

## DTA studies of hydration process in $3\text{CaO}\cdot\text{SiO}_2$ - plasticizer - water systems

Ionela CARAZEANU<sup>a\*</sup> and Maria GEORGESCU<sup>b</sup>

<sup>a</sup>"Ovidius" University, Department of Chemistry 124 Mamaia Street, Constantza, Romania

<sup>b</sup>"Politehnica" University, 1 Polizu Street, 78126 Bucharest, Romania

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**Abstract** This original research presents the hydration-hydrolyse processes of the  $3\text{CaO}\cdot\text{SiO}_2$  -  $\text{H}_2\text{O}$  system in the presence of some variable proportions of new fluidiser, belonging to the condensates melamine-formaldehyde sulphonate class, to the condensates naphthalene-formaldehyde sulphonates class and to the lignosulphonates class studied by differential thermal analysis (DTA). The influence of considered plasticizer admixtures upon this process appears at different moments of their development and it depends on the nature and proportion of the plasticizer admixtures and the considered reaction time. The plasticizer admixtures influence the kinetics of the hydration-hydrolyse processes, by delaying or intensifying them, as the main phenomenon is the adsorption of plasticizer admixtures on the anhydrous or partially hydrated surfaces of the particles from the system. The influence of the plasticizer admixtures also appears during the evolution of the formed hydrates compounds from the structural and compositional point of view.

*Keywords:* DTA, hydration, hydrolyse,  $3\text{CaO}\cdot\text{SiO}_2$ , plasticizer

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