Eureka Welding Alloys
2000 E. Avis Drive
Madison Heights, MI 48071

ISO 9001 Certified

Product: Eurekalloy No. 1 Electrode

Dated: March 22, 1994
Revised: August 22, 2000

INTRODUCTION

Eurekalloy No. 1 Electrode is a Cobalt base, hard facing filler metal that conforms to AWS A5.13 ECoCr-C. The electrodes can be welded at low amperages, which reduce penetration and dilution. The electrodes have low spatter and the slag is self-detaching. The weld deposits have good wet out; this gives a flat smooth surface to machine.

METALLURGICAL CHARACTERISTICS

CHEMICAL COMPOSITION RANGE FOR EUREKALLOY NO. 1

C:	1.75 – 3.00
Mn:	2.00 max.
Si:	2.00 max.
Cr:	25.00 – 33.00
Mo:	1.00 max.
W:	11.00 – 14.00
Fe:	5.00 max.
Ni:	3.00 max.
Co:	Balance

The room temperature hardness of **Eurekalloy No. 1** (undiluted weld metal) is typically 50 - 55 HRC. This alloy is most noted for resistance to softening at elevated temperatures. Hot hardness values of 48 HRC are maintained at 1200◦F. This alloy displays exceptional abrasion resistance due to the massive amount of carbide formation. The metal to metal wear is also outstanding due to the low coefficient of friction because of its ability to take a high polish. The large addition of chromium imparts good oxidation and corrosion resistance up to 1800◦F. The impact resistance and machinability of this alloy is generally considered **poor.**

Phone: (248) 588 0001 Fax: (248) 585 7711 Toll Free: 800 962 8560
E-mail: eurekagm@cs.com Web Site: www.eurekaweldingalloys.com

RECOMMENDED APPLICATIONS

Commonly used on contact surfaces of exhaust valves, cams, saw bars and chains, crushers, petrochemical valves, and extrusion screws. Also used on hot trimming, shearing or punching dies associated with the forging and extrusion industries.

PREPARATION AND WELDING PROCEDURE

- Impressions or surfaces to the welded must be free of scale, dirt, or any other foreign matter.
- All cracks and heat checks must be removed entirely.
- In stock removal allow for two layers of weld metal to guard against dilution or admixture with the base metal.
- Select a preheat temperature according to the base metal (heat for one hour per inch maximum cross sectional thickness at temperature).
- Select the proper diameter filler metal according to job size.
- Utilize short 3" - 4" stringer beads, back fill crater, peen thoroughly after each pass to offset shrinkage stresses**.**
- Control interpass temperature as close as possible to preheat temperature.
- After welding, **post heat** at the same temperature used to preheat to equalize thermal gradients.
- Slow cool to a minimum of 150°F.
- Temper for one inch/hour of maximum cross sectional thickness at temperature.

*Note: Tempering does not affect hardness of #1 weld deposits. This step aids in tempering the H.A.Z. and parent metal only!!!

Phone: (248) 588 0001 Fax: (248) 585 7711 Toll Free: 800 962 8560
E-mail: eurekagm@cs.com Web Site: www.eurekaweldingalloys.com

Eureka Welding Alloys
2000 E. Avis Drive
Madison Heights, MI 48071

WELDING PARAMETERS

- Use either alternating or direct current reverse polarity. Hold closest arc as possible.

1/8" -- 3.2 mm	80 – 100 ampere
5/32" – 4.0 mm	120 – 170 ampere
3/16" – 5.0 mm	140 – 190 ampere
1/4" -- 6.4 mm	180 – 250 ampere

USE LOWEST POSSIBLE AMPERAGE

AVAILABILITY

1/8" x 14"	3.2 mm x 354 mm	10 lb. package
5/32" x 14"	4.0 mm x 354 mm	10 lb. package
3/16" x 14"	4.8 mm x 354 mm	10 lb. package
1/4" x 14"	6.4 mm x 354 mm	25 lb. package

Phone: (248) 588 0001 Fax: (248) 585 7711 Toll Free: 800 962 8560
E-mail: eurekagm@cs.com Web Site: www.eurekaweldingalloys.com