

Eureka Welding Alloys

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TECHNICAL DATA FOR EUREKA 1 TIG RODS

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INTRODUCTION

Eureka 1 TIG Rods are cast, cut to length, then cleaned and packaged to obtain microscopically clean weld deposits. These rods are designed for the most critical applications where weld metal cleanliness is most important.

METALLURGICAL CHARACTERISTICS

Eureka 1 TIG Rod is a Cobalt base, hard facing filler metal that conforms to AWS ER CoCr-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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RECOMMENDED SHIELDING GASES

100% Argon

GAS FLOW RATE

20-40 CFH

OXYACETYLENE WELDING

Use a carburizing flame 3X feather to cone. Sweat the surface by just melting the surface of the base metal before adding filler metal. This will minimize heat input and dilution.

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