Riehle Compression/Tension Tester

Name and Function of Lab/Project

Riehle

Make

FH 60

Model

A. Introduction/Specifications

- Compression and Tension machine
- Capacity = 60,000lb

Specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>Riehle FH 60</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tension Testing Opening (less tooling )</td>
<td>36&quot;</td>
</tr>
<tr>
<td>Compression Testing Opening (less tooling)</td>
<td>36&quot;</td>
</tr>
<tr>
<td>Distance Between Columns/Screws</td>
<td>30&quot;</td>
</tr>
<tr>
<td>Testing Stroke</td>
<td>6&quot;</td>
</tr>
<tr>
<td>Table Size (WxD)</td>
<td>30&quot; x 30&quot;</td>
</tr>
<tr>
<td>Testing Speed (IPM)</td>
<td>0-4</td>
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<tr>
<td>Crosshead Adjustment Speed (IPM)</td>
<td>20</td>
</tr>
<tr>
<td>Electrical Requirements (V, Hz, PH)</td>
<td>220/440</td>
</tr>
<tr>
<td></td>
<td>60</td>
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<td>3</td>
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</tbody>
</table>
B. Health and Safety Considerations

I. Safety devices required (e.g. machine guards, personal protective equipment, etc.)

- **SAFETY GOGGLES/GLASSES** must be worn **at all times in the lab**. Prescription glasses can be worn under the safety goggles.

- **HARD TOE BOOTS/SHOES** must be worn **at all times in the lab**.

II. General Safety

- **FOOD AND DRINK** are not allowed in any laboratory
- Be aware of the specific hazards associated with each lab exercise.
- Wear appropriate clothing and foot wear (**NO OPEN-TOED SHOES**).
- Familiarize yourself with all emergency safety equipment (eyewash, fire alarm, fire extinguishers, telephone).
- Do not leave hazardous experiment unattended
- Clean your work area before leaving the laboratory

**FIRE**: Immediately report it to the supervisor or lab demonstrator or other responsible personal, and then exit the laboratory and building quickly via proper exit route (Make sure you know where the exits are). Use fire extinguishers for bench-top fires or other small fires.

**ACCIDENTS AND INJURIES** must be reported to the demonstrator or other responsible personal. There are emergency first aid supplies available and all technicians are trained in basic first-aid, however any injury of consequence will be handled by the medical services.

**UNSUPERVISED WORK**: No student is permitted in the laboratories unless there is a supervisor present.

**THE BEST SAFETY PRECAUTIONS** include **ADVANCED PREPARATION for each laboratory and a CLEAN ORGANIZED WORK SPACE**.
D. Operation Procedures:

The following guidelines are for persons who request the use of the Riehle compression/tension tester. A verbal request to departmental technicians must be made to obtain permission to use any testing equipment. If operating any equipment for the first time, a competent certified operator must be present to provide adequate training and guidance.

- Press “START” button  
  - Select load range (use lowest range for specific test of interest to increase accuracy)
    - Turn dial

Raise base table to the line indicated on the screw jack;
- Turn load dial past “HOLD” position (Clockwise)
Once positioned properly;
- Turn load dial to “HOLD” position

Adjust cross-head until a 10 mm gap is positioned between the cross-head and specimen;
- Turn dial to “LOWER” or “RAISE” as required

**DO NOT LOAD SPECIMEN WITH CROSS-HEAD**

Zero load dial;
- Turn dial (clockwise or counter-clockwise) as required

Loading the Sample;
- Turn load dial (clockwise) till loading rate required is achieved (typically 1-3)

Once sample has failed;
- Press “STOP” button
- Turn load dial to “RETURN” position

To test another specimen, continue as previously directed; and

Once finished:
- Turn load dial (counter-clockwise) to “RETURN” position
- Clean entire workstation (front and back)
  - Properly discard broken specimens

You **must** acquire the assistance of a technician to perform any tension testing!

*If you ever have any doubts or questions, ASK THE SHOP TECHNICIANS!*
Figure 1. Riehle 60,000 lb Compression/Tension Machine
Emergency Contacts:

Andrew Sutherland, Chief Technician, HA-11, 453-5126
Chris Forbes, Technician, HA-11, 452-6114
Ken Knoftel, Technician, HA-11, 452-6114
Campus Security, 453-4830
FIRE/AMBULANCE/SAFETY -Emergency Response, 9-911 Internal (UNB Phones)
911 External (Cell Phone)