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**CORROSION BEHAVIOR OF MMFX STEEL
IN COMPARISON OF CONVENTIONAL REINFORCING STEEL**

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STATEMENT

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ABSTRACT

Corrosion, the cancer of steel, makes concrete deterioration as increasing of steel cross section occurred and longitudinal cracks appear after that decreasing of steel cross section occurs due to corrosion mechanism. All of above lead to weak interfacial layer and then reduction of load carrying capacity. Numerous researches investigate corrosion mechanism, corrosion prevention, corrosion rate measurements and predict the time for corrosion initiation which is based on diffusion rates of CO₂ gas or CL⁻ ions. Little information is available in the literature concerning the effect of the presence of flexural cracks on the corrosion rate after corrosion initiation. MMFX steel micro-composite multi-structural formable reinforcing steel is a new technology model of steel based on nanotechnology, MMFX steel has high resistance of corrosion and also has high strength. This thesis

gives spot light on corrosion and semi updated researches about MMFX steel and studies the corrosion behavior of both conventional steel and MMFX steel under flexural effect to give structural engineer information and new horizon in reinforced concrete sections.