Risk Assessment - Hot Works

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Hot works arising from welding, brazing, soldering, use of plasma cutter and heating of metal using gas torch

Department: Carriage and Wagon
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Welding and Brazing

Type	Hazard Cause	Persons Affected	Control Measures	L S T Overall	Additional Control Measures	L S T Overall	Owner/Action
Health and Safety	Burns Sparks, hot metal arising from use of welding equipment	Volunteers & Staff	1) PPE: PPE to be worn by Welder - Effective	2 x 1 = 2 Low - Risk to be monitored to ensure it remains adequately controlled to an acceptable level.	None	2 x 1 = 2 Low - Risk to be monitored to ensure it remains adequately controlled to an acceptable level.	n/a
Health and Safety	Foreign Object in Eye Sparks from use of welding equipment	Volunteers & Staff	1) PPE: Welding mask to be worn by Welder - Effective	1 x 1 = 1 Low - Risk to be monitored to ensure it remains adequately controlled to an acceptable level.	None	1 x 1 = 1 Low - Risk to be monitored to ensure it remains adequately controlled to an acceptable level.	n/a
Health and Safety	Vapour Inhalation Gases given off during welding	Volunteers & Staff	1) Engineering: Welding undertaken in large ventilated workshop - Improvable 2) CRITICAL - PPE: Positive pressure welding mask to be used when when welding stainless or galvanised steel - Effective	1 x 2 = 2 Low - Risk to be monitored to ensure it remains adequately controlled to an acceptable level.	1) Engineering: Use of portable welding gas extraction equipment - Effective	1 x 2 = 2 Low - Risk to be monitored to ensure it remains adequately controlled to an acceptable level.	n/a
Health and Safety	Skin abrasion or open wound Sharp or jagged edges to metal	Volunteers & Staff		3 x 1 = 3 Low - Risk to be monitored to ensure it remains adequately controlled to an acceptable level.	None	3 x 1 = 3 Low - Risk to be monitored to ensure it remains adequately controlled to an acceptable level.	n/a

Type	Hazard Cause	Persons Affected	Control Measures	L S T Overall	Additional Control Measures	L S T Overall	Owner/Action
Health and Safety	Fire Ignition of combustible or flammable material	Volunteers & Staff	1) Elimination: Contaminated flammable rags disposed off via Metal Lidded bins - Effective 2) Elimination: Flammable liquids/gases kept in manufacturers containers when in use - Effective 3) Elimination: Whenever possible remove flammable material from hot work area - Effective 4) Engineering: Water sprays on hand during hot works to cool down adjacent combustible material - Effective 5) CRITICAL - Engineering: Portable fire extinguishers located throughout works - Effective 6) CRITICAL - Engineering: Smoke and fire detection system installed in Workshops - Effective 7) Engineering: Flammable liquids/gases stored in metal COSHH cabinets when not in use - Effective 8) Administrative: No Hot Works to be undertaken in last hour of attendance. - Effective	1 x 1 = 1 Low - Risk to be monitored to ensure it remains adequately controlled to an acceptable level.	None	1 x 1 = 1 Low - Risk to be monitored to ensure it remains adequately controlled to an acceptable level.	n/a
Health and Safety	Explosion Ignition of Explosive Gases	Volunteers & Staff	1) Substitution: Adoption of Propylene instead of acetylene for gas cutting - Effective 2) Engineering: All gases stored in supplier cylinders - Effective 3) Engineering: All gas cylinders purchased with supplier tested/certified valve attached - Effective 4) Administrative: All gas cylinders not in use stored in cages in Churchward House yard - Effective 5) Administrative: All welding torches/hoses checked for damage/defects by user before use - Effective	1 x 3 = 3 Low - Risk to be monitored to ensure it remains adequately controlled to an acceptable level.	None	n n n	n/a
Health and Safety	Asphyxiation Welding gas displaces oxygen	Volunteers & Staff	1) PPE: Operator to use positive pressure welding face mask - Effective	1 x 3 = 3 Low - Risk to be monitored to ensure it remains adequately controlled to an acceptable level.	None	n n n	n/a
Health and Safety	Exposure to UV light Exposure to UV light from welding and brazing	Volunteers & Staff	1) Elimination: Welding screens to be used whenever practical to protect others workshop occupants - Effective 2) PPE: Welders to use welding face masks when welding - Effective	1 x 2 = 2 Low - Risk to be monitored to ensure it remains adequately controlled to an acceptable level.	None	1 x 2 = 2 Low - Risk to be monitored to ensure it remains adequately controlled to an acceptable level.	n/a

Soldering, use of Plasma Cutter, Gas Torch and Hot Air Gun

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Type	Hazard Cause	Persons Affected	Control Measures	L S T Overall	Additional Control Measures	L S T Overall	Owner/Action
Health and Safety	Burns Hot metal or tip of soldering equipment, gas torch or hot air gun. Picking up hot metal that had been worked on	Volunteers & Staff	1) Engineering: Cool down hot metal using water spray on completion - Effective 2) Administrative: Only competent users to operate Plasma cutter - Effective 3) Administrative: Warning signs for all 'Hot Metal' - Effective 4) PPE: Use heat resistant gloves when using hot work equipment - Effective	3 x 1 = 3 Low - Risk to be monitored to ensure it remains adequately controlled to an acceptable level.	None	n n n	n/a
Health and Safety	Fire Ignition of combustible substance or flammable materials	Volunteers & Staff	1) Engineering: Wherever possibnle all hot works undertaken in Metal Work Bay - Effective 2) Administrative: All hot works undertaken by competent operators - Effective 3) Administrative: No hot works within 1 hour of end of working day - Effective 4) Administrative: Equipment operator to check for combustible/flammable materials before commencing hot works - Effective	1 x 2 = 2 Low - Risk to be monitored to ensure it remains adequately controlled to an acceptable level.	None	n n n	n/a
Health and Safety	Dermatitis Skin exposed to liquid flux	Volunteers & Staff	1) Engineering: Avoid use of liquid flux - Effective 2) Administrative: Training given in safe use of liquid flux - Effective	2 x 1 = 2 Low - Risk to be monitored to ensure it remains adequately controlled to an acceptable level.	None	n n n	n/a
Health and Safety	Eye irritation Exposure to soldering fumes	Volunteers & Staff	1) Administrative: Soldering undertaken in well ventilated area - Effective 2) Administrative: Duration and frequency of soldering kept to a minimum - Effective	1 x 1 = 1 Low - Risk to be monitored to ensure it remains adequately controlled to an acceptable level.	None	n n n	n/a

COSHH Assessments

There are no COSHH assessments associated with this risk assessment.

Ends