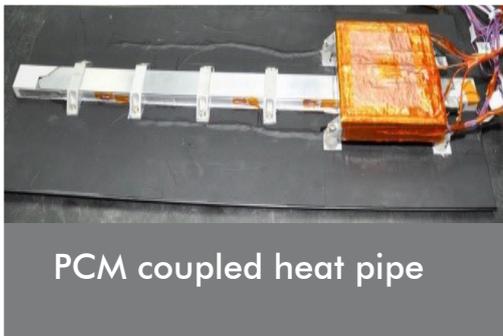


Phase Change Material (PCM) coupled Heat pipe for Space Application

U R Rao Satellite Centre (URSC) of Indian Space Research Organisation (ISRO) has developed Phase Change Material (PCM) coupled Heat pipe for Space Application. Phase Change Material (PCM) module to store 30 kJ of heat energy for shorter duration and couple with a dual core axially grooved Aluminium-Ammonia heat pipe to transport heat for a longer duration.



PCM coupled heat pipe

Salient Features

- ✦ PCM module to store 30 kJ of heat energy.
- ✦ PCM: n-Eicosane with a melting point of 37 °C.
- ✦ Heat pipe to transport more than 130 W of heat to radiator.

Major Specifications

- ✦ Thermal conductivity enhancement : pin fins
- ✦ Heat transport capability of heat pipe : > 150 W-m
- ✦ Maximum temperature difference along its length : 5 °C
- ✦ Operating temperature : -40 to 60 °C
- ✦ Heat pipe cross section : 12.8 mm x 25 mm
- ✦ Heat pipe length : 500 mm
- ✦ Heat pipe mass : 350 g
- ✦ Total device mass including instrumentation : 800 g

Technology Transfer

URSC/ISRO offers to transfer this technology of Phase Change Material (PCM) coupled Heat pipe for Space Application 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>