

## Effects Of Various Parameters On The Thickening Of Softening Plant Sludges - DTU Orbit (08/11/2017)

### Effects Of Various Parameters On The Thickening Of Softening Plant Sludges

Spectroscopic and thermal data for sludges from full-scale softening plants showed calcium and magnesium precipitated as calcite and an amorphous hydrated hydroxide, respectively. Magnesium ions were not incorporated into the calcium lattice to form a magnesian calcite. Scanning electron photomicrographs indicated that only the calcium carbonate precipitate has a well-defined crystal structure. The shift of the crystal size distribution (CSD) to greater sizes, observed by comparing the different sludges, may be due to bigger calcite crystals rather than to crystal size changes caused by the magnesium hydroxide. The settling rate of the sludges is related to the CSD. Higher fluxes were achieved with an upflow contact clarifier.

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