**Preparation, Characterization and Corrsion Resistance of Epoxy Nanocomposites Added ZnO Nanoparticles and MWCNT in Coating on Q235 Steel**

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**Abstract.** The effect of the addition of ZnO nanoparticles, multi-walled carbon nanotubes (MWCNT) to epoxy coatings on their mechanical properties and ability to protect the Q235 steel substrates was studied. The novel epoxy nanocomposites were formulated from low-cost epoxy “GCC135” - a low viscosity liquid epoxy resin with and wwithout ZnO, MWCNT reinforcement. The six series of samples were prepared. The density, adhesion, HV test were carried out. The Q235 steel substates were prepared and coated with those epoxy nanocomposites and submerged in 3.5% NaCl solution to study corrosion properties by means of Electrochemical Impedance Spectroscopy (EIS), Tafel plots. Those results showed that the addition of ZnO and MWCNT to epoxy coatings simultaneously not only increased their mechanical properties but also enhanced corrosion protection in comparison with the pure epoxy coating.

**Keywords:** Corrosion, Multi-walled carbon nanotubes (MWCNT), Epoxy coating, EIS, Tafel plots.