

Forkway Risk Assessment – RA 005



Task/ Activity	This assessment covers the transport, storage, and safe use of oxygen acetylene heating equipment.			Persons Exposed		
Location	Forkway locations and customer sites throughout the UK and Republic of Ireland.			Forkway Employees	Customer Employees	Members of Public
Name of Assessor(s)	Vic Hargreaves (Regional SHEQ Advisor)	Date of Assessment	12/04/2024 (V2)	1 - 2	May be in area	May be in area
		Date of Next Review	12/04/2025			
Stop and Think						
Before undertaking any task/ activity it is essential that you have read and understood all the control measures in this document and are satisfied that the control measures herein are suitable and sufficient. If you find the control measures are not suitable and sufficient, contact your line manager before proceeding.						

Hazard	Initial			Control Measures	Residual		
	Likelihood	Severity	Rating		Likelihood	Severity	Rating
1. Explosive atmosphere occurring in Service Vehicle due to release of gases from cylinders being pierced, punctured or damaged during transit;	3	5	15	Where possible transport gas cylinders in an open backed vehicle. Cylinders must never be transported in the cab of the vehicle under any circumstances. Cylinders must be fitted to a trolley, stored upright and trolley suitably secured within the vehicle using ratchet straps to prevent any movement. Pressure gauges and regulators must be removed when in transit to prevent damage. Ensure all other items in rear storage area of vehicle are appropriately secured to prevent any movement that could impact cylinders. Check on cylinders after any harsh braking or following an incident.	1	5	5
2. Explosive atmosphere occurring in Service Vehicle due to gas cylinders leaking whilst in transit;	3	5	15	As above. Ensure all cylinder valves are closed and remain vigilant for any sign of leaks. Vehicles carrying cylinders must have suitable ventilation (two low level vents and one roof mounted rotator vent).	1	5	5
3. Fire or explosion due to gas cylinders or associated components leaking whilst in use;	3	5	15	All oxygen acetylene sets must be maintained to CP07 standard. Ensure CP07 checks have been completed within the last 12 months. Pre use checks must be undertaken before use including using leak detector on all joints and connections. If any leaks are found, close off main valve on bottle and do not use the equipment until it has been rectified by a competent person. Report any leaks to line manager and site contact immediately.	1	5	5
4. Fire or explosion from using oxygen acetylene equipment in an explosive atmosphere;	3	5	15	Oxygen acetylene equipment must never be used in an explosive atmosphere. Always check with customer contact before using any oxygen acetylene equipment that it is safe to use it in the desired area. Complete any customer permit-to-work procedures. Never use oxygen acetylene in near a battery.	1	5	5

MULTIPLY THE LIKLIHOOD AND SEVERITY TO GET THE RISK RATING

Likelihood - (5=Very Likely, 4= Likely, 3= Possible, 2= Unlikely, 1= Highly Unlikely)

Severity - (5=Very Severe, 4= Severe, 3= Moderate, 2= Slight, 1=Negligible)

0- 5 = Low Risk - No Action Required.

6-15 = Medium Risk - Ensure adequate controls are in use.

16-25 = High Risk - Stop operation and implement adequate control measures

Hazard	Initial			Control Measures	Residual		
	L	S	R		L	S	R
5. Fire or explosion due to the release of flammable or explosive gases due to damage of the hoses whilst in use;	3	5	15	Hoses must be unravelled before starting and thoroughly checked during pre-use checks. Position hoses where they will not be struck by flame, sparks, or molten metal. Ensure hoses are in a position where they will not be crushed by pedestrians or vehicles. Consider creating a cordoned off area if necessary. Keep hoses away from sharp edges and abrasive surfaces. Hoses must be of the correct standard and correctly colour coded. Do not tape hoses together.	1	5	5
6. Decomposition and/ or explosion of gas cylinders due to flashback;	3	5	15	Only trained and authorised engineers must use oxygen acetylene equipment. Correct techniques must be followed as per training including correct light up and shut down procedures. Engineers must ensure gas pressure regulators are set to the correct pressure. Flashback arrestors must be fitted to all oxygen acetylene sets to prevent flashback. Flashback arrestors must be checked during pre-use checks. Disposable flashback arrestors must be disposed of following a flashback and re-useable types checked and re-set following manufacturer's recommended procedures. Only use regulators, flashback arrestors, hoses and blowpipes designed for acetylene and oxygen and are marked and manufactured to the correct standards with recommended service life observed. Purge hoses before use, one hose at a time to clear any flammable mixtures that may be present.	2	5	10
7. Fire or explosion from oxygen reacting with oils, greases or other hydrocarbons;	3	5	15	Ensure oxygen acetylene sets are kept clean and free from any contamination from oils, greases, or other hydrocarbons. Never use oil, greases or similar on any joints or connections to lubricate threads. Never use oxygen acetylene to blow down or clear dust, especially from clothing, overalls, or PPE.	2	5	10
8. Explosion of gas cylinders following a fire in the service vehicle;	2	5	10	Ensure service vehicle is maintained in line with manufacturer's recommendations. Never carry any items which could cause a source of ignition. Ensure batteries being transported are suitably secured with plastic caps covering posts. Always allow oxygen acetylene sets and related components to cool before returning them to service vehicle. All vehicles transporting cylinders must carry at least one 2kg dry powder fire extinguisher. In the event of a fire raise the fire alarm if you are on a site. If the fire in the service vehicle cannot be tackled using your fire extinguisher, evacuate yourself from the area and contact emergency services immediately ensuring you inform them that gas cylinders are present. Do your best to warn others but remain well clear of the vehicle.	1	5	5
9. Fire from flame, sparks or molten metal making contact with flammable or combustible materials in the vicinity;	3	5	15	Always check the vicinity before starting for any materials which may be flammable or combustible and consult customer to ensure there is nothing you may have missed. If flammable or combustible materials are present nearby, either move to a more suitable area or remove the items before starting. If neither can be achieved contact your line manager before proceeding. A more specific assessment may be required.	2	5	10
10. Fire from flame, sparks or molten metal making contact with flammable or combustible items or components on the equipment under repair;	3	5	15	Remove component requiring heating where possible and take to a suitable area. If component cannot be removed check for and remove any items or components in the vicinity which may be flammable or combustible. If this cannot be achieved, make use of fire-retardant blankets and ensure a second person is on hand equipped with a suitable fire extinguisher to watch for fire.	2	5	10

