floXlab

PLT100

Point Load Tester

Determination of the Point Load Strength Index Is(50) and UCS estimate

PLT100 — two-column hydraulic press with carrying case

Geotechnical & Rock Mechanics Testing Equipment

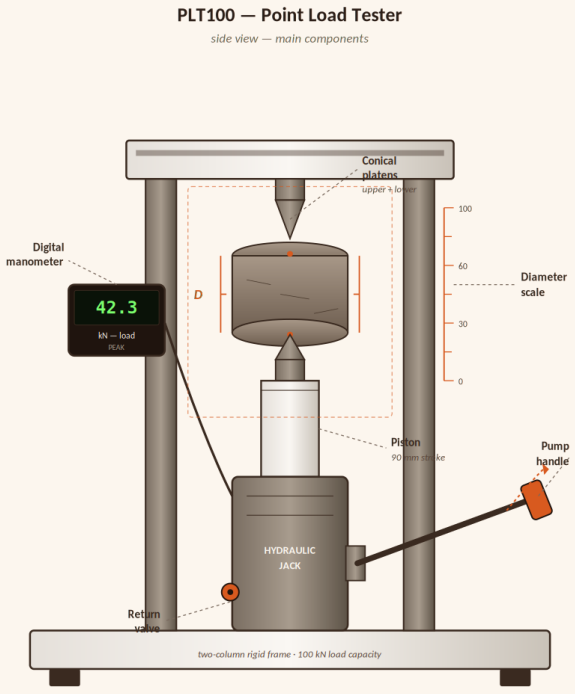
Overview

What the PLT100 does, in brief

- Quick rock strength test on cores or lumps
- Determines Point Load Strength Index Is(50)
- 100 kN load capacity — manual hydraulic press
- Conical platens — stainless steel, replaceable
- Digital manometer with peak-load capture
- Diametral, axial, block & irregular lump tests
- Compact bench-top — 42 kg, with carrying case
- Compliant with ASTM D5731 & 2006/42/EC

Main Components

Side view — annotated diagram



Conical Platens

Upper fixed + lower on piston, stainless steel

Hydraulic Jack

Manual pump — up to 10 kpsi actuator pressure

Piston

90 mm stroke — clearance 185 × 140 mm

Digital Manometer

Live load reading in kN with PEAK capture

Diameter Scale

Graduated ruler — reads specimen diameter D

Return Valve

Releases pressure to lower the piston safely

Measurement Principle

Point Load Test — ASTM D5731

Measure P
peak load
at failure

→

Compute Is
Is = P / De²
uncorrected

→

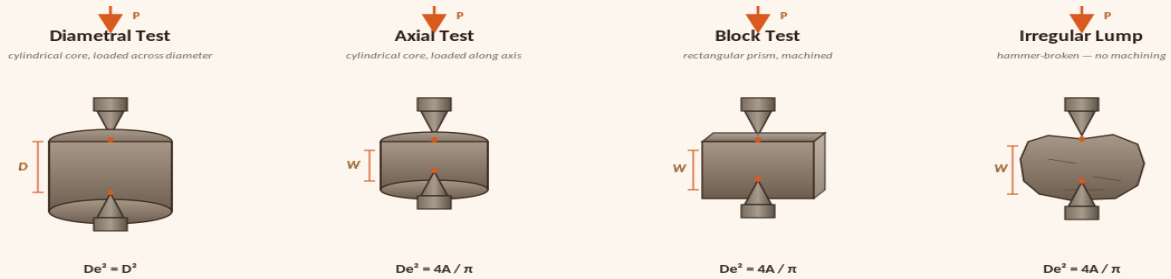
Size correction
Is(50)
to Ø 50 mm

→

UCS estimate
UCS ≈ k · Is(50)
k ≈ 22 – 24

Test Types

Four standard configurations — uncorrected index Is = P / De²



Uncorrected Point Load Strength Index

$$Is = P / De^2$$

P = failure load (N) · D = equivalent core diameter (mm) · A = W × D = cross-section area

Technical Specifications

Test method	Point Load Test — ASTM D5731	**Platens material**	Stainless steel — conical
Standards	ASTM D5731, 2006/42/EC	**Total weight**	42 kg
Load capacity	100 kN max	**Dimensions**	280 × 300 × 560 mm
Actuator pressure	10 kpsi max	**Operating range**	5 – 40 °C, indoor use
Press clearance	185 × 140 mm	**Power supply**	2 × AA (manometer only)
Piston stroke	90 mm	**Optional fixtures**	Brazilian, block punch index

Applications

Where the PLT100 delivers value

Tunnelling & TBM

Quick UCS estimate for hard-rock excavation feasibility studies

Mining

Rock strength screening of cores and lumps from exploration drilling

Civil Engineering

Site investigation, foundation design and ground classification

Quarrying & Aggregates

QC of extracted material and sorting by strength

Geomechanics R&D

Rock strength characterization and anisotropy studies

Field & Lab Use

Compact, portable & battery-powered — ready for the field

Get in Touch

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