KANDI ENGINEERING PVT. LTD.

R.C.C. CUTTING TORCH

BURNING LANCE

THERMIT / BURNING LANCE

DIRECTOR
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BURNING LANCE is the product developed, for the purpose of increasing the heat quantity generated from the lance, by improving the cutting efficiency with the cutting cores wires of several pieces built in the combustion steel pipe. The difficult-to cut materials in gas cutting and mechanical cutting, i.e. not only limited to iron and steel, the stainless steel, alloys such as brass, nonferrous metal, ceramic, etc. can be simply and quickly cut off and bored without noise and vibration at the high temperature 3,600 deg F. It is optimum for cutting and boring concrete, special steel, cast steel, pig iron, slag and refractory. Heat source is not required for the equipment.

APPLICATIONS

Defense & Naval organizations
Non-Ferrous & Ferrous Foundries and Steel Mills
- For Cleaning Up Spills
- Opening Tap Holes
- Cutting Refractory Brick, Skulls, and Slag
-Removing Solidified Material from Vessels, Ladles, and Molds
Aluminum, Copper, Lead, Zinc and Nickel Smelters Ferro-Alloy Plants Demolition Cement/ Concrete Removal-Piling and Slabs

STANDARD SIZES & LENGTH

- Size (O.D.in mm) 12.7, 13.5, 17.0, 21.7, 27.2

- End Finish: Plain End, Threaded and Coupled.

- Length: 3000 mm and / or as per Customer's requirement.

TYPE "A"

1. Cutting of Sheet structures, sheets / plant, etc.
2. Preliminary boring of heavy steel plate, etc.

TYPE "B"

1. Cutting of RCC Structures, Non metallic bodies, etc.
2. Cutting of blast furnace shell, furnace bottom, etc.

TYPE "C"

1. Boring of Concrete structure, underwater cutting etc.
2. Cutting of Stainless Steel, Cast Iron, etc.
3. General purpose applications.

Before Cut

During Cut

After Cut

What is the purpose of Burning Lance?
Burning Lance is the product developed, for the purpose increasing the heat quantity generated from the lance, by improving the cutting efficiency with the cutting core wires of several pieces up to several tens pieces built in the combustion steel pipe.

What is so special about Burning Lance as compared to Conventional cutting system used?
The lance will cut most ferrous and non ferrous metals as well as concrete and refractory. Benefits over conventional cutting methods include cutting speed and the ability to cut thick and rusty metals.

What are the Diameters and sizes of Burning Lance?
The Standard Diameters and lengths are 12.7 mm O.D. , 13.5mm O.D., 17.0 mm O.D., 21.7mm O.D. & 27.2 mm O.D. Length: 2750mm, 3000mm, or as per customer's requirement.

If the Customer wants any other lengths & sizes, can the lance be supplied?
Yes, we can meet the Customer's requirement in lengths & diameters to meet their specification, provided the minimum quantity requirements are met by Customer.

What are the end finish of the Burning Lance for connecting to the holder?
The End Finish is Plain End, Threaded and Coupled.

What is the advantage of using a Burning Lance for cutting?
The difficult-to-cut materials in gas cutting and mechanical cutting, i.e. not only limited to iron and steel, the stainless steel, alloys such as brass, non ferrus metal, ceramic,etc. can be simply and quickly cut off and bored without noise and vibration at the high temperature 3,600 deg F. It is optimum for cutting and boring special steel , cast steel, pig iron, slag, and concrete Heat source is not required for the equipment.

What are the equipments required while using the Lance?
Oxygen Cutting Rods, Lance Holder Set, Sufficient oxygen supply (35 cubic feet per minute, each rod burns 4 ½ minutes – approximately 160 total cubic feet), Oxygen hose: 25' – 50' of 3/8" (smaller than 3/8" hose will reduce the flow of oxygen beyond effective operation), Oxygen high volume regulator (head pressure of 200 PSI required), Ignition equipment required Oxy-Acetylene Torch, and Flame resistant protective clothing.

After connecting the Holder to the Lance, what is the subsequent operation?
To start the operation, the end of the lance is heated to ignition temperature by means of an Oxy/Acetylene torch. Oxygen is then fed through the lance promoting fusion at the lance point, and the reaction becomes self supporting. The heat generated fuses the lance and concrete, the flow of slag being assisted by the velocity of oxygen.

