

Product Name :
COMPOSITE WALL APPARATUS

Product Code :
Heat and Mass0001



Description :

COMPOSITE WALL APPARATUS

Technical Specification :

The unit consists of a three slabs of different materials namely mild steel, wood & Bakelite. Nicrome heater is provided to supply heat input across these composite walls. Total heater assembly comprises of a heater bound between two aluminium plates, on both sides of this heater identical structures of composite wall are placed. Thermocouples are provided at proper position in the composite wall to record desired inside temperature of composite wall. Multichannel temperature indicator is used to measure this temperature. Small hand press provided to press the wall on each other & to ensure that no air gap remaining between two plates. Heat input to heater is given through a variac & measured by voltammeter & ammeter. By varying heat input & combinations of the composite structure wide range of experiment can be performed.

SPECIFICATION:-

- Diameter of Slab = 0.3 m
- Thickness of Bakelite plate = 0.012m
- Thickness of Press Wood plate = 0.012 m
- Thickness of MS Plate = 0.012m
- Temperature indicator = 0 –300 °C
- Ammeter = 0 - 5 A
- Voltmeter = 0 – 300 V
- Dimmerstate = 1000 watt
- Heater = Mica Type

FEATURES:-

- The temperature distribution across the composite wall can be studied for given arrangement of slabs.
- The change in temperature distribution across the composite walls by altering combination of slabs can be observed.

RANGE OF EXPERIMENT:-

- To determine total thermal resistance and thermal conductivity of composite wall.
- To plot temperature gradient along composite wall structure.

SERVICE REQUIRED:-

- Suitable bench area to mount the instrument.
- 15 amps, Single Phase A.C. with earthing connection.

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