



# Oxy/Fuel Welding & Cutting Equipment

## The Importance Of Competent Annual Inspections

### Equipment In Use

The oxy/acetylene process produces a high temperature flame, over 3000 degrees C, by the combustion of pure oxygen and acetylene. It is the only gas mixture hot enough to melt steel. Oxy/acetylene and oxy/propane gas mixtures are commonly used for preheating, silver soldering, brazing, welding, piercing, cutting, flame-cleaning and powder-spraying.

Various dangers are associated with compressed gases, these depend on the type of gas used and the conditions it is used in. These include, but are not restricted to: fire, explosion, self-ignition, asphyxiation, poisoning and the significant stored energy of gas in the cylinder.



### Obligations & Legislation

Businesses have a duty of care to their staff and to the general public to provide a safe place of work, safe equipment, safe system of work, training, etc. Individual users of such equipment have a duty of care to themselves and their colleagues, and should promote the safe use of the apparatus.

From the 1st October 2006 the Regulatory Reform (Fire Safety) Order 2005 (RRO) was brought into force, with requirements similar to the Fire Precautions (Workplace) Regulations 1997, but with a broader application - applying to virtually all premises (except domestic premises), whether or not such premises are a place of work. In addition the RRO contains specific provisions relating to dangerous substances which are similar to those contained in the Dangerous Substances and Explosive Atmospheres Regulations 2002 (DSERA). This includes acetylene due to its flammability.

The Provision & Use of Work Equipment Regulations (1998) stipulates that equipment should be suitable for the purpose and conditions in which it will be used; maintained in a safe condition and inspected by a 'competent person' to ensure it continues to be safe to use- with records kept to demonstrate regular inspections and maintenance.

Furthermore, many insurance companies adopt a similar 'duty of care' principle, placing the burden of responsibility on the business to minimise the possibility of an incident through safe storage & use of gas equipment, which implies an obligation to check the safety and suitability of the equipment regularly.

Those responsible for the purchase and use of gas welding and cutting equipment should be aware of the current legislation and other forms of relevant information available, to ensure that items are purchased, maintained and used to an acceptable standard to ensure the safety of the operator and those in the vicinity of the work area.



These include :

- The Pressure Systems Safety Regulation 2000.
- The Health and Safety at Work Act 1974.
- The Explosives Act 1875 Compressed Acetylene Order 1947 (Certificate of Exemption No 2 1989).
- The Consumer Protection Act 1987.
- The Factories Act 1961.
- The Personal Protective Equipment Regulations 1992.
- The Manual Handling Operations Regulations 1992.
- The Control of Substances Hazardous to Health Regulations 1999
- The Management of Health and Safety at work Regulations 1999.

### Repair, Maintenance & Inspection

The correct maintenance of equipment is an essential requirement for the safe use of Oxy-Fuel gas systems. Employees are required under the provisions of The Pressure Systems Safety Regulations and the Health and Safety at Work Act to ensure that equipment is maintained in a safe manner. It is important that only equipment complying with the prevailing BS/EN/ISO Standards be used and that detailed, auditable, systematic annual equipment checks are carried-out by a 'competent person'.

The Health & Safety Executive suggests that a 'competent person' can demonstrate 'SKATE'- Skills, Knowledge, Aptitude, Training & Education. In this context, a competent person is acknowledged as a qualified Gas Equipment Inspector by a City & Guilds or EAL Accreditation with a current, valid registration certificate.



## A Qualified Approach

The British Compressed Gases Association issues a wide range of Codes of Practice (CP) which give valuable technical and safety guidance for the use of compressed gases and equipment. One Code is very widely used in the welding and cutting industries: "CP 7 - The Safe Use of Oxy-Fuel Gas Equipment (individual portable or mobile cylinder supply)".

This code of practice covers the minimum safety requirements for the use, inspection and maintenance of Oxy-Fuel gas equipment, using portable cylinders, with emphasis being given to the correct assembly, operation and maintenance of equipment in line with the requirements of the Pressure Systems Regulations. It is to this code of practice that competent, qualified Gas Equipment Inspectors are trained.

Qualified Gas Equipment Inspectors are trained to :

- ✓ Test equipment for functionality and safety
- ✓ Identify and replace non-compliant equipment
- ✓ Diagnose and prevent equipment problems
- ✓ Provide safe, compliant, leak-free installations
- ✓ Manage a 'Tagging' process for annual inspections



In an oxy/fuel gas equipment setup, elastomeric components (such as hoses) and seals (in regulators and gas fittings) will deteriorate in service or when stored. CP7 therefore stipulates a 5-year ('or manufacturers recommendation') service life, subject to annual inspection to identify wear and damage.

Ensure that you are meeting your obligations as a responsible business, by enlisting the services of a competent Gas Equipment Inspector annually.

**Please note : Fixed pipeline systems are covered by separate legislation and require additional training, documentation and obligations for inspection. Our inspectors are not able to provide fixed pipeline inspection as standard.**

## See Also

BCGA CP7 : The Safe Use of Oxy-Fuel Gas Equipment (Individual Portable or Mobile Cylinder Supply)

BCGA CP31: Safe Storage and Use of Cylinders in Mobile Workshops and Service Vehicles

BCGA GN2 : Guidance for the Storage of Transportable Gas Cylinders for Industrial Use

H&SE INDG 308 : The safe use of gas cylinders

H&SE INDG 327 : Take care with acetylene

H&SE HSE 8 (r2): Take care with oxygen

H&SE HSG 139 : The safe use of compressed gases in welding, flame cutting and allied processes

The Provision & Use of Work Equipment Regulations 1998

The Pressure Systems Safety Regulation 2000

The Health and Safety at Work Act 1974

The Explosives Act 1875 Compressed Acetylene Order 1947 (Certificate of Exemption No 2 1989)

The Consumer Protection Act 1987

The Factories Act 1961

The Personal Protective Equipment Regulations 1992

The Manual Handling Operations Regulations 1992

The Control of Substances Hazardous to Health Regulations 1999

The Management of Health and Safety at work Regulations 1999

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## GAS INSPECTION TRAINING COURSE

Get qualified to the required CP7 Standard with the Weldability Sif Gas Equipment Inspection Course.

Offering a fully comprehensive 2 Day course for those with a basic understanding of the Oxy/Fuel process to inspect portable Oxy/Fuel welding & cutting equipment and installations.

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Successful delegates receive  
a certificate, Identity Pass  
& Inspection Pack



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qualified?  
1 day course  
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