

## Bonding process investigation in "ammonium nitrate – modifier – water" system

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### Abstract

The influence of stearic acid salts on water resistance of ammonium nitrate has been investigated. The high water resistance of mixture contained sodium stearate has been explained by IR-spectroscopy and quantum-chemical analysis. The iron compounds, particularly Fe<sub>2</sub>O<sub>3</sub> and FeOOH, have been used as polyfunctioning components, which on the one hand stabilize the effect of sodium stearate and on the other hand are used as coloring admixture for ammonium nitrate, that results from technical conditions.