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Product Name :

Simple Suspension Bridge

Product Code :

SLE/EG/06



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Description :

The **Simple Suspension Bridge** (Product Code: SLE/EG/06) is a model bridge experiment for studying how the tension in a suspension cable changes as loads are placed on the deck. Students predict the tension from theory, then compare it with the value measured by a load cell that can be logged through the Structures Platform. Additional masses let them apply either a single point load or a uniformly distributed load (UDL). The model is manufactured by **Jain Scientific Equipments Pvt Ltd (ScienceLab)**, Ambala, as lab equipment for technical institutes and civil engineering departments.

Key Details

Parameter	Detail
Type	Suspension bridge model for cable tension experiments
Measured quantity	Cable tension under applied load, via a load cell
Load types	Single point load and uniformly distributed load (UDL)
Included masses	Additional masses for the UDL and point load cases
Data connection	Load cell connects to the USB interface hub of the Structures Platform for computer display and data acquisition
Theory covered	Simplified parabola-based equation and a more realistic theory based on the model

Typical Use

A session usually starts with the unloaded bridge, so students can see how much of the cable tension already comes from the deck's own mass. They then add a point load at different positions, and afterwards spread the masses along the deck as a UDL, recording the tension from the load cell each time. Comparing the readings with the simple parabolic cable equation and with the more realistic model-based theory shows where the simpler assumption holds well and where it drifts.

One of the most memorable results is the overwhelming influence of the deck mass compared with relatively small live loads such as vehicles crossing a real bridge. That insight helps civil engineering students understand why long-span bridges are designed as they are. With logging through the Structures Platform, the model fits neatly into a modular set of engineering lab equipment in India for structures and bridge engineering teaching.

Manufacturer

This bridge model is a product of **Jain Scientific Equipments Private Limited**, trading as ScienceLab from Ambala in the state of Haryana, India. Our company profile gives the wider picture of what we make.

Related Laboratory Equipment

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