

Kynetics of Hydration at Initial Stage of Hardening

M. Muntean¹, C.C. Virban², Z.D. Ghizdavet¹, O.Muntean¹
¹*University "Politehnica" Bucharest, Romania;*
²*JTI-National Institute for Cement, Bucharest, Romania*

The progress of calcium silicates hydration processes is investigated at initial stage of hydration in high diluted water suspensions. New information regarding the hydration, at very short time, of the main compounds of Portland cement is obtained using chemical analyses and electrical conductivity method. Taking into consideration the molar ratio CaO/SiO_2 in solution, at different time of hydration, a mechanism of the calcium silicate hydration process can be developed.

The phase equilibrium of the hydration products and solution can be achieve more easily than in paste, but the composition of the stable phase in such condition are similarly with that was obtained in paste.