

TIPS FOR USING SLICE EXOTHERMIC CUTTING EQUIPMENT

TIPS FOR CUTTING

Cutting procedures will vary from job to job. Study the cutting rates chart for specific cutting speeds. Normal cutting is done by using a drag technique. Once the rod is in contact with the piece to be cut, drag the rod in the direction of the cut. If the operator can't see the kerf, the speed of cut is too fast. If the rod is being used too rapidly the progress of the cut is too slow and the rod is being used without cutting. REMEMBER, the cutting rods consume as long as the oxygen is flowing. Maintain the proper travel speed at all times. NOTE: Use a sawing motion when material to be cut is thicker than 1-1/2 to 2 inches to ensure a complete melt through. Use a smooth motion to complete the cut. Be careful not to hit nearby material with the rod when cutting in "close quarters." After completing the cut, release the oxygen control lever in the handle. THE CUTTING ROD WILL CONTINUE TO BURN AS LONG AS OXYGEN IS SUPPLIED. Hold the torch safely away from you until the rod cools.

TIPS FOR PIERCING SURFACES

The SLICE Torch can be used to pierce solids. Special procedures must be used when piercing. When piercing, use a collet extension (and shield). This extension adds life to the torch and hand shield, and greatly improves operator safety and comfort. Always hold the torch at arm's length and wear plenty of protective clothing, eye and ear protection. Cutting rods can get stuck inside the pierced hole, if possible, remove the cutting rod from the hole before releasing the oxygen lever. With any thermal cutting equipment blowback is most likely to occur when the user is piercing holes. Cutting rods may burn unevenly. Slowly swirl the cutting rod as it enters a pierced hole. Cutting rods may burn out on the sides. Correct the problem by removing the cutting rod from the pierce point, shut the oxygen off, and replace the cutting rod.

To pierce follow these steps:  
Strike cutting rod on striker.  
Hold torch at arm's length.  
Keep the cutting rod at a 90° angle (perpendicular) to the pierce point.  
Slowly push cutting rod in at pierce point until you're at proper depth or until you've achieved burn through.

The pierce procedure is also used to cut concrete. By piercing a series of holes where a user wants to cut concrete, the concrete becomes easier to fracture. This helps reduce the time it would take to actually cut the concrete.

OXYGEN USAGE

This cutting process uses standard industrial grade oxygen to support the exothermic reaction and to remove the molten metal. All SLICE equipment uses standard oxygen fittings. The most commonly recommended operating pressure is 80 psi. Applications such as cutting material sections 3" and thicker might require higher operating pressures. Pressures as low as 40 psi have been used to perform operations such as washing off rivet heads and scarfing out small cracks for repair.

The oxygen consumption rate for the SLICE cutting rods at 80 psi is 7 to 7.5 cfm for the 1/4" diameter cutting rods and 11 to 12 cfm for the 3/8" diameter cutting rods. This rate will vary if a different operating pressure is used.

ROD BURN TIME

Listed are the approximate burn times for the various SLICE rod diameters and lengths:

1/4" X 22"	40 - 45 seconds
1/4" X 44"	80 - 90 seconds
3/8" X 18"	30 - 35 seconds
3/8" X 36"	60 - 70 seconds

APPLICATION DATA

The best techniques for the SLICE equipment will change from job to job. The enclosed charts present the results of extensive testing of the SLICE Torch. Four things contribute to good cutting -

- 1) Electrical current.
- 2) Type of material being cut
- 3) Environmental conditions.
- 4) Experience of the operator(s).

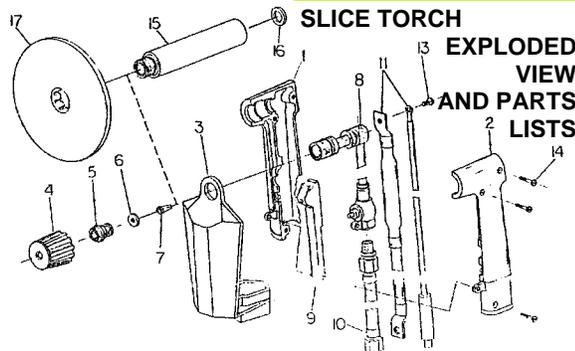
These data result from studies of the first two (2) items in this list. Since data were collected in a LABORATORY, actual results obtained will vary because of changes in the environment. Too, these tests were conducted by highly experienced users. The way in which you use the SLICE Torch will also cause your results to vary.

In any application, some adjustments in operating conditions are necessary. The charts are presented only as a guideline. Results will vary; you can approximate these results by using the data presented as a starting point, then adjusting for your job.

Here is a sample of some cutting rates that can be obtained using the SLICE Equipment. Cutting rates in this chart were obtained using 80 PSI oxygen pressure, battery ignition (no power cutting) and 1/4" x 22" cutting rods. These cutting rates will vary when using different rods, when cutting with power or using a different oxygen pressure. This chart does not represent all materials SLICE will cut nor all thicknesses used in fabrication. When cutting composite materials or metals not listed, locate the listed type that most closely matches the metal to be cut. This information is only meant as a reference to the efficiency and versatility that a user can realize using the SLICE Equipment.

