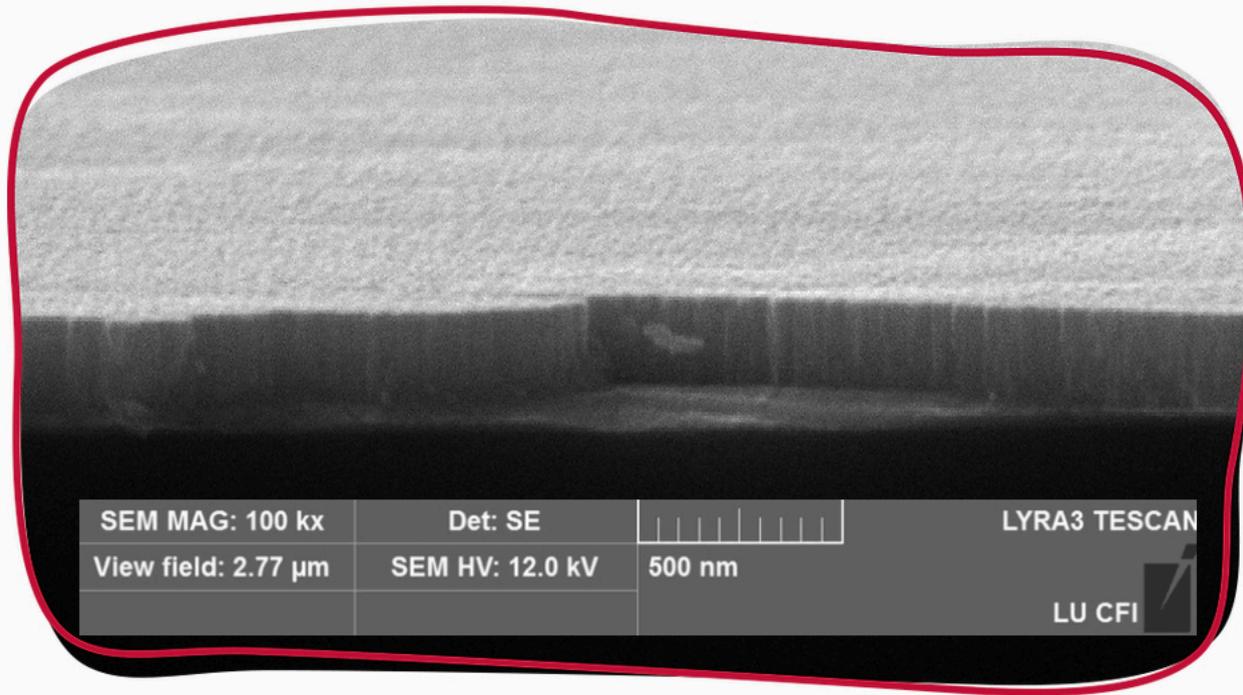


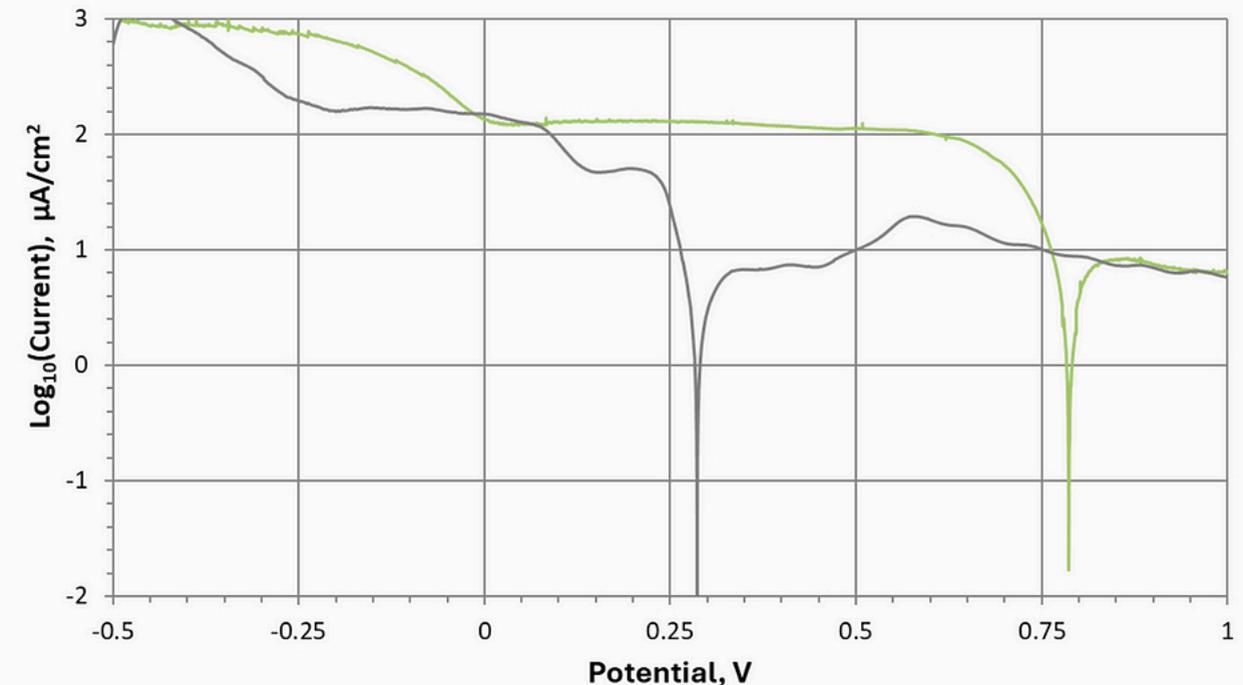
Bimetallic Nitride for Cathode

Our bimetallic nitride coating (**Naco ICR**) protects PEM water electrolyzer cathodes **without extensive use of noble materials**.

It consists of three layers. The first provides good adhesion, the second (main) nitride layer prevents hydrogen diffusion and the few-nanometer top layer ensures **stable conductivity**.



Application	Cathode
Material	Bimetallic nitride with top layer
Thickness, nm	300 – 600
Substrate material	Any metal
Substrate thickness, mm	0.05 – 4
Open circuit voltage (OCV), V	0.8 V
Interfacial contact resistance (ICR), $\text{m}\Omega\cdot\text{cm}^2$	< 2
ICR after 6 hours*, $\text{m}\Omega\cdot\text{cm}^2$	< 2 $\text{m}\Omega\cdot\text{cm}^2$
ICR after 24 hours**, $\text{m}\Omega\cdot\text{cm}^2$	< 2 $\text{m}\Omega\cdot\text{cm}^2$



Water sulfuric acid solution pH1 0.1 ppm HF at 60°C

*Steady-state polarization at 2.2V (vs RHE), water 0.05M sulfur acid solution, 2 ppm HF at 80°C

**Steady-state polarization at -0.5V (vs RHE), water 0.05M sulfur acid solution, 2 ppm HF at 80°C