

MME Standard Operating Procedure (SOP)

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|----------------------------|---|
| Name | Instron 5548 micro tester |
| Description | <ul style="list-style-type: none"> A mechanical frame which is capable of high tensile or compressive forces onto a sample while measuring relevant data |
| Location | <ul style="list-style-type: none"> E3-2169 |
| SOP Creation Date | <ul style="list-style-type: none"> 2015-03-19 |
| SOP Created By | <ul style="list-style-type: none"> Andrew Michael |
| SOP Revision Date | <ul style="list-style-type: none"> 2015-03-19 |
| SOP Revised By | <ul style="list-style-type: none"> Andrew Michael |
| SOP Location | <ul style="list-style-type: none"> E3-2169 |
| Manual Location | |
| Equipment Owner | <ul style="list-style-type: none"> Professor Norman Zhou (x. 36095) |
| Authorized Trainers | <ul style="list-style-type: none"> Andrew Michael and Boyd Pantou |
| Support Technicians | |



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| Significant Hazards | <ul style="list-style-type: none"> Major pinch points are created by the compressive movements of the machine A sample has the potential to create flying fragments during testing |
| Administrative Controls | <ul style="list-style-type: none"> This piece of equipment can only be used under the supervision or directly by the listed trainers Stand clear of the machine while a test is taking place One's hands should not be in or around the workspace of the tensile tester during operation Always ensure the sample is properly mounted/secured before testing Do not try to apply any changes to the machine to accommodate an irregular test specimen |
| Engineering Controls | <ul style="list-style-type: none"> The automatic stop of a test after the specimen has failed |
| PPE Required | <ul style="list-style-type: none"> None |
| Relevant Standards and Codes | <ul style="list-style-type: none"> None |
| Relevant MSDS | <ul style="list-style-type: none"> None |
| Accident Procedure | <ul style="list-style-type: none"> In case of an injury caused by a pinch point, apply a cold compress. If blood has been drawn, wrap wound and apply light pressure In case of gash or similar injury, wrap wound and apply pressure |
| Emergency Shutdown Procedure | <ul style="list-style-type: none"> Switch of the power button on the base of the machine |

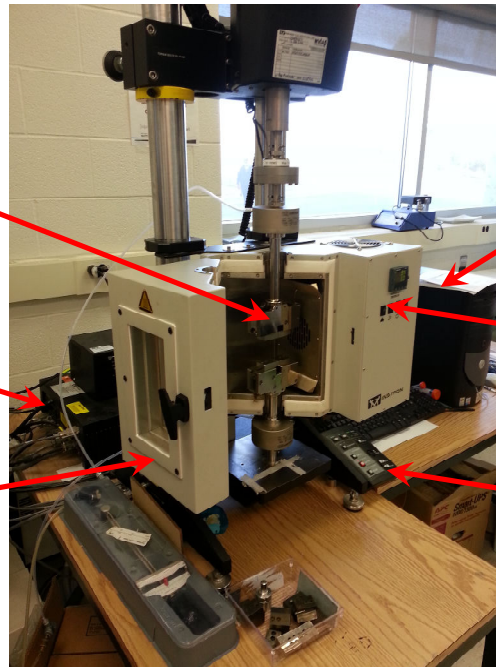
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Grips

Power Switch

Environmental Chamber

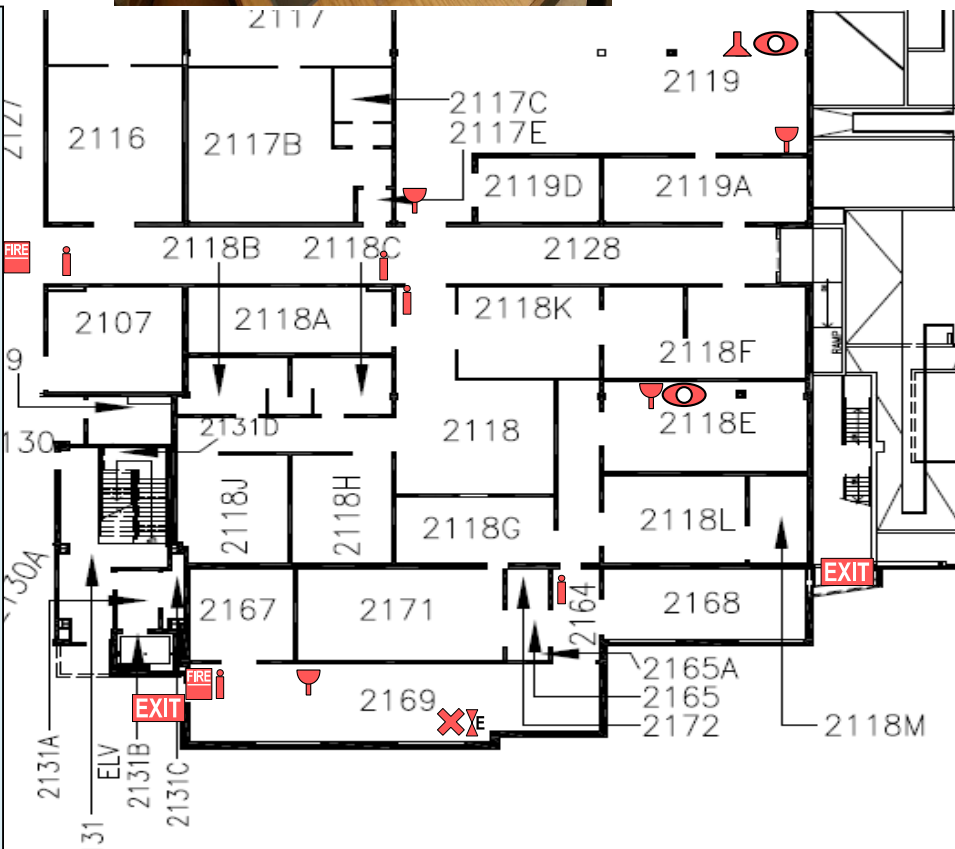


Computer Station

Chamber Controls

Jog Controls

| | |
|------------------------|--|
| equipment | |
| exit | |
| fire extinguisher | |
| fire alarm pull | |
| eye wash | |
| shower | |
| phone | |
| sink | |
| breaker panel | |
| lockout electrical | |
| lockout hydraulic | |
| lockout air | |
| lockout N ₂ | |
| lockout CW | |
| lockout DCW | |
| lockout DHW | |
| lockout steam | |





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Start-up Procedure

- Turn on machine using power switch on base
- Turn on environmental chamber using power switch on side
- Turn on computer stationed with the machine and open “Bluehill” software
- Install specimen – for tensile test this means securing the sample in the two grips and for compressive test this means between the two anvils
- Use the jog controls to move the cross head if necessary while setting up the specimen
- Be cautious of pinch hazards and use a tool for specimen placement if necessary

Operating Procedure

- Start the test from the console control
- The test should end after the sample fails, however, if it does not, a stop button is located on the control panel
- The stop button on the control panel can be used at any time to stop the test before sample failure while preserving data
- After test is finished, remove sample and push return button to reset the cross heads

Shutdown Procedure

- After testing is finished, save data and close “Bluehill” software
- Shutdown computer stationed beside the tensile tester
- Switch of the power to the environmental chamber using the power button on the side
- Switch of the power to the tensile tester using the power button on the base

Clean-up

- Remove all materials from in and around the tensile tester

Lockout

- Follow the regular shutdown procedure listed above

Maintenance and Repair

Refer to the manual for repair or service operations. This machine is a product of Instron, Norwood MA (Tel: 1-800-461-9123 or 905-333-9123)