

ELECTROCHEMICAL FUNCTIONALISATION AND COATING

Technical data

- Electroplating flow cell : Flow rate 0-10m/s, sample size A6.
- Composite electroplating cells : A5 size or 3D objects (Diameter max 0.2m, length max 1m)
- Plasma electrolysis facility : sample size A6
- Pulse Reversed power supplies 25V/10A, 25V/360A, 500V, 100A
- CASTL Line: Reel-to-reel wet coating and electroplating line for 0.25m wide strip (coils)

Purpose

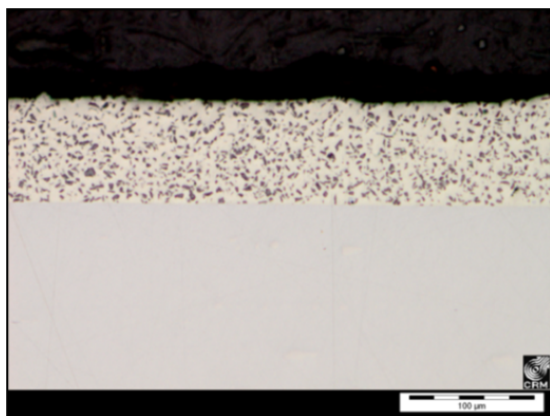
Metal and metal alloy coatings applied by electroplating are of critical importance in many technical fields ranging from wear-resistance to corrosion-resistance, from decorative coatings to catalysis,... Electroplating processes can be developed and tested at laboratory and pilot scale using CRM Group's facilities and simulators. For instance, the research teams of CRM Group are actively working on electroactive coatings to be used for green hydrogen production. We also have a pilot facility available dedicated to the development and testing of plasma electrolysis or anodizing processes.



Plasma electrolysis facility

Results

CRM Group has developed extensive knowledge of the electroplating of zinc, tin, nickel and nickel alloys (Ni-P, Ni-Co, Ni-Fe, Ni-Zn,...), iron alloys, chromium and chromium alloys, as well as composite coatings combining the former metal matrices with a second phase composed of ceramic or polymer particles.



Composite coating applied by electroplating for wear and corrosion protection



CRM's composite electroplating facility