

# EMAIL



## Weldcare

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Date 16<sup>th</sup> July 2009  
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Reference Safety Alert  
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Thankyou.*

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### RE: Oxygen incident

It would appear from initial evidence that a Hydraulic hose was used to connect a wall mounted Oxygen gas regulator, to a side entry Oxygen gas cylinder, with the possibility that a thread sealant was also used in the hose connection to gas cylinder.

Once the Oxygen valve was turned on the resultant explosive reaction resulted in the hose bursting (Fig. 1), the cylinder connecting gland nut shearing (Fig. 2) and culminated with the fitter being injured.



Figure 1

As the pressure in a full Oxygen gas cylinder is over 3000 PSI (approx. 230 bar), and Oxygen gas hose is colour coded Blue<sup>1</sup>

The black/red coloured hose, although clearly marked as rated to 5000 psi, was, we believe a Hydraulic hose and as such is an oil based product.

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<sup>1</sup> BS EN 559: Rubber hoses for welding, cutting and heating,

BS EN 560: Hose connections for equipment for welding, cutting and allied processes

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When pure Oxygen, under high pressure, comes into contact with any oils or oil based products such as those used to manufacture Hydraulic hose, a vigorous reaction could occur, including explosive compounds being formed.

The sheared stem within the gland nut (Fig. 2), was probably caused by the violent reaction which occurred.

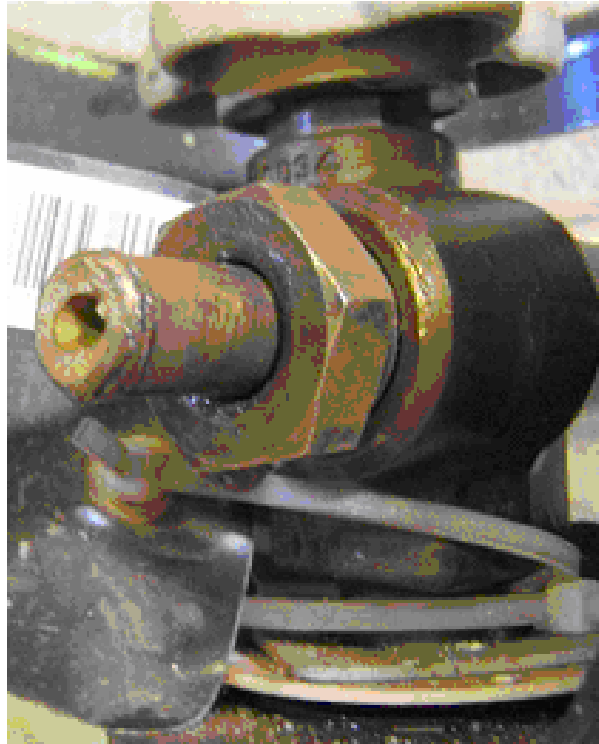


Figure 2

The fittings on gas connections do not require any sealants. The use of PTFE<sup>2</sup> or Loctite, which is used primarily, for example, on air compression equipment and more commonly on coarse threaded joints, should never be used on Oxygen equipment or fittings.

If the operator had not been trained in the Safe Use and Operation of Oxy Fuel Gas Equipment, including the daily inspection routine, then he would not have been aware of the potential dangers.

If you have any queries or require further information please call 01159 223 223.

Yours faithfully,

John Macken  
for Weldcare Ltd.

*Note:* gas cylinders are available with a top or side entry valves.

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<sup>2</sup> polytetrafluoroethylene