

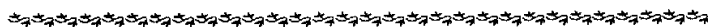
## Study on morphology before and after failure of the titanium anode coated $\text{IrO}_2 \cdot \text{Ta}_2\text{O}_5$

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**Abstract:** A IrTa coated titanium electrode with a good property of oxygen evolution is developed. The morphology of the coating and the coated composition variation before and after electrode failure are determined by SEM, electro-probe and X-ray diffractometer. When the mole ratio of Ir to Ta is 0.5 : 0.5, the  $\text{IrO}_2 \cdot \text{Ta}_2\text{O}_5$  coating has a typical characteristic morphology in which  $\text{IrO}_2$  and  $\text{Ta}_2\text{O}_5$  are needle-like crystal and round-stone amorphism, respectively. A certain amount of Ir and Ta still exist in the coating after electrode failure which resulted from the dissolution of oxide-titanium coating.

**Key words:** iridium; tantalum; coat; coated morphology; Ti substrate anode; failure analysis



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