

## **OLEUROPINA AS AN ENVIRONMENTALLY FRIENDLY INHIBITOR TO CORROSION OF IRON B 500 IN ACID MEDIA**

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### **Abstract**

The catastrophic consequences of corrosion in concrete armors and the use of environmentally friendly additives are scientific motivations for our work. The purpose of this study is the use of green inhibitors extracted from various plants as protective additive of armor steel in concrete mud. The material used is iron B500. The Oleuropine inhibitor is extracted from olive leaves with different extraction methods. Oleuropine content in the extract is 17-23% in crude material with 91% purity. The effectiveness of the Oleuropine inhibitor is proven by two methods: the method of weight loss and potentiodynamic polarization method. The environment used is sulfuric acid 1M with chloride ion concentration approximately  $10^{-3}$  in form of NaCl. By the weight loss method, the corrosion rate in (mm/year) and protection efficiency of oleuropine (%) in concentration of 0.75g/l are respectively: 1.64 mm/year and 67.68%. By the potentiodynamic polarization method, the corrosion rate in (mm/year) and protection efficiency of oleuropine (%) in concentration of 0.5g/l are respectively: 0.76 mm/year and 67.52%.

***Keywords:*** concrete armor, corrosion, iron B 500, oleuropine.