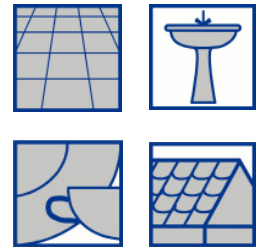


Rheological additives



PEPTAPON

Application

On account of developing automation and the increasing quality requirements of high productivity, an **optimization of the processing properties** is necessary.

Running and levelling of the glaze are two contrasts which must be controlled in a precise ratio to achieve an optimum glazing. If the glaze is to have an **even, smooth surface**, the glaze viscosity must remain low a long enough time to ensure good levelling. However, this can lead to runs on vertical areas. Conversely, to prevent runs completely, a rapid recovery of viscosity is required following the application under shear (e.g. spraying), so that no flowing and hence no running takes place.

Rheological additives from Zschimmer & Schwarz are optimized combinations that satisfy both these demands. They guarantee:

- good levelling
- no running.

They allow a **high glaze thickness** via a single application.

Rheological additives influence specific properties of the glaze slip, such as

- viscosity
- thixotropy
- flow limit
- structural viscosity
- drying time.

They create the prerequisites for the **defined reproducible adjustment of a reversible slip rheology**, for application by spray robot.

Crack formation in the glaze can be prevented by the regulation of the drying time.

The rheological additives from Zschimmer & Schwarz guarantee **constant results of glazing** and therefore better quality and reduced waste by:

- constant product composition
- long term stability of the rheological properties
- less colour variations thanks to constant glaze thickness.

Not all rheological additives can be offered including already a preservative or biocide. For that reason a preservation of the glaze slip with a preservative from Zschimmer & Schwarz should be made in order to ensure a long term stability of the properties. The technical data sheets on the individual products give information whether or not a particular additive contains a preservative.

Mode of action

Rheological additives from Zschimmer & Schwarz may be classified into two groups according to the way of adding them to the glaze slurry.

Some can be added while the glaze is being **prepared in the ball mill**.

Others, in certain application sectors, must be **stirred into the glaze only after ball-milling** to make sure their properties will not be altered upon milling.

Both recommended ways of addition will ensure a homogeneous dispersion of the additives in the glaze slip.

The **selection of a particular glaze additive** depends on existing aggregates in glaze preparation, the desired intervals, the geometry of the piece to be glazed, the absorbency of the ceramic piece, the composition of the glaze as well as the surrounding temperature.

The effect of the rheological additives is based on the **combined effects of the products working as suspension aids, binders, deflocculants and agents for controlled and even de-watering**.

In our **special information “Basis of glaze rheology”** the fundamentals of rheology in connection with the requirements for glaze slips are explained more precisely.