## 

**STRIP HEATER**

## Strip HeaterScope

This document is intended to estimate potential human health and environmental risks posed by current and potential future conditions at **State Librawry of Queensland Fabrication Lab** Facility. The risk assessment describes the approach to the risk assessment and facilitates appropriate ways to evaluate current and future risks.

Refer to the **Safe Operating Procedures** (**SOP**) for information regarding the safe usage and check list for this equipment.

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| --- | --- |
| Plant/Equipment Description: **Strip heater** | |
| Leaders:  **Daniel Flood** | |
| Locations:  **Fabrication Lab** | |
| Assessment Date:  **02/03/2020** | Review Date:  **02/03/2021** |

*N.B. This assessment can remain active for up to 5 years. However, an annual monitoring and review process should be undertaken and recorded – refer to the last page of this document.*

*Below are the details of the manufacturing or production processes attributed to this item of equipment categorised by their assessed inherent risk levels (refer to the Equipment/Process Risk Matrix). The actions required for approval for each level of inherent risk are mandatory.*

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| **Inherent Risk Level** | | **Details of Processes** | **Action Required/Approval** |
| 🗹 | **Low** | * When used to heat thermo plastic material to make it pliable or bendable along a straight line, (particularly acrylic or PVC sheet, up to 3mm thick). * When used in a well ventilated room or workspace because most plastic materials will emit toxic fumes when they are heated. * When vigilant observations are made to control the amount of heating is applied to the plastic work piece to prevent burning and blistering. * When gloves are worn to protect hands from heated plastic materials. | * Manage through regular planning processes |

Minimum standards

| Minimum qualifications and experience *Listed below are the general “minimum” recommendations for the management of this Plant/Equipment.*  🗹 *Indicate the minimum management controls.* |
| --- |
| X STATE LIBRARY staff with experience, ability and competency in the safe use of this plant/equipment  *(indicate one or more of the following):*  X Specific knowledge of the safe and correct use of this plant/equipment  X Experience (i.e. previous involvement and familiarity) in the safe use of this plant/equipment  X Demonstrated expertise, ability and competency with this plant/equipment  Documented qualifications relating to the use of this plant/equipment (e.g. in a staff profile)  **OR**  X A Contractor, other than a STATE LIBRARY staff member, with:  X Expertise in the safe and correct use of this plant/equipment  Documented qualifications that demonstrate experience, ability and competency in the safe use of this plant/equipment. |
| X Will any staff require initial and/or ongoing training for the safe use of this plant/equipment?  If yes, give details:  **Initial training for new staff** |
| X Will students be operating this plant/equipment?  If yes, state how student use of this plant/equipment will be managed (e.g. Workshop Safety Induction)  Give details:  **Safety Induction and under direct supervision** |
| Further information if required: |
|  |
| Minimum control requirements |
| Supporting documentation available in the school on this plant/equipment includes:  X Operators Manual  X Safe Operating Procedures (SOP)  X Equipment Maintenance Records (EMR)  X A process for recording member safety induction e.g. member induction register  X A process for recording staff training and experience, e.g. Staff induction register |
| X All guards are in place and in good working order for this plant/equipment |
| X Safe Working Zones are defined for this plant/equipment (e.g. yellow lines and/or appropriate signage) |
| X Suitable personal protective equipment (PPE) is available to be used by all operators |
| X This plant/equipment complies with relevant safety standards |
| Further information if required: |

Hazards and control measures

*Listed below are indicative hazards/risks and suggested control measures. These are by no means exhaustive lists. Add details of any other hazards/risks or additional controls you intend to implement.*

🗹 *Indicate the control measures adopted. Detail their implementation and any additional controls required.*

