

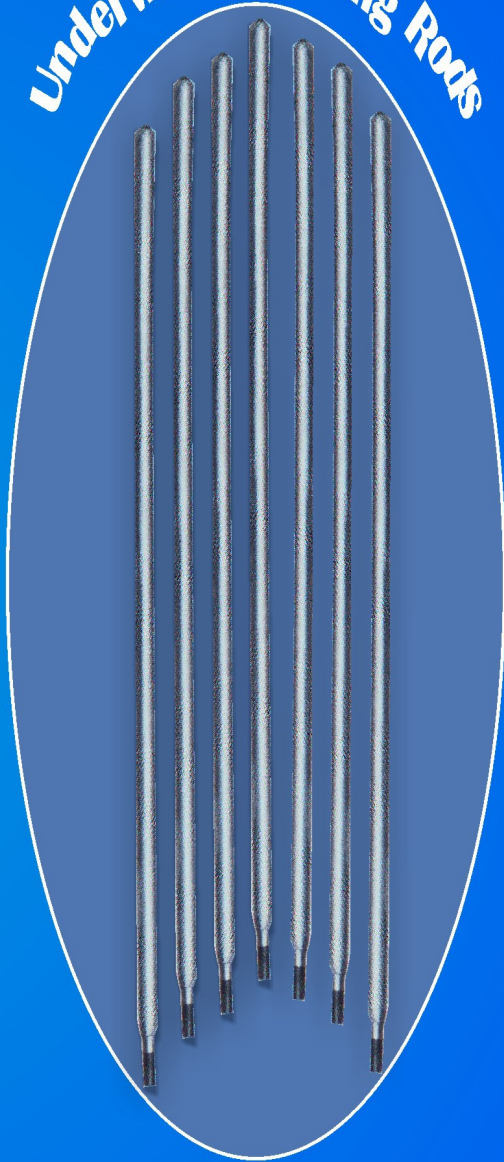
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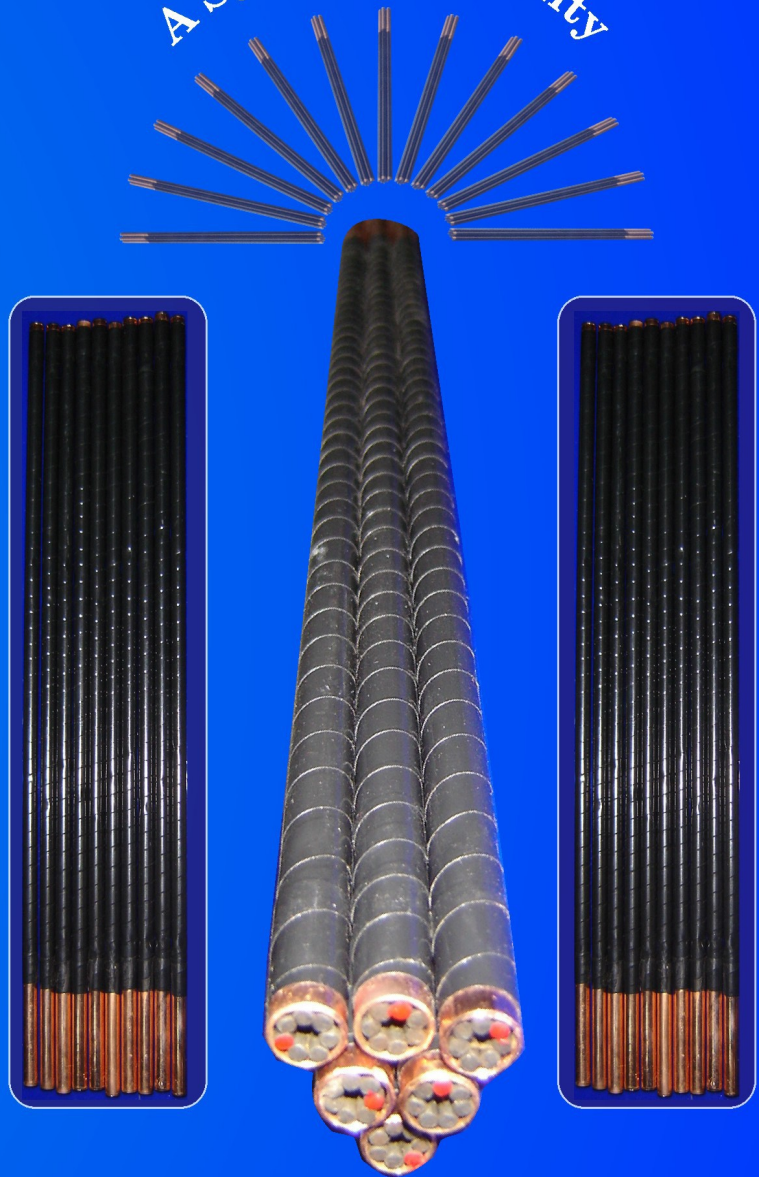
UNDERWATER
cutting & welding rod

Export Quality
Indian Navy Approved

Underwater Welding Rods



A Symbol of Quality



Under Water Cutting Rod



Once diver is in the water :

1. Secure ground clamp to work. If any part of work is above water, ground clamp may be secured there. In any case, the diver must face the work as he performs. Serious shock hazard to the diver and electrolytic damage to the diver's helmet and equipment can result if his body comes between the rod and the ground.
2. Call for "current on" or "make it hot" and commence cutting operations.
3. NEVER "TURN YOUR BACK" ON THE GROUND CONNECTION

