International Journal of ChemTech Research
CODEN (USA): IJCRGG, ISSN: 0974-4290, ISSN(Online):2455-9555
Vol.10 No.3, pp 749-757, 2017

Corrosion of Reinforcement in Reinforced Cement Concrete: A Review Paper

Ashutosh S.Trivedi[1]*, R.P.Sharma[2], Sarvesh K Jain[3], S.S.Bhadauria[4], Abhishek Tiwari[5]

[1] Department of Civil Engg, India,
[2]Department of Civil Engg., BIT Sindri, Jharkhand, India,
[3]Department of Civil Engg., MITS, Gwalior, India,
[4]Department of Civil Engg., RGPV (Bhopal)India,
[5]Department of Civil Engg., India

Abstract : This paper reviews various aspects of corrosion of the reinforcement embedded in concrete by various factors like moisture, permeability pH and temperature etc and also their corrosion controlling methods. As reinforcement used for many reinforced concrete structures exposed to moisture in the air causing slight corrosion even before casting of concrete. Alternative methods and materials are also taken into the paper along with numerical modelling for predicting the corrosion rates. The electrochemical method of evaluating the corrosion rates are reviewed in which four different water cement ratios are taken by various researcher. Epoxy materials compared to conventional cementite materials shows very small shrinkage defect. For damage prediction rate of corrosion is very crucial input parameters. Corrosion influencing factors such as cover cracking, resistivity, concrete quality and cover depth should be incorporated in corrosion rate prediction models. For accurately predicting the corrosion rates both laboratory and field data should be considered during model development.
Keywords : Corrosion, concrete, steel, oxidation.

*****