THERMAL CONTROL COATING TECHNOLOGY

INDIAN SPACE RESEARCH ORGANISTION

Space Applications Centre (ISRO) is in the field of Microwave Integrated Circuits fabrication for communicational, remote sensing and navigational payloads. SAC has developed the process of Cr-Cu-Au (Chromium-Copper-Gold) metallisation on both sides (top and bottom side) of Alumina substrates using Magnetron sputtering techniques. The base material for MIC fabrication is dielectric ceramic viz. alumina on which the metallisation is to be carried out for MIC pattering.

Pre-requisites

- Painting know-how
- Conditioned Thermal painting booth
- Qualified paints, guns etc.

Terminal Specifications

Total Mass Loss (TML) :1.0 %

Color : Black and White

Appearance : Flat/ Matt finish

Dry Film Thickness (DFT) : 50 to 70 micron

Collected Volatile Condensable Material (CVCM) : ≤ 0.1 %

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:

Coating Type	Emissivity (ε)	Solar Absorptive (α')	α'/ ε
Black	0.90	0.90	1.00
White	0.85	0.20	0.23

Technology Transfer

SAC/ISRO, offers to transfer this technology of the **Thermal Control Coating Technology** developed by SAC to industries in India with adequate experience and facilities. Enterprises interested in obtaining knowhow may write giving details of their present activities, infrastructure and facilities.

SAC Technologies

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