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[\[PDF \(1583K\)\]](#) [\[References\]](#)**Electrochemical Behavior of Cast Ti-Ag Alloys**[Masatoshi TAKAHASHI](#)<sup>1)</sup>, [Masafumi KIKUCHI](#)<sup>1)</sup>, [Yukyo TAKADA](#)<sup>1)</sup>, [Toru OKABE](#)<sup>2)</sup>  
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**Abstract:**

Anodic polarization tests were performed in 0.9% NaCl and 1% lactic acid solutions to characterize the relationship between the corrosion behavior and the microstructures of cast Ti-Ag (5-40% Ag) alloys. The anodic polarization curves for the Ti-Ag alloys up to 17.5% Ag were similar to those for pure titanium in both solutions. On the other hand, an abrupt increase in the current density was observed for the alloys with more than 20% Ag in the NaCl solution and with more than 27.5% Ag in the lactic acid solution. The microstructures of the corroded alloy surfaces indicated the deterioration of precipitated intermetallic compounds along the grain boundaries. The Ti-Ag alloys up to 17.5% Ag had excellent corrosion resistance similar to that of pure titanium. The alloys with 20-25% Ag may be also used as dental alloys, since they passivated again immediately after preferential dissolution in the NaCl solution.

**Key words:**[Titanium alloys](#), [Corrosion](#), [Microstructure](#)



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