TABLE # 1 :
Setting O₂ Delivery Pressure for Depth

Depth		Pressure Gauge Setting	
Ft.	M	psi	atm
33	10	108	7.4
40	12	112	7.6
50	15	117	8.0
60	18	123	8.4
70	21	128	8.7
80	24	134	9.1
90	27	139	9.5
100	30	145	9.9
110	34	150	10.2
120	37	155	10.5
130	44	161	11.0
140	43	166	11.3
150	46	172	11.7
160	49	177	12.0
170	52	183	12.5
180	55	188	12.8
190	58	194	13.2
200	61	199	13.5
210	64	204	13.9
220	67	210	14.3
230	70	215	14.6
240	73	221	15.0
250	76	226	15.4
260	79	232	15.8
270	82	237	16.1
280	85	243	16.5
290	88	248	16.9
300	91	254	17.3
310	94	259	17.6
320	98	264	18.0
330	101	270	18.4
340	104	275	18.7
350	107	281	19.1

When depths exceed 350 feet, calculate your gauge pressure as follows :

For every 10' of hose required, add 1 p.s.i. to the 90 p.s.i. necessary at the tip. This compensates for frictional line losses. Additionally, add 0.445 for every foot of working depth to compensate for increased hydro static pressure.

TABLE # 2 :
Setting Amperage for Cable Length and Size*

Length of Power Cable (supply to work distance)		Amperage Setting for Cable Size		
Ft.	M	#1/0	#2/0	#3/0
150	46	155	152	150
200	61	157	154	152
250	76	159	156	154
300	91	161	158	156
350	107	163	160	158
400	122	165	162	160
450	137	167	164	162
500	152	169	166	164

*The increases in amperage compensate for resistance losses.

For greater lead lengths, add 2 amperes per fifty feet to settings.

Calculating Pressure and Amperage Settings

Example : A working dive to 560 ft.

Required : 150 amperes at the rod tip plus 90 p.s.i. over bottom.

Given : 650' of hose, and #2/0 cable.

OXYGEN REGULATOR SETTING	APPLICATION
10-20 PSI	Piercing through hardplate
20-30 PSI	Cutting thin metal - upto 1/4" thick Piercing small bolts
30-40 PSI	Precision gouging Removal of bucket and cutter teeth Melting concrete and rock Piercing pins upto 4" in length Cutting iron and mild steel to 1/2" thick
40-50 PSI	Gouging Removing hardfacing and welds Melting concrete and rock Piercing pins over 4" in length Cutting non-ferrous material upto 1" thick Cutting mild steel 1/2"-1" thick
50-60 PSI	Cutting non-ferrous material upto 2" thick Cutting mild steel upto 2" thick
60-80 PSI	Cutting all metals over 2" thick

Suggested Oxygen regulator pressure settings.

The Wet Welding Standard

BROKO Underwater's is the standard for commercially available mild and stainless steel wet welding electrodes.

BROKO's proprietary binary flux coating effectively reduces gaseous oxygen and hydrogen from the arc atmosphere, diminishing hydrogen cracking occurrence.

BROKO's superior's waterproofing allows the electrodes to be submerged for extended periods of time without experiencing the water penetration that cause flux to blow off.

BROKO's stands for quality wet welds, done right the first time in any position. Whether the driver is making permanent repairs to offshore structure, harbor installations or oceangoing vessels, quality welds equate to reduced time and money spent doing the job.

BROKO is the right choice for in-situ repairs in nuclear facilities, or other applications where steel must be joined according to code specifications.

BROKO mild and stainless steel electrodes 20 Welding Stinger, BROKO Underwater is the Wet Welding Standard.

BROKO Wet Welding Electrodes

Underwater electrodes produce wet welds that meet all positions (flat, horizontal, vertical and overhead).

BROKO mild and stainless steel electrodes are available in 1/8 inch, 5/32 inch and 3/16 inch diameters.

BROKO Wet Welding are sealed in a Mil-Spec foil pouch to prevent contamination. The electrodes are then packaged in a rigid re-sealable plastic tube which provides maximum protection. The color-coded end cap denotes mild or stainless steel electrodes.

BROKO Electrodes - Recommended Current Requirements

Catalog Number	Diameter		Type Electrode	Flat	Current Settings (amps)		
	Inch	MM			Horizontal	Vertical	Overhead
UWW - MS - 1	1/8	3.20	Mild Steel	160-170	150-170	140-170	140-160
UWW - MS - 2	5/32	3.97	Mild Steel	180-210	170-210	170-210	170-190
UWW - MS - 3	3/16	4.76	Mild Steel	250-280	240-280	240-280	235-275
UWW - MS - 4	1/8	3.20	Stainless Steel	135-150	135-150	125-145	125-145
UWW - MS - 5	5/32	3.97	Stainless Steel	150-200	140-200	140-190	140-180

WE ALSO MANUFACTURE COLLETS, RUBBER WASHER & FINS

BROKO[®]



BROKO *Rods are used for Welding
Mild Steel, Stainless Steel
& Non-Ferrous Metal*

BROKO *Rods are used for cutting or melting
Cast Iron, Stainless Steel & Non-Ferrous
Metals, Concrete, Rock, Coral, Mastic,
Rope or Marine Growth.*

Manufacturers by :

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