

ADVANCED TECHNOLOGIES FROM ISRO

Interest Exploration Note

TT / 10 / 02 / SAC

Thermal Control Coating

Indian Space Research Organisation at its Space Applications Centre (SAC), Ahmedabad, has qualified the process of thermal control coating for spacecraft subsystem component made of materials such as Anodized Aluminium, Chromated Aluminium, Bare Aluminium, Electroless Nickel Plated Invar, Bare Invar, Silver Plated Aluminium, Chromated Magnesium, Black Anodic Coated Magnesium etc for use in space industry. Black paint is utilized on the interior of spacecraft to facilitate radiant heat transfer among internal components. The process will find wide commercial and special applications.

Commonly used space qualified paints are available in two colours – Black & White. The Thermo Optical properties of Thermal Control Coatings are 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

Specifications

- Total Mass Loss (TML) : ≤ 1.0 %
- Collected Volatile Condensable Material (CVCM) : ≤ 0.1 %
- Colour : Black & White
- Appearance : Flat / Matt Finish
- Dry Film Thickness (DFT) : 50 to 70 micron

Pre Requisites

1. Industry must possess painting know how.
2. Conditioned thermal painting booth(s) and painting guns.

TECHNOLOGY TRANSFER FROM ISRO

ISRO is willing to offer the technology to eligible interested parties. Interested entrepreneurs / industries are requested to contact the address given below with all relevant particulars regarding their line of current activity, infrastructure available, market assessment of the technology, financial arrangements made, turn over and sales of their products for the past years and a copy of their latest annual report.

For further details, please contact:

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