

## Hydration process of $\text{CaAl}_2\text{O}_4$ synthesized by unconventionally methods

Ionela CARAZEANU\* and Elisabeta CHIRILA

*“Ovidius” University, Chemistry Department, 124 Mamaia Blvd, 8700 RO Constanta, Romania*

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**Abstract** The binary compounds of the  $\text{CaO-Al}_2\text{O}_3$  system do hold a significant place in a wide spectrum of applications of metallurgical slag, ceramic materials and cement technologies. This paper presents the investigation of the hydration process of homogeneous powders of  $\text{CaAl}_2\text{O}_4$ , phase of the  $\text{CaO-Al}_2\text{O}_3$  binary system, synthesized by two unconventionally methods: a modified “Self-Propagating Combustion Synthesis” (SPCS) and Pechini techniques. The study of interaction occurring between synthesized  $\text{CaAl}_2\text{O}_4$  powder and water, conductivity and pH of aqueous suspensions were measured. The hydration process of pastes was investigated by X-ray diffraction and scanning electron microscopy (SEM).

*Keywords:* hydration,  $\text{CaAl}_2\text{O}_4$ , pH, conductivity, XRD, SEM

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