Safety and Incident Management Plan

Fabric Manufacturing Lab- 1(-1B01)

Department of Textile Engineering (DTE)

Ahsanullah University of Science and Technology (AUST)

Introduction

Protecting the health and safety of students, faculty members, and laboratory staff is a primary priority of the Fabric Manufacturing Laboratory-I within the Department of Textile Engineering (DTE) at Ahsanullah University of Science and Technology (AUST). The laboratory serves as a vital platform for experiential learning, enabling students to develop practical competencies in various fabric manufacturing processes, such as weaving and knitting. As these activities involve machinery, comprehensive safety measures are essential to minimize risks and ensure a safe working environment for all users. Therefore, this Safety and Incident Management Plan affords structured guidelines for accident prevention and protection, safe laboratory practices, emergency response procedures, and systematic incident reporting, in alignment with institutional and accreditation standards.

Objective

To prevent and effectively address laboratory incidents through the implementation of structured safety practices, risk management strategies, and emergency response procedures aligned with institutional and accreditation requirements.

Laboratory Safety Rules

1. **General Rules**

    - Wear PPE: Face mask and closed-toe shoes are mandatory.
    - No unauthorized entry: Only authorized students and staff are allowed in the lab.
    - Keep distance from moving parts: The students should keep a safe distance from the moving parts of any machine.
    - Keep workspace clean: The laboratory environment should be kept neat and clean by avoiding spattering fiber, yarn, or fabric fragments over the floor.
    - No Eating or Drinking: Food and drinks are strictly prohibited to avoid contamination.

2. **Behavioral Rules**

    - Follow the instructions of the Lab Assistant/Attendant and Lab In-Charge.
    - Do not operate any machine without prior training or permission.
    - Always maintain a clean and organized workspace.

3. **Machine-Specific Safety**

    Pre-Operation Safety

- Ensure the machine guards and protective covers are properly installed.
- Inspect threading through machines before starting the loom / v-bed knitting machine.
- Confirm that all the parts of the machines are functioning properly.

Operational Safety

- Keep your hands away from the rapier transfer area and the beat-up mechanism while the rapier loom is running.
- Do not touch any moving parts such as the rapier head, needle, heald frame, or cam during operation.
- Avoid wearing loose clothing, jewelry, or untied hair near the machine.
- Operate the machines only after proper training and supervision.

Maintenance Safety

- Turn off the main power supply before performing cleaning or adjustments.
- Stop the machine immediately if rapier mis-transfer, yarn breakage, or abnormal vibration occurs.
- Only trained personnel should perform mechanical maintenance or troubleshooting.

Emergency Safety

- Always know the location of the emergency stop button.
- Immediately stop the machine in case of mechanical malfunction or safety hazards.
- Report any accidents or machine faults to the laboratory supervisor.

2. Safety Procedures and Practices

1. **Before Lab Sessions**
   - The Lab In-Charge ensures that all machines are inspected for proper functioning weekly.
   - The Lab Assistant/Attendant confirms the availability of first aid supplies and functioning of emergency equipment (fire extinguishers, alarms).
   - Conduct a safety briefing at the beginning of each semester for all students.
2. **During Lab Sessions**
   - The Lab Assistant/Attendant supervises student activities to ensure adherence to safety practices.
   - Lab In-Charge ensures that only authorized students operate machines and equipment.
3. **After Lab Sessions**
   - Machines must be powered off and inspected for any signs of wear or malfunction.
   - Waste materials and debris must be disposed of following safety protocols.

3. Provisions in Case of Accidents and Health Hazards

1. **Emergency Equipment**
   - First Aid Kit: Stocked and accessible.
   - Fire Safety Equipment: Includes fire extinguishers, inspected regularly by the Lab In-Charge.
   - Emergency Shut-Off Switches: Clearly marked on all machines.
2. **Emergency Response**
   - Minor Incidents:
     - First aid administered by the Lab Assistant/Attendant.
     - Incident documented in the Lab Incident Report Log.
   - Major Incidents:
     - Immediate notification to the Lab In-Charge.
     - Activation of emergency services via the AUST Campus Safety Task Force.

3. **Evacuation Procedures**

- Follow AUST's established evacuation plan.
- The Lab In-Charge leads the evacuation, while the Lab Assistant/Attendant ensures no students are left behind.

4. Roles and Responsibilities

1. **Lab In-Charge**
   - Supervise overall lab safety and compliance.
   - Organize regular training sessions on lab safety and machine operation.
   - Report emergencies to the Warden/Assistant Warden and ensure timely action.
2. **Lab Assistant/Attendant**
   - Ensure day-to-day implementation of safety practices.
   - Conduct safety checks before and after lab sessions.
   - Assist in emergency response and first aid.
3. **Students**
   - Follow all safety rules and procedures.
   - Report any unsafe conditions or incidents immediately to the Lab
   - Assistant/Attendant.

5. Documentation for Accreditation

1. **Safety Rules and Procedures**
   - Maintain a written manual outlining all safety rules, to be distributed to students and faculty.
2. **Incident Records**
   - Keep a Lab Incident Report Log for all reported incidents, including date, time, nature, and actions taken.
3. **Inspection Logs**
   - Document machine inspections, safety equipment checks, and safety training sessions.

Conclusion

This Safety and Incident Management Plan establishes a safe and compliant operational framework for the Fabric Manufacturing Laboratory under the Department of Textile Engineering at AUST. By incorporating preventive safety measures, well-defined emergency response procedures, and systematic incident documentation, the plan aims to protect students, faculty members, and laboratory personnel while ensuring adherence to

accreditation standards. Continuous review and periodic updates of this plan will contribute to the ongoing enhancement of laboratory safety practices and operational effectiveness.