

Speciality Welds



Oxy Arc Cutting Lance

The Scorpion blue exothermic cutting lance has many uses in industry for both dry and wet applications alike. Typical uses include cutting steel bracings on offshore structures, pipelines, removing jetty and pier foundations, cutting through concrete caissons, vessels, propellers and many different types of marine salvage. The lance will cut through the following materials with ease:- plain carbon & low-alloyed steels, cast irons, stainless steels, non-ferrous metals, concrete, rock, rope, wood and marine growth.



The process simply requires an industry standard underwater cutting torch (**Stinger™**) connected to a multistage high flow oxygen regulator, a DC welding machine and a safety isolation switch (**Piranha™**). (See separate data sheet for details)

Should you prefer to cut with power on, the Scorpion lance should require no more than 150 amps at the tip. However, the lance will also burn with no electrical power, once ignited, as long as the oxygen flow is maintained. The lance burns at approximately 6000 °C (10,000 °F) a temperature that will melt most materials with ease. The principle of operation, having ignited the arc is to allow oxygen to flow down through the centre of the lance. This creates and maintains an exothermic reaction, which will continue to burn, with or without the power, until the oxygen flow is stopped.

TECHNICAL SPECIFICATION:

9.5mm (3/8") x 450mm (18") hollow copper coated steel tube, having an inner bundle of solid wire segments. All Scorpion lances are insulated with a high visibility blue polyolefin tubing for safety. They are supplied in 9.4kg (20.5lb) boxes, which contain 50 lances.

GENERAL HEALTH & SAFETY GUIDELINES:

SERIOUS INJURY may result when cutting underwater using an oxygen-cutting lance. Only fully trained and certified divers shall be allowed to perform underwater cutting operations and that all diving operations shall be carried out in accordance with recognised National or International diving regulations. It is essential that the operator, supervisor and others are aware of the dangers of cutting underwater, using oxygen. Safety should always be in the forefront of everybody's mind. Follow all employers' safety practices. The guidelines as specified by the 'AODC' 'Safe use of electricity underwater' code of practice and

'IMCA' publication 'D003 Oxy-Arc cutting operations Underwater' should be read and understood by all personnel.

Only fully trained individuals shall be permitted to use this product.

Only use torches designed for underwater oxygen-cutting applications (**Stinger™**).

Inspect torch and other equipment prior to use to ensure operational functionality.

Ensure all connections are tight and properly insulated where necessary.

All cutting operations should be conducted using DC (-Ve) polarity. In addition, there must be a positive operating disconnecting switch (also referred to as a knife switch) in the circuit. We recommend our **Piranha™** 400-amp dual pole, certified, isolation switch. This switch shall not be operated unless specifically directed by the diver. When the diver calls for a change the tender must confirm that change to the diver. A procedure shall be developed to check the integrity of the electrical circuit before commencing any cutting operations

Underwater cutting operations use oxygen, therefore, all safety precautions concerning the use of oxygen must be observed. Oxygen itself is not flammable, however, the presence of oxygen will drastically increase the speed and force with which burning takes place. For cutting in a closed compartment, pipe, tank, tubular, etc a means must be provided to permit the escape of all entrapped gases. Having the diver work from the highest point down may reduce the possibility of trapping gas mixtures that could lead to explosions, in any event, a means to allow un-burnt