Is boring operation in concrete possible, and what are the techniques?
The boring operation is not difficult, the lance should be fed into the hole as boring progresses. Holes 3 meters in length can be bored horizontally, although it would be better to incline the object, if possible, to allow the slag to flow freely out.
Boring vertically down can be carried out successfully, but after the first 12" the Oxygen pressure has to be increased to expel the molten slag. The slag produced will be expelled from the front until you have pierced through the complete thickness. Slag can therefore be thrown several feet towards the operator.
When starting, if a free edge is not available to commence boring then the technique is To pierce a hole through completely in the middle. When boring, the lance is kept aimed slightly downward and the slag kept in motion by a forwards and backwards motion. Sand is placed beneath the slag will protect the floor.

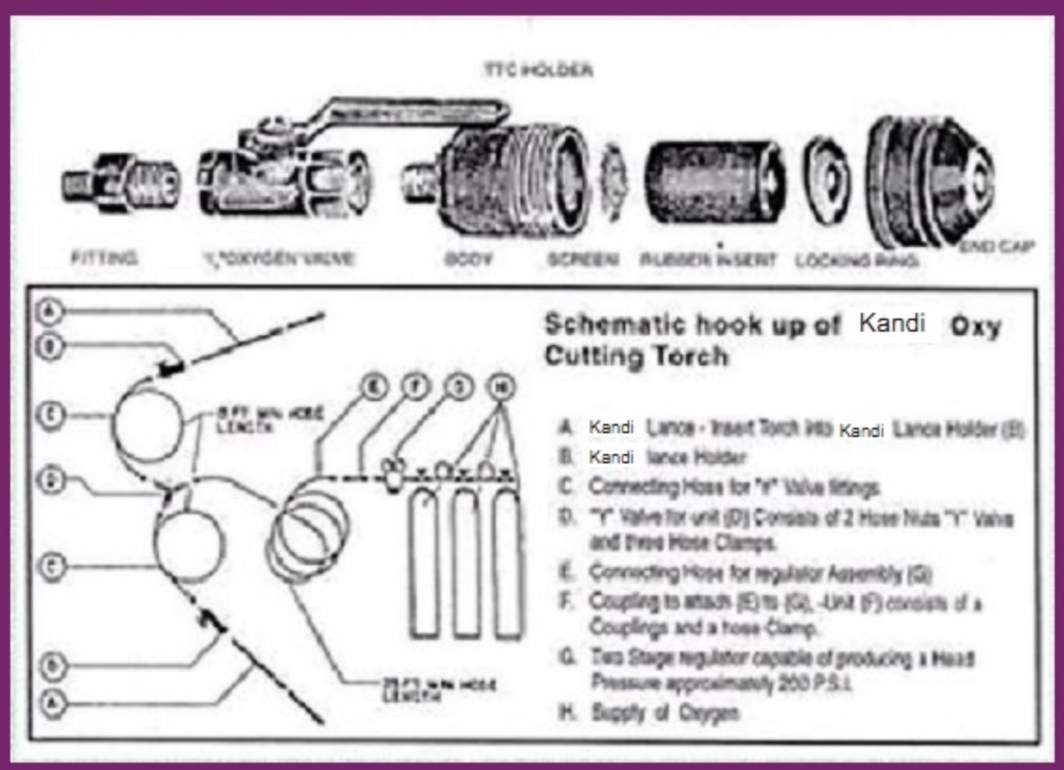
What are general benefits of Burning Lance?
It is a simple one man operation and extremely mobile. Underwater cutting is possible. Equipment cost is low. The operation speed is high, and makes little or no noise while Cutting. The cost is reduced/low compared to Oxy-acetylene cutting.

