
- Optimal disintegration of agglomerates and fibers
- Sizes from 1 up to 3000 liters with a single mixing tool
- Mix temperatures of up to 250 °C are possible
- Increase of plasticity of ceramic bodies by introduction of steam into the material
- Operation under explosion-protection conditions allows safe preparation of potentially explosive material systems

**EIRICH customers tell from experience:**

- Simple cleaning as there are no material cakings at the mixing pan wall
- Constantly uniform and reproducible mixes in high quality
- More homogeneous mixes lead to better finished products and less scrap
- Green scrap can be added without precrushing together with the raw materials
- Better product qualities compared to qualities obtained if e.g. kneaders are used*

* Study of the Norwegian University of Science and Technology taking anode paste as an example, Sigma kneader versus Eirich mixer

Top-name manufacturers around the world work with EIRICH mixing technology.
We would be glad to provide references on request. EIRICH is a reserach partner for universities.
Put us to the test. We would be glad to tell you more.