MATERIAL BEING CUT:	THICKNESS		CUT/IN ROD		CUT SPEED	
	IN.	CM	IN.	CM	IN/MIN	CM/MIN
CARBON STEEL	1/8	.318	2.25	5.7	72	183
	1/4	.635	1.50	3.8	52	132
	3/8	.953	1.38	3.5	42	106
	1/2	1.27	1.25	3.2	35	89
STAINLESS STEEL	3/4	1.91	0.75	1.9	22	56
	1/8	.318	2.00	5.1	65	165
	1/4	.635	1.13	2.9	36	91
ALUMINUM	1/4	.635	1.75	4.4	58	147
	3/8	.953	1.25	3.2	38	97
	3/4	1.91	0.75	1.9	23	58

This data is the result of averaging lab tests. The actual results will vary.



REF. NO.	DESCRIPTION	CATALOG NO.	UNIT PRICE
AA	SLICE Torch Assembly (#1 Cable) w/lug	03-003-000	back2pg
A	SLICE Torch Assem. (#6 Cable) w/Cam-Lok	03-003-001	\$872.20 EA
B	SLICE Torch Assem. (#10 Cable) w/Cam-Lok	*03-003-006	\$870.00 EA
1	Handle Assembly, Right Half	94-370-166	\$79.50 EA
2	Handle Assembly, Left Half	94-370-167	\$79.50 EA
3	Shield	94-777-109	\$44.78 EA
4	1/4" Collet Nut Assembly	94-168-022	\$109.26 EA
4	3/8" Collet Nut Assembly	94-168-024	\$121.98 EA
5	1/4" Collet Chuck	94-158-048	\$65.00 EA
5	3/8" Collet Chuck	94-158-045	\$70.00 EA
6	Washer	94-940-109	\$7.56 EA
7	Flashback Arrestor	94-305-009	\$7.38 EA
8	Head Assembly	94-378-338	\$463.67 EA
9	Lever Assembly	94-476-082	\$30.72 EA
10	Oxygen Hose Assembly	94-396-193	\$111.14 EA
11AA	Cable Assembly - #1, w/Lug	96-130-279	\$310.00 EA
11A	Cable Assembly - #6, w/Cam-Lok	96-130-276	\$190.00EA
11B	Cable Assembly - #10, PECU w/Cam-Lok	96-130-319	\$310.00 EA
13	10-32 X 3/8" Screw	97-192-137	\$3.50 EA
14	6-32 X 9/16" Screw (3 Req'd.)	97-192-129	\$3.50 EA
15	Extension - 6"	94-168-023	\$152.10 EA
16	Washer	94-940-108	\$13.51 EA
17	Extension Shield	94-777-111	\$102.99 EA
n/s	3/8" Conversion Kit	94-463-032	\$214.50 EA

NOTICE

All SLICE torches come standard with the 1/4" Collet Chuck and Collet Nut. This includes all torches in any SLICE Pack. To utilize the 3/8" rods the user must order the 3/8" rod conversion kit, that includes the 3/8" Collet Chuck and Collet Nut.

OXYGEN REGULATOR (Preset & Gaugeless)  
For Slice Torch (PECU)  
Part # 0799-1607 \$359.57 Ea

ORDER THE 44" LONG ROD THEN BREAK WHAT YOU NEED IN HALF (THEY ARE PERFORATED) WHEN YOU NEED 22" LONG RODS!

SLICE® EXOTHERMIC CUTTING RODS

SLICE exothermic cutting rods are designed specifically for use with SLICE cutting systems. Their unique one-piece patented construction maintains the balance necessary to sustain the exothermic reaction. Once the oxygen flow is started and the rod is ignited, it will continue to burn without electrical power, as long as oxygen flow is maintained. The following is a list of the SLICE cutting rods available:

	BEST FOR AN ARC WELDER		BEST FOR BATTERY IGNITION		
	Part No.	Box Price	Part No.	Box Price	
1/4" x 22" <u>16.5 mm x 559 mm.</u> 25 Pcs. Per Box 100 Pcs. Per Box	42-049-002	\$122.00 EA	43-049-002	\$102.50 EA	(STD. PECU)
	42-049-003	\$408.00 EA	43-049-003	\$392.60 EA	(STD. PECU)
1/4" x 44" <u>(6.5 mm x 559 mm)</u> 25 Pcs. Per Box	N/A		43-049-005	\$179.40 EA	(EXTRA LONG PECU)
	42-049-005	\$300.00 EA	43-049-007	\$287.30 EA	
3/8" x 18" <u>(9.5 mm x 457 mm.)</u> 50 Pcs. Per Box	42-049-005	\$300.00 EA	43-049-009	\$226.00 EA	
	N/A				



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