Product Code . JL-SML-10081

Two Hinged Arch Apparatus

Description

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The two hinged arch is a statically indeterminate structure of the first degree.

The horizontal thrust is the redundant reaction and is obtained y the use of strain energy methods.

Two hinged arch is made determinate by treating it as a simply supported curved beam and horizontal thrust as a redundant reaction.

Experiment:-

To study experimentally a two hinged arch for the horizontal displacement of the roller end for a given system of loading and to compare the same with those obtained analytically.

To obtain the influence line ordinates for horizontal thrust experimentally in a two hinged arch by moving a load along the span and to compare the same with those obtained theoretically.

Technical Specification:-

Apparatus has a span of 100cm and rise 25cm.

Both ends should have hinge but one of the ends should also be free to move longitudinally.

A lever arrangement fitted at this end for the application of known horizontal inward force for measuring the horizontal thrust.

Along the horizontal span of the arch various points are marked at equidistant for the application of load.

This being a statically indeterminate structure of the first degree.

A dial gauge with 25mm travel (with magnetic base) is to be supplied with the apparatus.

Mild steel apparatus complete with a supporting stand and a set of weights.