

HIRAC Report

Risk, Health and Safety

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1. Hazard Management Details – General

This form relates to OHS Procedure – [Hazard Identification, Risk Assessment and Control \(HIRAC\)](#)

Plant/Equipment Item: Mayku Vacuum Form	Make/Model No.:	Serial No.:
School / Work Location: Ballarat Tech School (Fed College)	Region:	
Name of Person(s) Conducting Activity: Liam Mudge		Date Conducted: 24/06/2020

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Description of Use:

Vacuum Form, device which uses a heating plate to make plastic sheets malleable allowing them to be conformed over an object through the actions of an attached household vacuum cleaner. Process referred to as Thermoforming.

Summary of Key Risks:

(refer to appropriate subsections)

- Entanglement
- Impact and cutting
- Electricity
- Slips/trips/falls
- Temperature
- Hazardous Material
- Other (dust)

2. Documentation

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Relevant Legislation/Standards	Y / N	Comments
Is plant required to be registered?	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	
Is a user license required?	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	
Key reference material:		<ul style="list-style-type: none"> AS/NZS 3760:2010 In service safety inspection and testing of electrical equipment AS 4024.1100:2019 Safety of machinery AS 4024.3403:2018 Safety of machinery, Safety of packaging machines – Form, fill and seal machines Machinery and Equipment Safety- an Introduction. A Handbook for workplaces. Worksafe Victoria.
Plant Documentation	Y / N	Comments
Are operator's manuals accessible?	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	
Is this a restricted use item?	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	
Does this item require safe use documents/test?	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	

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3. Hazard Identification

Hazards Inspected	Risk Assessment		Description of Risk	Control Measures
	Initial	Residual		
<p>ENTANGLEMENT Can anyone's hair, clothing, gloves, cleaning brushes, tools, rags or other materials become entangled with moving parts of the plant or materials?</p> <p style="text-align: center;">Y <input checked="" type="checkbox"/> N <input type="checkbox"/></p>	Low	Very Low	Long hair, loose clothing, rags, cleaning brushes and jewellery could become entangled in the moving parts of the equipment.	<p>Ensure hair, loose clothing, rags and jewellery is kept clear of moving parts when in use.</p> <ul style="list-style-type: none"> PPE can be used to restrict loose clothing. Hair ties/hair nets can be used to secure long hair. <p>Ensure inappropriate jewellery and accessories (e.g. bracelets) are not worn when operating equipment.</p>
<p>IMPACT AND CUTTING INJURIES Can anyone be crushed/cut/struck etc. due to</p>			Hands can be crushed by material tray as it is being released from locks.	<p>Ensure operator's hands and body parts are kept clear of moving parts during use and maintenance.</p> <p>Ensure work pieces are appropriately secured prior to operation.</p>
<ul style="list-style-type: none"> Material falling off the plant? <p style="text-align: center;">Y <input type="checkbox"/> N <input checked="" type="checkbox"/></p>	Low	Very Low		
<ul style="list-style-type: none"> Uncontrolled/unexpected movement of plant/load? <p style="text-align: center;">Y <input type="checkbox"/> N <input checked="" type="checkbox"/></p>				

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• Lack of capacity to slow, stop or immobilize plant?	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	Low	Very Low		Ensure operators receive appropriate instruction before attempting to use any equipment.
• The plant tipping or rolling over?	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>				•
• Parts of the plant disintegrating or collapsing?	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	Medium	Low		
• Contact with moving parts during testing, inspection, operation, maintenance, cleaning or repair?	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	Medium	Low		
• Being thrown off or under the plant?	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>				
• Contact with sharp or flying objects? (e.g. work pieces being ejected)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	Medium	Low		
• The mobility of the plant?	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>				
• Inappropriate parts and accessories being used?	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>				
• Other	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>				•

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Hazards Inspected		Risk Assessment		Description of Risk	Control Measures
		Initial	Residual		
SHEARING Can anyone's body parts be sheared between two parts of plant, or between a part of the plant and a work piece or structure?	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>				
PRESSURISED CONTENT Can anyone come into contact with fluids or gases under high pressure, due to plant failure or misuse of the plant?	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>				
ELECTRICITY Can anyone be injured or burnt due to:				Damaged or frayed electrical cords pose an electrical hazard.	Operator to check for damaged electrical cords prior to use. Ensure equipment is regularly serviced, tested and tagged (if not hardwired) and appropriate isolation procedures (e.g. lock out tags) are in place.
• Live electrical conductors? (e.g. exposed wires)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>				
• Working in close proximity to electrical conductors?	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>				

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Hazards Inspected		Risk Assessment		Description of Risk	Control Measures
• Access to electricity?	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>				
• Damaged or poorly maintained electrical leads, cables or switches?	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	High	Low		
• Water near electrical equipment?	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>				
• Lack of isolation procedures?	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>				
• Other	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>				

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Hazards Inspected	Risk Assessment		Description of Risk	Control Measures
	Initial	Residual		
ERGONOMICS Can anyone be injured due to:			Poor arrangement of the associated equipment.	Ensure adequate room surrounding the Form Box. Ensure operator is not crowded when working. Ensure bench is stable Ensure workspace is clear of obstacles.
• Poorly designed workstation?	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	Medium Very Low		
• Repetitive body movement?	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>			
• Constrained body posture or the need for excessive effort?	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>			
• Design deficiency causing psychological stress?	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>			
• Inadequate or poorly placed lighting?	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>			
• Does the plant impact on the surrounding workplace and create potential hazards? (Consider safe access and egress from plant, workflow and design of the workplace)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>			
• Is the location of the plant inappropriate? (Consider potential effects due to environmental conditions and terrain)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>			

