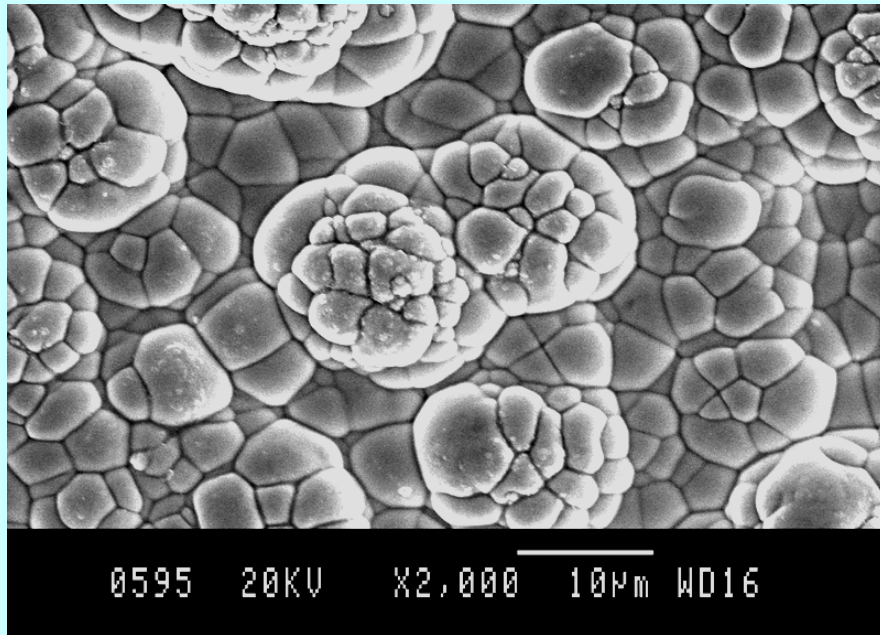
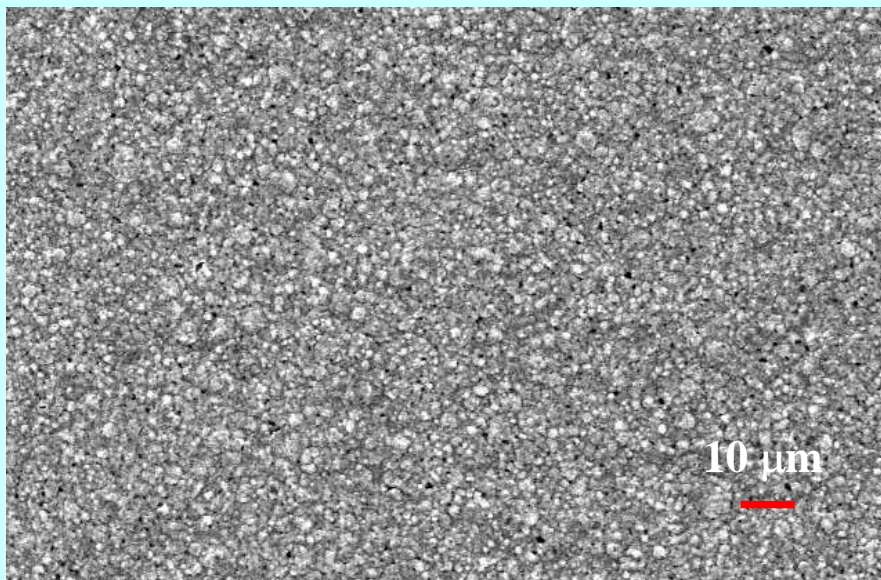


ELECTROLESS NICKEL ALLOY AND COMPOSITE PLATING

Title of Technology to be offered	Electroless nickel alloy and composite plating
Type of Technology	Surface modification
Area of Technology	Surface engineering
Details of Collaborating Agency	Nil
Uses	Corrosion and Wear resistant coatings
Salient Features	High hardness of the order of 600 HV _{0.2} in as-plated condition Excellent wear resistance Very good corrosion resistance in acid and saline environments
Scale of Development	Laboratory and pilot scale
Major Raw Materials	Nickel salts, reducing agents, complexing agents, stabilizers, special additives, alkaline solution,
Major Plant Equipment/Machinery	Direct current source (Rectifier) having a potential range of 0-60 V, Heating coils and control systems Sparger tubes and compressor Tanks made of polypropelene for cleaning, pre-treatment, plating and rinsing Exhaust systems Conveyor systems
Details of specification application	Corrosion and Wear resistance for engineering, automotive, textile, components
Status of Development	Ready for commercialization (Process can be optimized according to customer requirements)
Ecological/Environmental Impact (if any, specify briefly)	Acidic solutions. They should be neutralized before discharge. Nickel salts, reducing agents and stabilizers need to be treated properly before discharge
Patenting details	Nil
Commercialisation Status	Yet to commercialize
Techno-Economics	Installation cost: 5 lakhs
Key words	Electroless plating, composite coating, corrosion resistance, wear resistance,



Surface morphology of the electroless nickel alloy coating



Surface morphology of the electroless nickel composite coating