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ABSTRACT**

Title of abstract:	CORROSION BEHAVIOUR OF STEEL REINFORCEMENTS IN FLY ASH CONCRETE STRUCTURES: CAUSES AND DIAGNOSIS
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Abstract:	<p>The use of a new green building material made from fly ash to reduce air and water pollution is proposed. Coal-fired power plants produce approximately 80 million tons of fly ash each year. Efforts to use fly ash have reached only a 20-30% reutilization rate. The main reason of premature failure of reinforced concrete structures (RCS) is the corrosion of reinforcements. The use of new concrete based on fly ash, an alternative to the conventional Portland cement, is in need of an extensive research in order to check its passivating properties on the reinforcements, and on the instability or permanence of the passive state achieved. The present work studies this objective, analyzing the passivating capacity of specimens fabricated using concrete fly ash, as well as the corrosion behavior of steel reinforcements under the effect of additions of chloride in relation to the binder material, when they are in an environment of apparent constant humidity or under humidity cycles. The use of electrochemical techniques is proposed for diagnosis purposes to evaluate the possible failure and the life time of the reinforced fly ash concrete structure.</p>