

# Eureka Welding Alloys

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## TECHNICAL DATA FOR EUREKA 31 SOLID MIG WIRE

**Dated:** March 31, 1995

**Revised:** July 8, 2013

## INTRODUCTION

**Eureka 31 Solid MIG Wires** are drawn, cleaned, spooled and packaged to obtain smooth wire feeding with a stable spatter free arc. These wires are designed for the most critical applications where weld metal cleanliness is most important.

## METALLURGICAL CHARACTERISTICS

**Eureka 31 Solid MIG Wires** is an AISI type H-13 hot working tool steel alloy that is extremely tough. This alloy displays excellent retention of hardness at elevated temperatures yielding excellent abrasion resistance. It also displays good impact resistance imparting good notch toughness and has moderate wear resistance. **Eureka 31** has an as welded hardness of 49 - 54 HRC.

## RECOMMENDED APPLICATIONS

**Eureka 31** is an excellent choice for press forging type dies where high heat and abrasion are encountered. It is highly resistant to heat checking when subjected to alternating heating and cooling cycles. Several high volume forgings that demand the ultimate in weld metal mechanical properties for the forging industry are connecting rods, hand tools, sleeve yoke, and cam shafts. These applications are relatively shallow and for the most part small. Other forged products would

include earth moving equipment and farm implements such as pipe wrenches, crankshafts, hooks, and cam rings.

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## WELDING PARAMETERS

SIZE	AMPERAGE	VOLTS
.035" 1.0mm	100 – 225	14 – 28
.045" 1.2mm	125 – 250	16 – 28
1/16" 1.6mm	180 – 400	22 – 33

Use DC Current with a Stick Out of  
1/4" - 1 1/4" (6mm-32mm)

## RECOMMENDED SHIELDING GASES

75% Argon, 25% Co2

90% Argon, 10% Co2

92% Argon, 8% Co2

100% CO2 may produce lower quality arc conditions

## GAS FLOW RATE

20-60 CFH

## TYPICAL CHEMISTRY

C	Mn	Si	Cr	Mo	V
.35	.80	.80	5.0	1.5	1.0

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## PHYSICAL AND OR MECHANICAL PROPERTIES

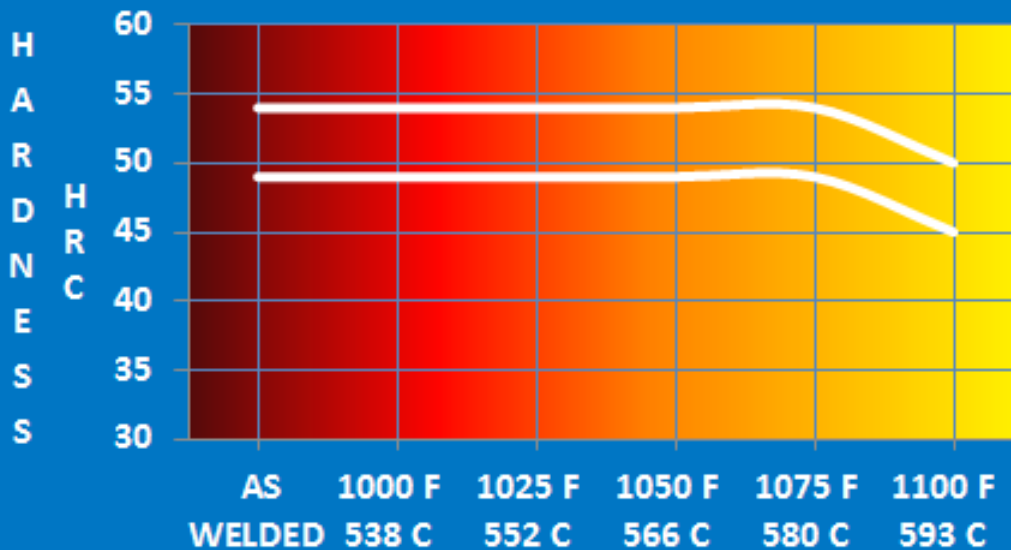
### AS WELDED HARDNESS

**49-54 HRC**

### TEMPERING DATA

The tempering data is to be used as a guide. Your results may differ due to the many variables in the utilization of this product.

#### SINGLE TEMPER CURVE EUREKA 31



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## DOUBLE TEMPER CURVE EUREKA 31

