

ELECTROLYTIC COLOURING OF TITANIUM AND ITS ALLOYS

Title of Technology to be offered	Electrolytic colouring of titanium and its alloys
Type of Technology	Surface modification
Area of Technology	Surface engineering, anodization, metal finishing
Details of Collaborating Agency	Nil
Uses	Colour coding of electronic components Jewellery applications (for aesthetics)
Salient Features	A variety of colours can be imparted on the surface of titanium and its alloys by suitably varying the operating conditions. The coating is uniform, adherent and abrasion resistant.
Scale of Development	Laboratory and pilot scale
Major Raw Materials	Ti and its alloys, mineral acids, fluorides and special additives
Major Plant Equipment/Machinery	Direct current source (Rectifier) having a potential range of 0-60 V Stainless steel cathodes of suitable geometry Cooling systems
Details of specification application	Colour coding of electronic components Jewellery applications (for aesthetics)
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.
Patenting details	Nil
Commercialisation Status	Yet to commercialize
Techno-Economics	Installation cost: Rs. 3 Lakhs
Key words	Titanium, titanium alloys, electrolytic colouring, Jewellery, colour coding