| **Hazards/Risks** | **Hierarchy of Recommended**  **Control Measures** | **Yes** | **No** | **Details of how this will be implemented***(and any additional controls)* |
| --- | --- | --- | --- | --- |
| **Slips, Trips, Falls**  **and Abrasions:**  Can anyone using the plant or in the vicinity of the plant, slip, trip or fall due to the working environment or other factors?  e.g. Poor housekeeping, dust on floors, slippery or uneven work surfaces, power cables across work areas causing injuries and abrasions? | 1. Slip resistant flooring is encouraged in workspaces. Regular checks are made for unsafe wear and damage. Inspections are made for any power leads or hoses, etc. | X |  | **Anti-slip mats available if required** |
| 1. Procedures are in place for the disposal of all waste materials around all workspaces where bench mounted strip heater activities are to be performed. | X |  | **Storage & waste disposal procedures** |
| **Environmental:**   * **Fumes and Vapours**   Is it likely there will be airborne dust particles, toxic fumes or volatile vapours produced and therefore be present in the workspace?   * **Lighting**   Is there insufficient lighting to operate this plant in a safe manner? Is there a possible strobe lighting effect caused by faulty fluorescent tubes in the workspace? | 1. Strip heaters are regularly inspected and maintained to help minimise the risk of exposures to these hazards. | X |  | **Routine checks and maintenance** |
| 1. All strip heater maintenance is documented. | X |  | **Service records** |
| 1. Good lighting is provided to all workspaces and this is maintained on a regular basis. Fluorescent tubes are checked and replaced as required. | X |  | **As per workspace risk assessment and housekeeping procedures** |
| 1. All approved personal protective equipment (PPE) is used where required. | X |  | **All PPE is provided as per SOP requirements** |
| **Electrical:**  Can the operator be injured by electrical shock due to working near or contacting with damaged or poorly maintained live electrical conductors such as power outlets, extension leads, safety switches, starters and isolators or casual water on the floor near plant and machinery? | 1. Visual checks are made of all portable power tools, their electrical switches, plugs and power leads, etc. | X |  | **Routine checks and maintenance** |
| 1. Electrical safety inspections, testing and tagging, etc. are completed regularly as per guidelines for all portable power tools. | X |  | **Annually. As per QLD WHS requirements** |
| 1. Warning “Danger” tags (or similar) are affixed to all portable power tools under repair or maintenance preventing workers from using them. | X |  | **LOTO procedures** |
| 1. Electrical maintenance on all portable power tools is documented. | X |  | **Electrical register** |
| **Exposure:**   * **Heat, Burns and** **Scalds**   Could the plant operator be exposed to a heating element, exposed flame, flashback, molten metals or hot fluids likely to cause scalding or burning?   * **Hazardous**   **Substances**  Is it likely that workers could be exposed to airborne toxic dust particulates or toxic plastics fumes? | 1. Strip heaters are regularly inspected and maintained to help minimise the risk of exposures to these hazards. | X |  | **Routine maintenance and servicing** |
| 1. All strip heater maintenance is documented. | X |  | **Service records** |
| 1. All potentially toxic plastics fumes and vapours resulting from the heating process are ventilated where possible. | X |  | **fume extraction and air filter monitoring by Supervisor** |
| 1. All approved personal protective equipment (PPE) is used where required. | X |  | **All PPE is provided as per SOP requirements** |
| **Ergonomics and**  **Manual Handling:**  Can the plant be safely operated, in a suitable location, providing clear and unobstructed access?  Poorly designed work stations often necessitate teachers and students performing manual tasks involving heavy lifting and lowering, pushing, pulling or carrying, etc. Such tasks then contribute to a range of musculoskeletal sprains and strains for workers. | 1. Where possible, all work benches supporting strip heaters are planned and adjusted to a comfortable work height thus minimising any unsafe or excessively strenuous manual tasks. | X |  | **Work benches and material holds are set up to create a safe routing environment.** |
| 1. Sufficient workspace is provided in all practical classrooms to help ensure unobstructed, safe operation. | X |  | **Supervisor to assess workspace requirements** |
| 1. Floors are regularly cleaned and free of excessive wood dust, waste materials and other extraneous objects. | X |  | **As per standard housekeeping procedures** |
| **Explosion and Fire:**  As a consequence of using this particular item of plant and equipment, could anyone be injured by the release of stored energy triggered by volatile, explosive substances such as stored gasses, vapours or liquids? | 1. Fire extinguishers of the correct type are readily available in all workspaces and positioned near exit doorways. | X |  | **As per Australian Standards** |
| 1. Staff and student training is provided regarding procedures for the correct and appropriate use of fire safety equipment. | X |  | **Annual safety training** |
| 1. Exits from buildings and other work areas are defined and access to them kept clear of obstructions. | X |  | **As per Australian building code** |
| 1. Safety signage is posted clearly denoting the location of all fire safety items and emergency exits. | X |  | **As per Australian building code** |

| **Other Hazards/Risks** | **Additional Control Measures** *These would relate to the specific student needs, locations and conditions in which you are conducting your activity.* |
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| **Approval** | | | |
| Submitted by: Simon McKellar | | | Date: 02/03/2020 |
|  | Approved as submitted. | | |
|  | Approved with the following condition(s): | | |
|  | Not Approved for the following reason(s): | | |
| By: | | Designation: | |
| Signed: | | Date: | |

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| Staff members involved in the use of this risk assessment and the associated plant and equipment: | |
|  | *Signature:*  ……………………………….. *Date:*  *Signature:*  ……………………………….. *Date:*  *Signature:*  ……………………………….. *Date:*  *Signature:*  ……………………………….. *Date:*  *Signature:*  ……………………………….. *Date:*  *Signature:*  ……………………………….. *Date:*  *Signature:*  ……………………………….. *Date:*  *Signature:*  ……………………………….. *Date:* |

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| **Monitoring and Review** *This Plant and Equipment Risk Assessment is to be monitored and reviewed annually for a further four (4) years.* |

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| **Review 1:** | | **Yes** | **No** |
| * Are allocated risk levels and “Actions required” unchanged over the past 12 months? * Are Minimum Standards and Recommended Control Measures unchanged over 12 months? * Staffing details have remained unchanged over the past 12 months? | |  |  |
| If the responses are “NO” for any question, record current details here, and list all staff changes *(with signatures)* | | | |
| Reviewed by: | Designation: | | |
| Signed: | Review Date : | | |

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| **Review 2:** | | **Yes** | **No** |
| * Are allocated risk levels and “Actions required” unchanged over the past 12 months? * Are Minimum Standards and Recommended Control Measures unchanged over 12 months? * Staffing details have remained unchanged over the past 12 months? | |  |  |
| If the responses are “NO” for any question, record current details here, and list all staff changes *(with signatures)* | | | |
| Reviewed by: | Designation: | | |
| Signed: | Review Date : | | |

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| **Review 3:** | | **Yes** | **No** |
| * Are allocated risk levels and “Actions required” unchanged over the past 12 months? * Are Minimum Standards and Recommended Control Measures unchanged over 12 months? * Staffing details have remained unchanged over the past 12 months? | |  |  |
| If the responses are “NO” for any question, record current details here, and list all staff changes *(with signatures)* | | | |
| Reviewed by: | Designation: | | |
| Signed: | Review Date : | | |

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| **Review 4:** | | **Yes** | **No** |
| * Are allocated risk levels and “Actions required” unchanged over the past 12 months? * Are Minimum Standards and Recommended Control Measures unchanged over 12 months? * Staffing details have remained unchanged over the past 12 months? | |  |  |
| If the responses are “NO” for any question, record current details here, and list all staff changes *(with signatures)* | | | |
| Reviewed by: | Designation: | | |
| Signed: | Review Date : | | |

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