Quality and performance of sacrificial anodes used in cathodic protection

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Abstract: Sacrificial anode cathodic protection is one of the most techniques used to protect metallic structures from corrosion in seawater. In this paper, the morphology of corrosion products on the surface of the Zinc anodes in seawater was studies. To achieve this objective, zinc anodes samples were immersed in natural seawater, for different times at room temperature. The samples before and after immersion were cleaned according to the standard method. The morphology of corrosion products was examined by optical and scanning electron microscopy (MEB). Energy dispersive X-ray spectroscopy (EDS) was used to analyze the elements distributions. The results show that the corrosion product can take many forms depending on the structure of the metal and the corrosive environment.

Keywords: sacrificial anode, immersion, corrosion products, cathodic protection.