



Standard Operating Procedure

Instron 50kN Load Frame

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School:	Engineering	Campus:	Waurn Ponds	Location:	KE2.101
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Category Rating:	Specific Training Required				

SCOPE & PURPOSE:

The purpose of this SOP is to show students, researchers and staff how to operate the load frames safely.

TRAINING REQUIREMENTS:

User will have completed Level 1 online and Level 2 materials labs inductions, and need to be trained by technical staff in a level 3 induction. Before using this equipment, required safety documentation must be completed and signed off by the technical staff and the user's supervisor.

POTENTIAL HAZARDS/HEALTH EFFECTS:



Crushing due to contact with moving parts, becoming trapped between parts or parts of the plant collapsing.

Cutting, stabbing or being struck due to mobility of the plant, contact with moving parts, and sharp, flying, disintegrated or ejected work pieces.

MANDATORY CONTROLS:

- ✓ Safety glasses
- ✓ Enclosed footwear
- ✓ Use of Guards
- ✓ Safety stop button
- ✓ Training provided
- ✓ Project Safety Assessment

Precaution Requirements:

DO NOT USE AFTERHOURS (OUTSIDE OF MON – FRI 8AM – 6PM) WITHOUT TECHNICIAN AUTHORISATION.

- Set the appropriate limits before performing loop tuning or running waveforms or tests.
- Do not handle fixtures whilst wearing gloves.
- **Keep clear** of moving parts of the equipment during operation.

INSTRUCTIONS:

Booking Procedure: must have a booking in the outlook calendar *G SEBE ENG Lab Eqpmt KE2.101 Instron 50kN even if free and available.

Operation:

- Install the required fixtures for your test.
- Turn on equipment, then turn on computer.
- Open Bluehill 3 software.
- Set the safety stop - *upper for tensile, lower for compression and flexural (3- or 4-point bending).*
- Calibrate the load cell.
- Create method in method option or open your method in test option.
- Put up safety guard.
- Insert the specimen remembering to balance the load to remove specimen load from measurement.
- Zero the extension.
- Conduct test(s).
- Save data.



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After Use:

- Remove all sample test pieces and clean up debris (with vacuum if necessary).
- Remove fixtures.
- Return all fixtures, tools and equipment to the Instron white cupboard.
- Close software.
- Shutdown computer.
- Turn off instrument.

GENERAL CARE & MAINTENANCE:

- When inserting fixtures, ensure they are aligned properly with the instrument – otherwise damage occurs to fixtures.
- Do not overtighten fixtures.

REPAIRS & CERTIFICATION/VALIDATION SCHEDULE:

Reporting faults/concerns of equipment procedure: Technical staff.

The load cell requires software calibration prior to every testing session and when different fixtures are installed. The load cell is externally calibrated annually.

SPILLS/ ACCIDENT REPORTING PROCEDURE:

Report incidents to: Technical staff.

In case of Emergency:

- Use safety stop button.
- Contact Technical Staff.
- If a serious injury has occurred call 000.
- Alert others if nearby.
- Evacuate to closest assembly area.