MECHANICAL ENGINEERING UNDERGRADUATE LABROTORY
STANDARD OPERATING PROCEDURE (SOP)

Name of SOP	Spot Welder
Effective Date	March 30, 2004 Rev. January 21, 2008
Author	M.P. Sklad/Joe Verhaeghe
Reason for SOP	Risk of burn Risk of eye injury
Approved by (supervisor)	Ron Lodewyks
Date reviewed by JHSC	February 13, 2008

Definitions

Terms	none
acronyms	RMM – Risk Management Manual JHSC - Joint Health and Safety Committee Chair - Chair of Mechanical Engineering EOHSS - Environmental Occupational Health & Safety Service

Requirements

Applicable OHSA regulations and / or codes of practice.

1. RMM – Eyeglass policy
2. OHSA code.
3. McMaster University Risk Management Policies

Training and competency.

1. Training provided by technical staff in the Mechanical Engineering Department.
2. Competency is shown by the individual after training

Description of the Task

Location and time of work	JHE314 during normal working hours
Individuals and skills required	Graduate Students, none
Equipment and supplies required	Spot Welder with Medar controller Instron Model 1140
Personal protective equipment required	Safety glass

Sequential steps to complete the work safely.

General safety instructions

1. All users must obey the safety instructions and warnings posted on the welder.
2. The operator only should access the welder work area when the control stop button on the control panel is in pressed down position (the welder is off).
3. Never trigger the welding cycle without a sample of the material placed between the electrodes.
4. If the alert red light is on, press the Fault reset button. If the alert light stays on do not attempt to operate the welder and report the fault to the technicians in JHE205.

Specific instructions for the operation of the welder:

1. Turn on the computer with the welding sequence programs and check whether the programs exist.
2. Turn on air supply
3. Turn on water supply
4. Push in the control stop button (welder off)
5. Lift carefully the protective shield
6. Place the sample between the electrodes
7. Close the protective shield
8. Unlock the power switch
9. Turn the power on
10. Pull out the control stop button (welder on)

11. Select program sequence
12. Set toggle switch "Weld/No weld" to the "Weld" position"
13. Press "Weld Start" button
14. Push in the stop control button (welder off)
15. Lift the protective shield and remove the sample avoiding touching the hot weld spot

Contingency Plan and Reporting

Accident / injury response

Report to Technical staff, room JHE205, ext. 24628.

In Case of Critical Injuries

1. Shutdown equipment, secure area to prevent further injury
2. Immediately arrange for medical and emergency assistance by calling Security at "88". Phone in JHE 316 (departmental office phone may be used)
3. Apply first aid as required
4. Notify Mechanical Engineering technical staff immediately
5. For all injuries complete a "Injury/Incident Report" and provide a copy to the Chair and EOHSS
6. In case of critical injury notify EOHSS immediately, ext 24352

Spill response

Equipment shutdowns.

1. Push in the stop control button (welder off)
2. Turn off the water
3. Turn off the air
4. Turn off the power
5. Lock the power switch

Environmental Responsibility

Waste disposal procedures

Deposit used sample in recycle bin

Building air quality

Procedure does not effect air quality

References (OHSA/ regulations, EPA and Municipal environmental regulations, McMaster University Program/ Policy, Material Data Sheets (MSDS).

1. RMM #301 Standard Operating Procedure
2. RMM #300 Safety Orientation and Training Program
3. RMM #310 Eye Protection
4. RMM #309 Laboratory safety manual

Distribution

1. Trained teaching assistant who is the lab operator
2. Technical Staff of Mechanical Engineering
3. Mechanical Engineering Chair
4. Faculty of Engineering JHSC