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Hazard	Initial			Control Measures	Residual		
	L	S	R		L	S	R
11. Fire from ignition of flammable or explosive chemicals or residues on the equipment/ component under repair or in the vicinity;	3	5	15	Check with customer contact if any chemicals or residues are present. Clean contaminated equipment down before starting. If chemicals or residues are present in the vicinity move to a more suitable area free from chemicals or residues or have them removed from the area before starting. If any of this cannot be achieved contact your line manager before proceeding. A more specific assessment may be required.	1	5	5
12. Explosion of pneumatic tyres from contact with heat;	3	5	15	Avoid at or near pneumatic tyres. Remember heat can be conducted and travel along metal. If work is required near pneumatic tyres, remove the wheels before starting. If work is required on the wheel itself ensure the tyre is removed.	1	5	5
13. Explosion or fire from cutting into closed tanks, drums or vessels which contain or previously contained flammable substances or residues;	3	5	15	Engineers must not cut, or heat closed tanks, drums, or vessels under any circumstances. Always check for the presence of closed tanks, drums, or vessels before starting. Avoid working near these where possible. If work near these cannot be avoided contact line manager before proceeding.	1	5	5
14. Fire from hot components causing ignition a period of time after work has taken place;	3	5	15	Always monitor area for at least half an hour before leaving site and remain vigilant for signs of smoke or smouldering during this time. Consider using water to douse and cool areas that have been heated.	1	5	5
15. Burns or ignition of clothing from contact with flame, sparks or molten metal;	4	5	20	Only trained and authorised engineers must use oxygen acetylene. Correct techniques must be followed as per training including correct light up and shut down procedures. Always direct flame away from person and avoid working in a position where sparks or molten metal will strike you. In addition to standard safety boots and overalls, engineers must wear flame/ heat retardant gauntlet gloves, leather apron and suitable goggles or mask. Overalls must be buttoned to the top. If there is a possibility of sparks or molten metal falling from above head height a flame/ heat retardant hat must also be worn. Ensure all PPE is clean and free from any flammable chemicals or residues before starting.	2	5	10
16. Burns from contact with hot tools or components;	3	5	15	As above. Allow tools or components that have become hot to cool before handling them. Consider using water to douse areas that have been heated. Keep all parts of person clear of torch nozzle during or following use.	2	5	10
17. Musculoskeletal injuries from manual handling of gas cylinders;	3	4	12	Avoid manual handling of cylinders where possible through use of mechanical handling equipment or similar. Cylinders must be secured to a suitable trolley. Ensure trolley remains in good condition. All engineers are trained in the correct manual handling techniques and principles. If cylinders are too heavy, share load with another person.	2	4	8
18. Struck or crushed by falling cylinders;	3	4	12	Care must be taken when handling cylinders. Cylinders should be secured to a suitable trolley. Trolley should be placed on firm level ground when in use. During transit, ensure trolley is secured in place using ratchet straps.	2	4	8

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19. Struck or crushed by objects being cut or adjoining objects suddenly moving or falling;	3	5	15	Assess before starting and continue to dynamically assess throughout task whether there is a likelihood of objects being cut or adjoining objects suddenly moving or falling. If there is any possibility of this occurring ensure the items are supported to prevent any movement. Cordon off work area and ensure no persons remain nearby or below.	1	5	5
20. Exposure to hazardous fumes;	3	4	12	Do not use oxygen acetylene sets in enclosed areas or where there is poor ventilation. Consult customer on the nature of any chemicals or residues that may be present and ensure they are cleaned from the component being worked on and surrounding areas before starting. Where possible, work downwind so that fumes blow away from you and make use of any local exhaust ventilation that may be present. If components being heated are coated with lead or chromate paints or are galvanised or cadmium plated, contact your line manager before proceeding. A more specific assessment may be required.	2	4	8

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