



STANDARD  
OPERATING  
PROCEDURE  
(SOP)

FOR  
OPERATING  
COMPRESSION  
TEST MACHINE



# MORTAR COMPRESSION TEST MACHINE

STANDARD OPERATING PROCEDURE (SOP) FOR OPERATING THE MORTAR  
COMPRESSION TEST MACHINE FOR COMPRESSION STRENGTH ANALYSIS  
PURPOSES

LOCATION - FACILITY	MOSELEY MORAMORO
SUBDIVISION	MINING – OK TEDI LABORATORY
REVISED EDITION	1 <sup>ST</sup> EDITION
REVIEW DATE	1 <sup>ST</sup> JULY 2022
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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

## Mortar Compression Test Machine (Digital)

### Purpose:

This SOP ensures that the operator may operate this Mortar Compression Test Machine (Digital) appropriately according to get an accurate and reliable output without damages to the equipment or causing injuries to the operator. The Mortar Compression Test Machine (Digital) is used to conduct compression test on concrete mortar and rock to determine compression test studies and analysis.

This Mortar Compression Test Machine (Digital) is composed of compressing clamp driven by the motor with hydraulic pressure.

### Hazards:

- Specimen falling onto the foot

### Safety Requirements:

Personal Protective Equipment (PPE)

1. Safety boots
2. Industrial Hardware Clothing (Reflector ware)

### Tools & Materials Required:

Recommended Tools

1. Mould for concrete specimen

Test Specimen Prepared

1. Mortar specimen
2. Concrete specimen



## Specifications

### SPECIFICATIONS FOR ELE CONCRETE COMPRESSION TEST MACHINE

No	Specifications	Capacities
1	Load in Pounds	0 - 350
2	Load in Kilonewtons	0 - 1560 kN
3	Power supply	240 V
4	Hydraulic oil	

## Compositions



# SETTING UP

## Setting-Up Procedures

### Setting up equipment

Before operating the Mortar Compression Test Machine (Digital) there are few things of the equipments that needs to be set up before it can be operated.

1. Take the concrete or mortar specimen from the curing mould and wipe the surface water and grit off the specimen. Note the cure time of the specimen and the dimensions



2. Before you test the specimen, to weigh the specimen and note the weight to the nearest kilogram.



3. Then wipe the surface of the clamping parts, the ram and the upper clamp clean of any debris or dust that may be on the surface.



4. Place the concrete or mortar specimen in the centre of the ram table, ready to apply load.



# OPERATING PROCEDURE

## Operating Procedures

### Operating ELE Mortar Compression Test Machine (Digital)

For operating the ELE Mortar Compression Test Machine (Digital) follow the equipment set up procedures below to set up the equipment before proceeding onto operating.

1. Make sure that the machine is connected to the power supply, then switch the power on with the On/Off switch.
2. Checking if the specimen is positioned in the center of the lower flat platen, close the casing/cover door to start.
3. Switch on the "On" button to start the test. Steadily apply load using the load application rate control lever, until the specimen cannot take anymore load and fails/fractures.
4. Take the failure reading for the specimen that is displayed on the digital screen, then release the load valve.



5. Take note of the deformation/failure mode or nature of the specimen

6. Depending on the brittleness of the specimen and the compression strength, the result would be either Explosive or Non-explosive

