

Eureka Welding Alloys

2000 E. Avis Drive

Madison Heights, MI 48071

Phone: 248-588-0001 Fax: 248-585-7711 Toll Free: 800-962-8560

E-mail: info@eurekaweldingalloys.com Website: www.eurekaweldingalloys.com

TECHNICAL DATA FOR EUREKA 1 ELECTRODES

Dated: March 31, 1995

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INTRODUCTION

Eureka 1 Electrode is a smooth running rutile coated stick electrode with a cobalt #1 chemistry. The electrodes are designed for superior weldability having no spatter, stable arc, good wet out, and easy slag removal

METALLURGICAL CHARACTERISTICS

Eureka 1 Electrode is a Cobalt base, hard facing filler metal that conforms to AWS ERCoCr-C. This alloy in bare rod form is generally applied by the oxyacetylene or gas tungsten arc welding process. The room temperature hardness of **Eureka 1** 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 1200F. 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 1800F. The impact resistance and machinability of this alloy is generally considered poor.

RECOMMENDED APPLICATIONS

Eureka 1 is commonly used on contact surfaces of exhaust valves, cams, saw bars, chains, crushers, petrochemical valves, and extrusion screws. Also used on hot

trimming, shearing or punching dies associated with the forging and extrusion industries.

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WELDING PARAMETERS

SIZE	AMPERAGE RANGE
3/32" 2.4mm	70 – 120
1/8" 3.2mm	100 – 140
5/32" 4.0mm	140 – 170
3/16" 4.8mm	170 – 225
1/4" 6.35mm	225 – 300
5/16" 7.94mm	300 – 375
3/8" 9.5mm	350 – 425

TYPICAL CHEMISTRY

C	Mn	Si	Cr	W	Co
2.5	.30	1.0	29.0	12.5	Bal

PHYSICAL AND OR MECHANICAL PROPERTIES

AS WELDED HARDNESS

50-55 HRC

HARDNESS AT 1100F

48 HRC