

PHASE DIAGRAMS AND CORROSION AND ELECTROCHEMICAL PROPERTIES OF METAL BINARY ALLOYS. CORROSION BEHAVIOR OF ALLOYS IN THE HOMOGENEOUS REGION OF THEIR PHASE DIAGRAM

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Changes in electrochemical and corrosion properties of alloys were considered by the example of Cu-Au, Ag-Au, Cu-Pd and other systems. It was shown that monotonous variation of electrochemical properties of the alloys in the homogeneous region can lead to the discontinuous increase or decrease in corrosion resistance. Tamman's conception of the reasons of sudden changes in the alloy corrosion resistance with changing of their composition was criticized. Idea about the kinetic origin of the appearance of such changes was developed both for cases of active and passive dissolution. It was shown that continuous variation of the kinetics of anodic processes in presence of some oxidants can lead to the discontinuous change in the corrosion resistance of alloys with variable chemical composition.