



STANDARD OPERATING PROCEDURE (SOP)

FOR
OPERATING
POINT LOAD
TESTING
MACHINE



POINT LOAD TEST

STANDARD OPERATING PROCEDURE (SOP) FOR OPERATING THE POINT
LOAD TESTING MACHINE FOR STRENGTH TEST AND ANALYSIS PURPOSES

LOCATION - FACILITY	MOSELEY MORAMORO
SUBDIVISION	MINING - OK TEDI LABORATORY
REVISED EDITION	1 ST EDITION
REVIEW DATE	1 ST JULY 2022
DRAFTED BY	P. RUMINTS (SENIOR TECHNICAL OFFICER)

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NOTE

USAGE POLICIES & INSTRUCTIONS

- This equipment can only be operated upon approval from either the Laboratory Manager or a Technical Officer, or operated with the assistance or supervision of a technical officer.
- Strict compliance to operating procedures and safety requirements is required to operate this equipment. No Exceptions for substandard practices!
- If this equipment is acting unusual while operating STOP IMMEDIATELY! Please REPORT this malfunction to the Technical Officer and discuss the severity of the fault before proceeding or tag-out as faulty equipment.
- Any accidental damage to equipment or incidents encountered while operating this equipment must be reported immediately.



EQUIPMENT DETAILS

Point Load Testing Machine

Purpose:

This SOP ensures that the operator may operate this equipment appropriately according to the operating procedures to get reliable output without damages to the equipment or causing injuries to the operator. The Point Load testing machine is used to conduct uniaxial strength tests on engineering materials, mostly rock specimens, to determine the compressive strength of the rock specimen from applying load on the specimen in the axial direction until failure or fracture.

This Point Load Testing machine is composed of a main frame which applies the load to a test specimen and a dynamometer which displays the load applied, as measured.

Hazards:

- Eye protection (safety glasses) against projectile fragmented pieces
- Footwear (safety boots) for equipment components or test specimen fragments falling on to the foot.

Safety Requirements:

Personal Protective Equipment (PPE)

1. Safety glasses
2. Safety boots
3. Safety gloves (for operator)
4. Industrial Hardware Clothing (Reflector ware)

Tools & Materials Required:

