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Elektrohemijsko ponašanje čelika u prisustvu macerata kestena

Vesna J. Grekulović, Aleksandra M. Mitovski, Nada D. Štrbac, Ivana I. Marković, Milan D. Gorgievski, Milica B. Zdravković
Univerzitet u Beogradu, Tehnički fakultet u Boru, VJ 12, Bor, Srbija

U ovom radu su prikazani rezultati ispitivanja elektrohemijskog ponašanja čelika X180CrMo12-1 pri oksidaciji u rastvoru 0,3 mol/dm^3 NaCl u odsustvu i prisustvu macerata kestena različitih koncentracija. Elektrohemijsko ponašanje čelika ispitivano je metodom merenja potencijala otvorenog kola i metodom ciklične voltametrije. Rezultati merenja potencijala otvorenog kola pokazuju da su vrednosti potencijala otvorenog kola pozitivnije u odnosu na vrednost potencijala otvorenog kola bez dodatka macerata kestena. Na voltamogramu dobijenom bez prisustva macerata kestena nema jasno definisanih strujnih pikova već samo jedan vrlo širok i nizak strujni talas u širokoj oblasti potencijala pre nego što dođe do naglog porasta gustine struje, i jedan strujni pik na povratnom delu voltamograma. Sa dodatkom macerata kestena vrednosti gustine struje su niže u odnosu na vrednosti gustine struje bez dodatka macerata kestena. Niže vrednosti gustine struje u prisustvu macerata kestena ukazuju na to da macerat kestena pokazuje inhibitorsko dejstvo.

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Electrochemical behaviour of steel in the presence of chestnut macerate

Vesna J. Grekulović, Aleksandra M. Mitovski, Nada D. Štrbac, Ivana I. Marković, Milan D. Gorgievski, Milica B. Zdravković
University in Belgrade, Technical faculty in Bor, VJ 12, Bor, Serbia

This paper presents the results of the investigation of electrochemical behaviour of steel X180CrMo12-1 during oxidation in a solution of 0.3 mol/dm^3 NaCl in the absence and in the presence of chestnut macerate of various concentrations. Electrochemical behaviour of steel was tested by the method of measuring the open circuit potential and the cyclic voltammetry method. Results of the open circuit potential measurements show that the values of the open circuit potential are more positive than the value of the open circuit potential without the addition of chestnut macerate. On the voltammogram obtained without the chestnut macerate there are no clearly defined current peaks, but only one very wide and low current wave in a wide range of potentials before a sudden increase in current density, and one current peak at the reverse part of the voltammogram. With the addition of chestnut macerate, the value of the current density is lower than the value of the current density without the addition of chestnut macerate. Lower values of the current densities in the presence of chestnut macerate suggest that chestnut macerate exhibits an inhibitory effect.

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