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Product Name :

Redundant Truss Next Generation Structures

Product Code :

SLE/EG/04



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Description :

Redundant Truss Next Generation Structures (Product Code: SLE/EG/04) is a truss experiment used to compare a statically determinate frame with a statically indeterminate one in university and engineering college structures labs. Strain gauges on every member, a precision deflection indicator and an extra ‘redundant’ member engaged by a thumbscrew let students test both cases on the same frame. It is manufactured by **Jain Scientific Equipments Pvt Ltd (ScienceLab)**, an OEM manufacturer, at its own factory in Ambala, India, as engineering educational equipment for structural analysis courses.

Key Details

Parameter	Detail
Type	Redundant truss experiment (determinate and statically indeterminate cases)
Supports	Two: one allows rotation only; the other allows rotation and translation
Load application	Hand-operated load cell assembly that applies and measures the load at the free-end Joint Boss
Member force measurement	Strain gauges on each truss member
Deflection measurement	Precision indicator measuring the framework deflection
Redundant member	Extra member engaged and disengaged with a simple thumbscrew
Data connection	Strain gauges connect to a strain gauge amplifier, which connects to the interface hub of the Structures Platform for computer display and data acquisition
Analysis	Textbook truss equations for the determinate case; a more advanced method such as the strain-energy method for the indeterminate case
Product code	SLE/EG/04
Manufacturer	Jain Scientific Equipments Pvt Ltd (ScienceLab) — OEM
Country of origin	India (made in Ambala, Haryana)

What Is the Redundant Truss Used For?

The practical runs in two halves. With the redundant member disengaged, the frame is statically determinate: students apply load at the Joint Boss with the hand-operated load cell, read the strain in each member and convert it to member force, then check the values against a method-of-joints calculation. They also note the deflection on the precision indicator. This first half confirms the reliability of the textbook equations and the accuracy of the experimental results.

Turning the thumbscrew then brings the extra member into action and the same loads are repea
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