# ALKALI ACTIVATION OF FLY ASHES PART II: MECHANOCHEMICAL PRE-PROCESSING AS WAY TO OPTIMIZE THE REACTIVITY

Fernández-Jiménez A, IETcc-CSIC, Spain
anafj@ietcc.csic.es
Palomo A, IETcc-CSIC, Spain
Maltseva O, IETcc-CSIC, Spain

Key Words: mechanochemical treatment fly ash

Good quality fly ash is in demand in the cement and concrete industries due to its ability to replace clinker Portland in blended cements and Portland cements in concrete. In this paper the authors show how by mechanochemical activation of fly ashes it is possible to increase the amount of fly ashes added to cement and concrete. The objective pursued in this study was to determine the mechanical properties and mineralogical characteristics of some mortars and concretes containing a high percentage of fly ash additions (50%): *A*= original fly ash; *B*= mechanically activated fly ash, *C*= mechanochemically activated fly ash. The mechanical strength of mortars prisms (4x4x16cm) were determined at early and long ages (1, 2, 7, 28, 90 and 180 days) at room temperature; also some concrete cubes (15x15x15cm) were analysed. The setting time and the heat flow released in the hydration process were additionally determined.