

## Silver Plated Waveguides Technology

Space Applications Centre of Indian Space Research Organization at Ahmedabad has developed a method to carry out silver plating from inside in aluminum waveguides. It is a difficult task to plate due to the complexity and shape of the component. The purpose of this process is to get uniform deposition throughout the inside & outside surfaces of the component.

Silver plated waveguides are used in various communication payloads like GSAT, RISAT etc. Silver plating on Aluminum waveguides is required to obtain good RF performance, as silver gives the best known electrical conductivity and also is solderable.

Most commonly used space qualified paints are available normally in two colors, Black and White. Thermo-Optical properties of Thermal Control Coatings usually carried out are as per details given below:

The plated parts should be free of pits, nodules, blisters & roughness on the components. It should pass environmental tests like heat resistance, humidity, thermal cycling, thermo vacuum etc.

### Plating Specifications

*Electro less Nickel plating thickness: 6 to 8 microns*

*Silver plating thickness: 5 to 8 microns*



### Pre-requisites

- Basic Electroplating know-how
- Electroplating set up including baths, anodes, supplies etc