

Eureka Welding Alloys

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TECHNICAL DATA FOR EUREKA 12 ELECTRODE

Dated: March 31, 1995

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INTRODUCTION

Eureka 12 Electrode is a smooth running rutile coated stick electrode with a cobalt 12 chemistry. The electrodes are designed for superior weldability having no spatter, a stable arc, good wet out, and easy slag removal.

METALLURGICAL CHARACTERISTICS

Eureka 12 Electrodes are a Cobalt base, hard facing filler metal that conforms to AWS ER CoCr-B. This alloy in bare rod form is generally applied by the oxyacetylene or gas tungsten arc welding processes. The room temperature hardness is typically 43 - 48 HRC. This alloy is most noted for resistance to softening at elevated temperatures. Hot hardness values of 37 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 fair.

RECOMMENDED APPLICATIONS

Eureka 12 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
1.5	.30	1.0	29.0	8.5	Bal

PHYSICAL AND OR MECHANICAL PROPERTIES

AS WELDED HARDNESS

43-48 HRC

HARDNESS AT 1200F

37 HRC