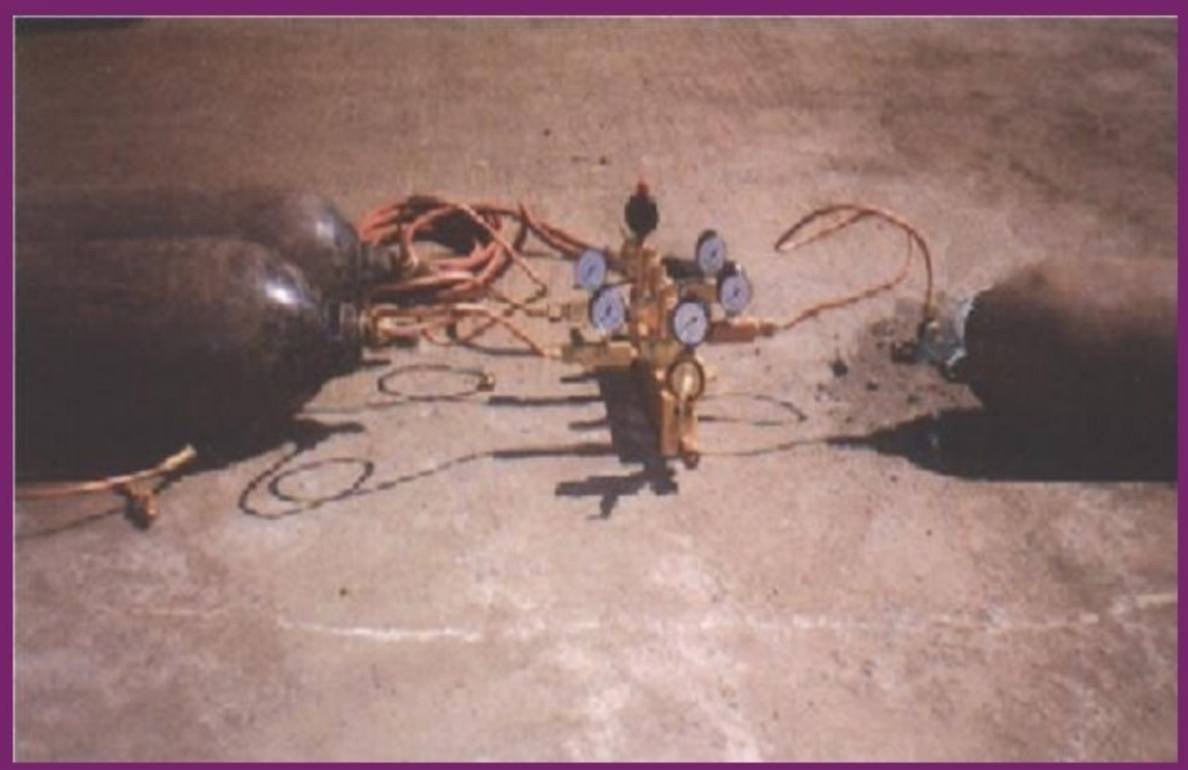
What should be the Oxygen Pressure?
Adjust the oxygen pressure between 9 to 12 bar

Does the hardness of concrete or steel diminish the cutting ability of Lance?
No. The greater the hardness of concrete or steel, the better the cutting action of the Burning Lance.

Does cutting of concrete affect the quality of other concrete structure just adjacent?
Generally speaking, leaving the linear area of about 4 inches from the cut, the concrete structure does not get affected. However, it is suggested that water is sprayed on the concrete after cutting so that the adjacent areas of structure is safe and cooled after the operation.

MANIFOLD WITH ACCESSORIES





SAFETY DATA SHEET

Hazardous Chemicals
DOES NOT CONTAIN TOXIC CHEMICALS

Physical Dimensions
Insoluble in Water & NO noticeable odor

Health Hazard Information
Acute Effects of Overexposure to Eyes & Skin:

Local Irritation
Fire and Explosion Hazard Caution

Unusual Fire and Explosion Hazards:
Oil and grease on torches can cause a violent reaction in the presence of oxygen.

Reactivity
Incompatibility (Materials to Avoid):
Oil and grease on torch can cause a violent reaction in the presence of unburned oxygen.

Spill or Lead Procedures
Waste Disposal Method: Comply with all local, state, and federal regulations for proper disposal.

Special Protection Information
Protective Equipment: Face shield, hard hat, leathers or fire retardant protective clothing, leather gloves

Special Precautions
Hazards can be created based on material being cut e.g., vapors released from residue while cutting.

Other Relevant Data
Use proper procedure at all times as specified

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