

Product Name :
Heat Transfer Through Composite Wall for engineering schools

Product Code :
HTL001

Description :

Heat Transfer Through Composite Wall, technical teaching equipment for engineering

The setup consists of a heater sandwiched between two sets of slabs. Three types of slabs are provided on either sides of heater, which forms a composite structure. A small hand press frame is provided to ensure the perfect contact between the slabs. A variac is provided for varying the input to the heater. Digital Voltmeter and Digital Ammeter display the heat input. Heat produced by heater flows axially on both the sides. Temperature Sensors are embedded at the interfaces of slabs to determine the temperature gradient. The experiment can be conducted at various values of heat input and calculation can be made accordingly.

EXPERIMENTATION:

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

UTILITIES REQUIRED :

- Electricity Supply: 1 Phase, 220 V AC, 2 Amp.
- Table for set-up support.

TECHNICAL DETAILS:

Slab assembly arranged symmetrically on both sides of heater.

- Slab Material : Slab Size
- Cast Iron : 250 mm dia. & 20mm thick.
- Bakelite : 250 mm dia. & 15 mm thick.
- Press Wood : 250 mm dia. & 12 mm thick.
- Heater : Nichrome wire.
- Digital Voltmeter : 0-300 Volts.
- Digital Ammeter : 0-2 Amp.
- Variac : 0-230 V, 2Amp.
- Digital Temp. Indicator : 0-200⁰C, with multi-channel switch
- Temp Sensors : RTD PT-100 type.
- Instruction Manual : An ENGLISH instruction manual will be
- the slab assembly with front window of glass/acrylic.
- The whole set-up is mounted on a powder coated base plate.

Technical Specification :

Heat Transfer Through Composite Wall

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