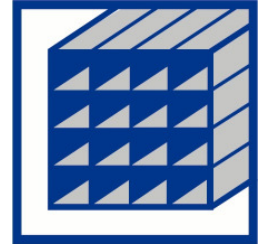


## Deflocculants and dispersants



### DOLAPIX

#### Application

Preparation via the slip phase is necessary for not only the production of spray granulates, but also for the processing of casting bodies with de-watering using plaster moulds.

In both processes, an **optimal rheological behaviour of the slip** is a primary condition for successful process run.

By using deflocculants and dispersants from Zschimmer & Schwarz, the rheology of a slip can be specifically varied. The **casting rate can be increased** and **sedimentation can be reduced**.

With the use of deflocculants and dispersants, **high solids contents** can be obtained in the slip, thus giving **high final density** in the green state. Due to **better compacting, high green strengths** and therefore good green body processing characteristics can be realized.

On account of the high density of the slip, it is further possible **to save energy costs** by reducing the de-watering and drying times.



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## Mode of action

The deflocculants and dispersants available for technical ceramics from Zschimmer & Schwarz are based on **alkali-free polyelectrolytes, carboxylic acid preparations** as well as **alkanolamines**.

For the deflocculation of **oxidic raw materials**, such as alumina, zirconia and ferrites, deflocculants based on polyelectrolytes or carboxylic acid preparations are used. The deflocculation occurs through the **electrolytic interactions**; i.e., through the contact of the deflocculants' dissociated ions with the charged ceramic particles of the slip, resulting in a neutralization of charge which was built in aqueous surrounding on the surface of the raw material parts. The thus available particles can easily pass one another. Further to this, the static charge of the raw material particles remains active, which causes a repulsion between the particles. The result is a **reduction in viscosity**.

For the deflocculation and dispersion of **non-oxides**, such as silicon carbide and silicon nitride, raw materials based on alkanolamines are used. These deflocculants are **pseudo-cationic** in effect. Attachment of the deflocculant to the anionic surface of the raw material to be deflocculated, results in the production of charges of the same polarity which cause the raw material particles to repel one another. The distance between the raw material particles is increased, thus **reducing the viscosity**.

Our special information **"Testing bodies for their deflocculation behaviour"** describes how the appropriate deflocculant with optimal additive amounts can be determined for each individual application.