### MME Standard Operating Procedure (SOP)

<table>
<thead>
<tr>
<th><strong>Name</strong></th>
<th>Instron 5548 micro tester</th>
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</thead>
<tbody>
<tr>
<td><strong>Description</strong></td>
<td>• A mechanical frame which is capable of high tensile or compressive forces onto a sample while measuring relevant data</td>
</tr>
<tr>
<td><strong>Location</strong></td>
<td>• E3-2169</td>
</tr>
<tr>
<td><strong>SOP Creation Date</strong></td>
<td>• 2015-03-19</td>
</tr>
<tr>
<td><strong>SOP Created By</strong></td>
<td>• Andrew Michael</td>
</tr>
<tr>
<td><strong>SOP Revision Date</strong></td>
<td>• 2015-03-19</td>
</tr>
<tr>
<td><strong>SOP Revised By</strong></td>
<td>• Andrew Michael</td>
</tr>
<tr>
<td><strong>SOP Location</strong></td>
<td>• E3-2169</td>
</tr>
<tr>
<td><strong>Manual Location</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Equipment Owner</strong></td>
<td>• Professor Norman Zhou (x. 36095)</td>
</tr>
<tr>
<td><strong>Authorized Trainers</strong></td>
<td>• Andrew Michael and Boyd Panton</td>
</tr>
<tr>
<td><strong>Support Technicians</strong></td>
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</tbody>
</table>

**Significant Hazards**

• 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**

• 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**

• The automatic stop of a test after the specimen has failed

**PPE Required**

• None

**Relevant Standards and Codes**

• None

**Relevant MSDS**

• None

**Accident Procedure**

• 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**

• Switch of the power button on the base of the machine
# 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)