

## Surface Modifications Technologies

U R Rao Satellite Centre (URSC) of Indian Space Research Organisation (ISRO) has developed surface modification technologies. It is primarily related to the Development of Thermal Control and Allied applications such as tribological, electrical by electrochemical methods.

- ✦ Gold plating on various Substrates ( Al and its alloys, Cu and its alloys, SS alloys, Titanium Alloys, PCBs, Kovar).
- ✦ Silver plating on various Substrates ( Al and its alloys, Cu and its alloys).
- ✦ Anodising on Aluminium and its Alloys.
- ✦ Black Anodising Aluminium and its Alloys.
- ✦ Anodising and Inorganic Black Colouring on Aluminium and its Alloys.
- ✦ Black Nickel Coating on SS and Copper.
- ✦ Nano Crystalline Nickel coating on AA-6061.
- ✦ Electrolytic Ni-P coating on Al-6061.
- ✦ High Absorptance copper oxide based black coating on Al-6061 and copper.
- ✦ Integral Black Anodising on Magnesium alloys with silicate protective coating.
- ✦ Integral Black Anodising on AA 6061 alloys using titanyl electrolytes.
- ✦ High emittance coating on Titanium for space applications using anodization.
- ✦ Ultra high solar absorber black electroless nickel coatings on Invar 36, and aluminium with silicate protective coating.
- ✦ White anodizing on Aluminium alloys with low alpha and higher emittance.



## Salient Features

Many electrochemical surface engineering processes like Gold and silver plating, conversion coatings like anodizing, hard anodizing, etc on various alloy substrates to achieve required Thermo-Optical Properties, corrosion resistance, and electrical and tribological properties.

## Technology Transfer

URSC/ISRO offers to transfer these electro-chemical surface modifications technologies developed by URSC to industries in India with adequate experience and facilities. Industries interested in obtaining knowhow may write giving details of their present activities, infrastructure and facilities.

Technology Transfer & Industry Coordination Division (TTID),  
Programme Planning and Evaluation Group (PPEG),

📍 U R Rao Satellite Centre (URSC), ISRO, HAL Airport Road,  
Vimanapura Post, Bangalore – 560 017.

✉ Email-id: tt-icd@ursc.gov.in

☎ Fax No: 080-25205261

🌐 <https://www.ursc.gov.in/industry/index.jsp>