Recommended Test Specimens

1. Rock specimen
2. Brick specimen

Test Specimen Prepared

1. Cylindrical
2. Cubic

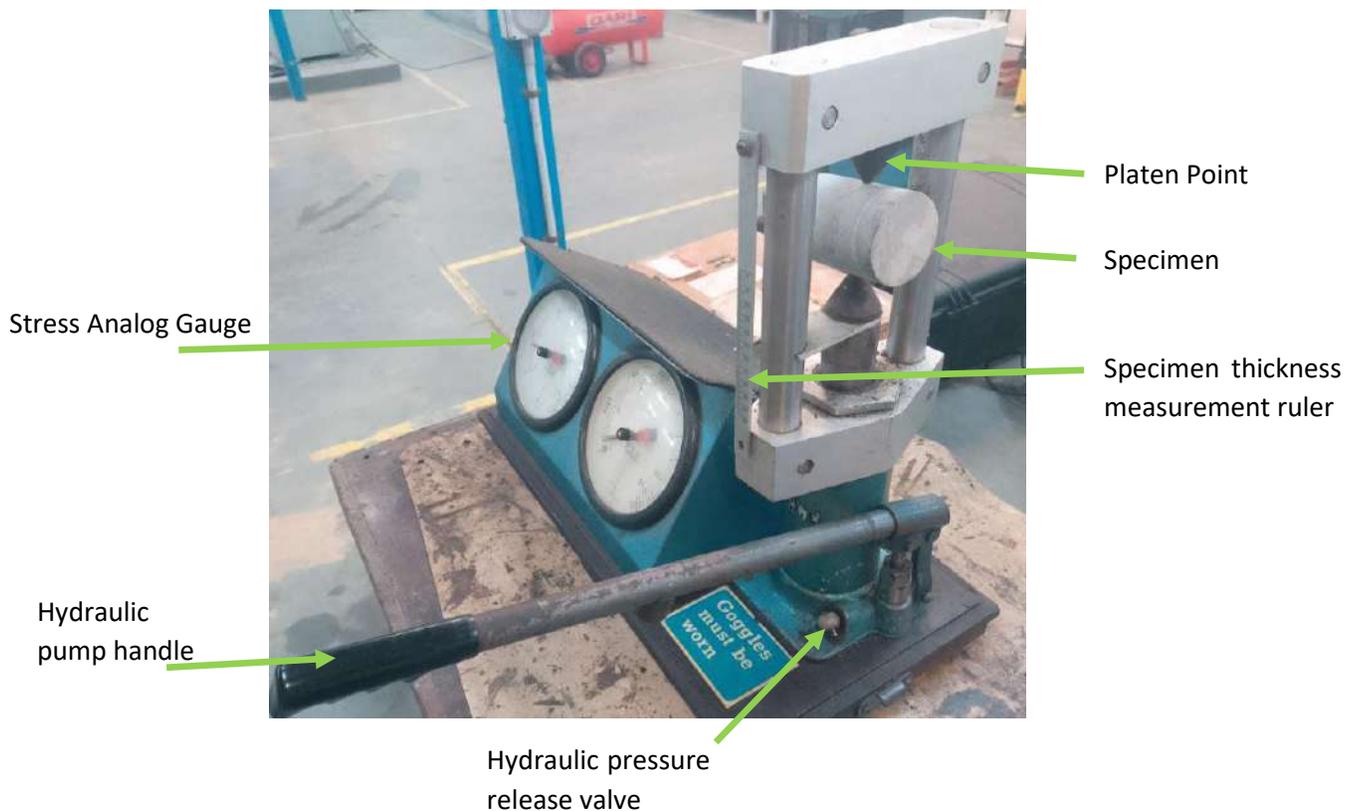


Specifications

SPECIFICATION FOR POINT LOAD TESTER

COMPONENTS	DIMENSIONS
Case dimensions	555mm x 500 mm x 270 mm (width x height x depth)
Overall weight	27 kg
Load capacity	55 kN
Load ranges	0 – 5.5 kN with 0.1 kN divisions, and 0 – 5.5 kN with 1 kN divisions
Calibration	± 1% over upper 90% range
Specimen	
Max. dia.	101 mm
Min. (recommended) dia.	25 mm
Oil	Shell Tellus 37
Low range cut-out setting	5 kN

Compositions



SETTING UP

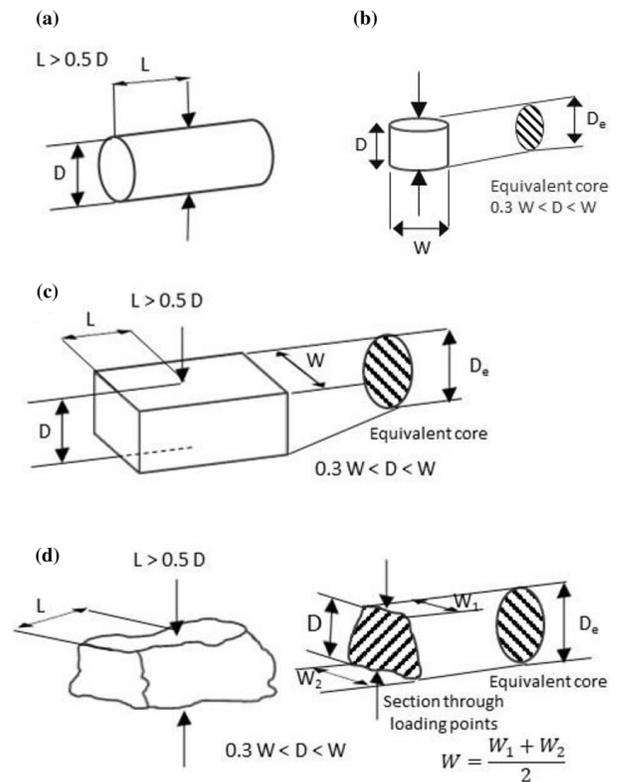
Setting-Up Procedures

Setting up for Point Load Tester

1. Check the oil by laying the Point Loader tester face up in the position shown in the photo and use the handle to unscrew the hydraulic pressure release valve and refill the oil. After refilling oil, screw the valve cap back on tightly and flip the Point Load back to upright position.



2. As part of setting up, to decide on the regular shaped specimen it must be either a cylindrical or cubic. Irregular shape can also be tested if the width of the irregular shaped specimen is equivalent to the size of the cylindrical core. Ratio of the diameter (D) of core to the length (L) of the core must be 1:2 for a cylindrical core and for cube and irregular shaped specimen the Width (W) to Length (L) is also 1:2



3. The measurement of the diameter of the cylindrical core or the width of the cubic or irregular specimen can be obtained by reading off from the measuring ruler positioned vertically next to the frame column



4. Check that the analog gauge to ensure the dials are set at zero and if they are not set at zero when the lower platen point is pressed down to its lowest point then manually turn the black screws outside the gauge to set them to zero.



5. The left gauge displays small unit graduation range from 0 kN to 6.5 kN and the right gauge has large unit graduation range from 0 to 65 kN. When load is applied both dials will move relatively displaying the load. When you take the reading you add the left gauge to the right gauge.



OPERATING PROCEDURE

Operating Procedures

OPERATING POINT LOAD TESTER

1. First place the specimen between the platen points, as show in the photo and start applying load (stress) by holding the pump handle, pumping until the specimen fractures or fails.



2. The left gauge displays small unit graduation range from 0 kN to 6.5 kN and the right gauge has large unit graduation range from 0 to 65 kN. When load is applied both dials will move relatively displaying the load. When you take the reading you add the left gauge reading to the right gauge reading.



3. After taking readings for the tested specimen, use the detachable handle to release the hydraulic pressure by loosening the pressure control valve.



4. Then use the detachable handle to place on the lower platen point and by holding each end of the hand with each hand pressure down on the lower platen point to push is down to the lowest level limit. Then use the detachable handle again to lock the pressure control valve. Now repeat the same procedure for the next test.