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Hazards Inspected	Risk Assessment		Description of Risk	Control Measures
• Other	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>			

Hazards Inspected	Risk Assessment		Description of Risk	Control Measures
	Initial	Residual		
RADIATION Can anyone using the plant, or in the vicinity of the Plant suffer injury or illness due to exposure to radiation in the form of any of the following: <ul style="list-style-type: none"> • infra-red radiation • ultra violet light • microwaves 	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>			
Laser Radiation laser sources, such radiation can be extremely hazardous to the eyes and the skin and a number of cases of serious injury, including loss of sight, have been documented.	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>			

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Hazards Inspected		Risk Assessment		Description of Risk	Control Measures
NOISE Can anyone using the plant, or in the vicinity of the plant, suffer injury due to exposure to noise?	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>				
VIBRATION Can anyone be injured or suffer ill-health from exposure to vibration?	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>				
FRICTION Can anyone be burnt due to contact with moving parts, materials or surfaces of the plant?	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>				
SUFFOCATION Can anyone be suffocated due to lack of oxygen, or atmospheric contamination?	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>				
CONDITION Is a hazard likely due to the age and condition of the plant? (<i>Consider how hard the machine has been worked, and whether it is used constantly or rarely</i>).	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>				
• Can anyone be injured as a result of the plant not serviced appropriately and/or maintained in line with manufacturer's recommendations?	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>				

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Hazards Inspected	Risk Assessment		Description of Risk	Control Measures
	Initial	Residual		
<p>SLIPS/TRIPS/FALLS Can anyone using the plant, or in the vicinity of the plant, slip, trip or fall due to:</p> <ul style="list-style-type: none"> Uneven, slippery or steep work surfaces? 			<p>Poor housekeeping practices allowing the build-up of waste materials or failure to immediately clean up spills could result in a slip hazard.</p> <p>Inappropriate placement of objects (e.g. spare materials, bags etc) in the immediate vicinity of the plant equipment may result in a trip hazard.</p>	<p>Ensure appropriate cleaning and housekeeping practices are maintained to minimise the risk of a slip, trip or fall.</p> <p>Workspace inspected and cleared of any debris/ unnecessary objects before and after use.</p> <p>Work space to be kept clear of all obstacles//objects as part of good housekeeping procedures.</p>
<ul style="list-style-type: none"> Poor housekeeping, e.g. spillage in the vicinity? 	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	Medium	Low	
<ul style="list-style-type: none"> Obstacles being placed in the vicinity of the plant? 	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	Low	Very Low	

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Hazards Inspected		Risk Assessment		Description of Risk	Control Measures
<ul style="list-style-type: none"> Inappropriate or poorly maintained floor or walking surfaces (i.e. lack of a slip-resistant surface, unprotected holes, penetrations or gaps?) 	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>				
If operating or maintaining plant at height can anyone slip, trip or fall due to:					
<ul style="list-style-type: none"> Use of work platforms, stairs or ladders? 	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>				
<ul style="list-style-type: none"> Lack of guardrails or other suitable edge protection? 	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>				
<ul style="list-style-type: none"> Other 	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>				

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Hazards Inspected		Risk Assessment		Description of Risk	Control Measures
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FIRE AND EXPLOSION Can anyone be injured by fire?	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	Medium	Low	Ignition of thermoforming material if kept in vicinity of heating element of extended period of time. Scrap material coming into contact with heating element may ignite.	Operator training and induction into safe working practices when using the FormBox. Firefighting equipment available. Operator always present at work station while the FormBox is being used being used. Remove scrap material regularly.
• Can anyone be injured by explosion of gases, vapours, liquids, dusts, or other substances?	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>				
TEMPERATURE/MOISTURE Can anyone come into contact with objects at high or low temperatures?	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	Medium	Low	Heating element becomes hot.	Operator training and induction into safe working practices when using the FormBox.

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Hazards Inspected	Risk Assessment		Description of Risk	Control Measures	
<ul style="list-style-type: none"> Can anyone suffer ill-health due to exposure to high or low temperatures? 	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>			Thermoforming material becomes hot and malleable, may come into contact with operator.	<p>Operator always present at work station while the FormBox is being used being used.</p> <p>Bodily access to thermoforming material denied while Formbox in operation.</p>
<ul style="list-style-type: none"> Can anyone be injured or suffer ill-health due to exposure to moisture? 	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>				
OTHER					
Can anyone be injured or suffer ill-health from exposure to:				Dust and vapours generated from the work process may be hazardous to health.	Ensure appropriate control measures are implemented (e.g. local exhaust system, face masks, good housekeeping practices etc).
<ul style="list-style-type: none"> Chemicals? 	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>			The material used as the active medium can be toxic and/or carcinogenic.	Adopt stringent storage, handling and disposal precautions.
<ul style="list-style-type: none"> Toxic gases or vapours? 	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>				
<ul style="list-style-type: none"> Fumes/Dusts? 	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	Medium	Low		
					Develop safe work procedures to document storage, handling and disposal requirements

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• Other? (please specify)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>				

4. Risk Assessment Signoff

Authorised By:	Signature:	Date:

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