## C:\Users\kmcul0\AppData\Local\Microsoft\Windows\INetCache\Content.Word\Portable_Plant_Fixed_PERA.JPG

**CONVECTION OVEN**

## Scope

This document is to be completed for staff and student use of machinery, plant and equipment as a part of a school curriculum activity or program.

Refer to the [ITD Guidelines](http://education.qld.gov.au/health/pdfs/healthsafety/itd-staff-guidelines.pdf) for further staff advice on the risk management process for practical ITD curriculum activities in schools.

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| --- | --- |
| Plant/Equipment Description: | |
| Teachers/Leaders: | |
| Room Locations: | |
| Assessment Date: | Review Date: |

*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 heating (softening) thermoplastics – acrylic or PVC material - to facilitate a forming or moulding process. * When the heating element is clear of any foreign matter and only when the thermoforming plastic being heated is not  over-heated to a combustible condition. * When oven temperatures do NOT excess 180°C, and when approved cotton gloves are worn as necessary PPE for all operators. | * 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.* |
| --- |
| Registered teachers with experience, ability and competency in the safe use of this plant/equipment  *(indicate one or more of the following):*  Specific knowledge of the safe and correct use of this plant/equipment  Experience (i.e. previous involvement and familiarity) in the safe use of this plant/equipment  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**  An adult staff member or leader, other than a registered teacher, with:  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. |
| Will any ITD staff require initial and/or ongoing training for the safe use of this plant/equipment?  If yes, give details: |
| 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: |
| Further information if required: |
|  |
| Minimum control requirements |
| Supporting documentation available in the school on this plant/equipment includes:  Operators Manual  Safe Operating Procedures (SOP)  Equipment Maintenance Records (EMR)  A process for recording student safety induction e.g. Student induction register  A process for recording staff training and experience, e.g. ITD Staff induction register |
| All guards are in place and in good working order for this plant/equipment |
| Safe Working Zones are defined for this plant/equipment (e.g. yellow lines and/or appropriate signage) |
| Suitable personal protective equipment (PPE) is available to be used by all operators |
| 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, etc. |  |  |  |
| 1. Procedures are in place for the disposal of all waste materials around all workspaces where any bench mounted heating oven activities are to be performed. |  |  |  |
| 1. Staff training is provided to minimise exposure to these hazards. |  |  |  |
| **Environmental:**   * **Dust, 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. Convection ovens used for thermoplastics are regularly inspected and maintained to help minimise the risk of exposures to these hazards. |  |  |  |
| 1. All convection oven maintenance is documented. |  |  |  |
| 1. Staff and student training is provided to minimise exposure to these hazards. |  |  |  |
| 1. All ducted dust and fume extraction systems are connected and operational, fully maintained and cleaned as required. |  |  |  |
| 1. Good lighting is provided to all workspaces and this is maintained on a regular basis. Fluorescent tubes are checked and replaced as required. |  |  |  |
| 1. All approved personal protective equipment (PPE) is used where required. |  |  |  |
| **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. |  |  |  |
| 1. Electrical safety inspections, testing and tagging, etc. are completed regularly as per guidelines for all portable power tools. |  |  |  |
| 1. Portable power tools are to be used only where there is a RCD safety trip switch connected. |  |  |  |
| 1. Warning “Danger” tags (or similar) are affixed to all portable power tools under repair or maintenance preventing workers from using them. |  |  |  |
| 1. Electrical maintenance on all portable power tools is documented. |  |  |  |
| **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? Humid and hot work environments are often uncomfortable resulting in stress and low productivity.   * **Hazardous**   **Substances**  Is it likely that workers could be exposed to airborne toxic wood dust particulates, toxic plastics fumes, etc? | 1. Convection ovens used for thermoplastics are regularly inspected and maintained to help minimise the risk of exposures to these hazards. |  |  |  |
| 1. All convection oven maintenance is documented. |  |  |  |
| 1. Any potentially hazardous waste materials or toxic fumes resulting from this oven heating process are monitored and managed |  |  |  |
| 1. Staff and student training is provided to minimise exposure to these hazards. |  |  |  |
| 1. All approved personal protective equipment (PPE) is used where required. |  |  |  |
| **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 convection ovens are planned and adjusted to a comfortable work height thus minimising any unsafe or excessively strenuous manual tasks. |  |  |  |
| 1. Sufficient workspace is provided in all practical classrooms to help ensure unobstructed, safe operation. |  |  |  |
| 1. Floors are regularly cleaned and free of excessive wood dust, waste materials and other extraneous objects. |  |  |  |
| 1. Staff training is provided with regard to manual handling techniques and procedures to minimise exposure to these hazards. |  |  |  |
| **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. |  |  |  |
| 1. Staff training is provided regarding procedures for the correct and appropriate use of fire safety equipment. |  |  |  |
| 1. Exits from buildings and other work areas are defined and access to them kept clear of obstructions. |  |  |  |
| 1. Safety signage is posted clearly denoting the location of all fire safety items and emergency exits. |  |  |  |

| **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: | | | Date: |
|  | Approved as submitted. | | |
|  | Approved with the following condition(s): | | |
|  | Not Approved for the following reason(s): | | |
| By: | | Designation: | |
| Signed: | | Date: | |

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| ITD 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? * ITD staffing details at this school 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? * ITD staffing details at this school 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? * ITD staffing details at this school 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? * ITD staffing details at this school 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 : | | |