

## Development of TiO<sub>2</sub>/Ti-coated wire-mesh electrode for electrochemical degradation of reactive dyes

양경식\*, Avishek Coudhury, 정종식  
포항공과대학교 화학공학과  
(ksyang@postech.ac.kr\*)

TiO<sub>2</sub>/Ti-coated wire-mesh electrode was prepared by two-step process: Ti particles deposited onto titanium wire-mesh followed by thermal treatment. Titanium powder was deposited on titanium wire-mesh sheets using electrophoretic deposition (EPD). The Ti particles were well adhered on the wire-mesh substrate and the thickness of coated layer was measured about 50 $\mu$ m by SEM. After a tuned calcination, thin porous TiO<sub>2</sub> layers were certified on the coated titanium by XRD and XPS results. From BET method and pore size distribution, we could conclude that the TiO<sub>2</sub>/Ti-coated wire-mesh had highly porous layers with a large surface area. Then, the TiO<sub>2</sub>/Ti-coated wire-mesh was evaluated as an electrode for electrochemical degradation of reactive dyes. It showed better activity as well as stability compared with conventional electrode.