

HEAT PIPES

THERMAL CONTROL SYSTEMS

In the vacuum of space, control of heat exchanges on a satellite is complex and vital. Several methods and technologies are used in combination to increase or reduce heat fluxes and transfer heat from an area to another one.

APCO Technologies has already justified on spacecraft structures the following:

- Heat pipes
- Thermal coating
- Multilayer Insulation System (MLI)
- Reflective surfaces



Embedded heat pipes mounting



Above : Heat pipes on Sentinel-3 OLCI

Under: Embedded and surfaced heat pipes on ACES



HEAT PIPES

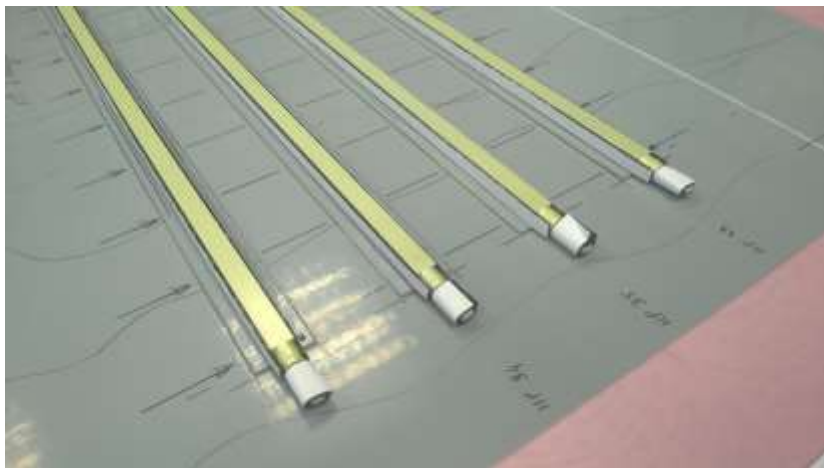
Heat pipes are two-phase heat transfer devices that transport heat from one place to another without electrical power.

After definition and procurement of heat pipes, we integrate them in the flight hardware. They can be :

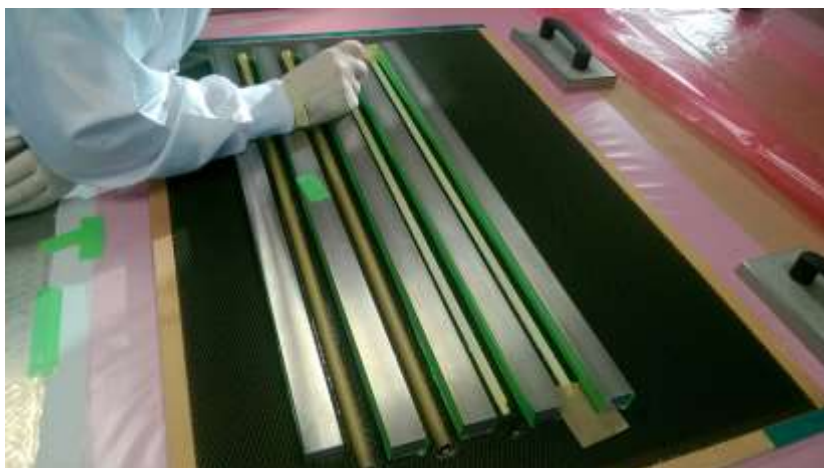
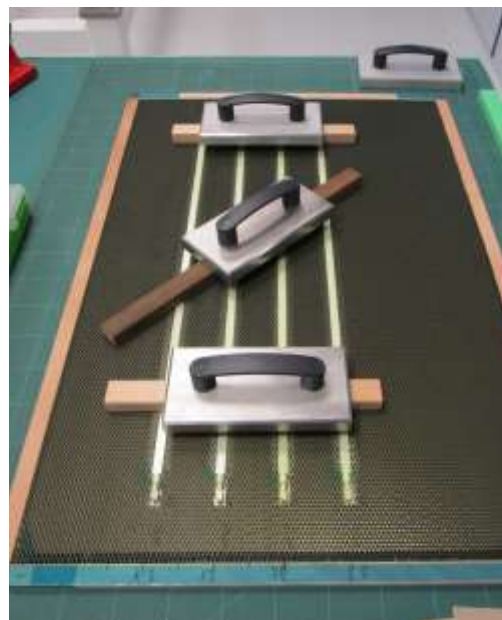
- Surface mounted
- Embedded on the honeycomb (hot-bonded)
- Loose

We also have the capability to assemble heat pipes together (internal / external).





Embedded Heat Pipes Mounting



Above: Heat pipes on EUI OBS

On the left: Surface and loose heat pipes on Sentinel-3 SLSTR