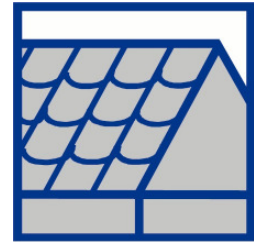


## Deflocculants and dispersants



## DOLAFLUX, DOLAPIX, GIESSFIX

### Application

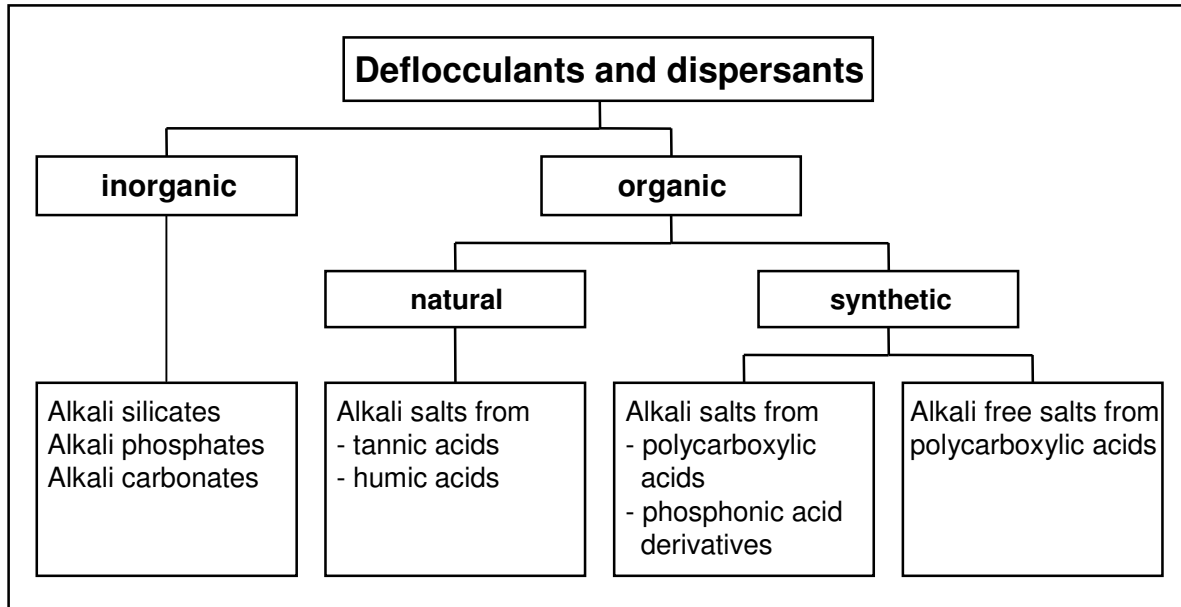
During the manufacture of ceramic products, energy costs represent a considerable proportion of the total costs of the finished product. If the preparation process involves a slip stage, a **high slip density should be the aim. The reduction of the water required within the slip or liquid phase** makes it possible to **lower the de-watering and drying costs by energy cost savings.**

Upon preparation through the liquid phase, de-watering is carried out with the aid of a spray drier or alternatively by slip casting in moulds and water is extracted through the plaster moulds. During both procedures, **an optimal rheological slip behaviour is an essential prerequisite for a favourable processing sequence.**

Through the use of deflocculants and dispersants available from ZSCHIMMER & SCHWARZ, the **rheology of a slip** (viscosity, thixotropy, structural viscosity, dilatancy, rheopexy and Newtonian flow) can be **influenced in the desired manner. Casting rates and green strengths can be increased, sedimentation phenomena and the formation of streaks can be avoided.**

### Mode of action

**Inorganic as well as organic components** are used in the deflocculants and dispersants available from Zschimmer & Schwarz, as set out in the following overview:



The mode of action of deflocculants and dispersants is based on their **definite composition**, which is directed towards an **optimum ion exchange** in connection with the deflocculated slip. Through this ion exchange, a **charge compensation** is achieved so that **attraction forces are no longer effective between the ceramic particles**.

As the **synthetic polyelectrolytes** are available in **liquid form** and hence already **dissociated**, they are **particularly suitable for the subsequent and fine regulation** of slips that have already been adjusted.

The **effectiveness of the deflocculants and dispersants** is **not only dependent on** the solids content and the kind of raw material used, **but also on** various other parameters, such as for example

- water hardness
- particle shape
- particle size distribution
- clustering of particles

There are only a few cases where a general recommendation is possible and as there is a wide variety of influencing factors, it is **necessary to adjust each slip to the required rheological values by means of separate deflocculation tests**.

A detailed description on how to determine the most suitable deflocculant and its optimal addition quantity for each individual application is given in our **special information "Testing bodies for their deflocculation behaviour"**.