

Eureka Welding Alloys

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TECHNICAL DATA FOR EUREKA 31 ELECTRODES

Dated: March 31, 1995

Revised: July 8, 2013

INTRODUCTION

Eureka 31 Electrode is a smooth running rutile coated stick electrode with H-13 chemistry. The electrodes are designed for superior weldability having no spatter, a stable arc, good wet out, and easy slag removal.

METALLURGICAL CHARACTERISTICS

Eureka 31 Electrode 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 Electrode 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 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	Mo	V
.35	.80	.80	5.0	1.5	1.0

PHYSICAL AND OR MECHANICAL PROPERTIES

AS WELDED HARDNESS

49-54 HRC

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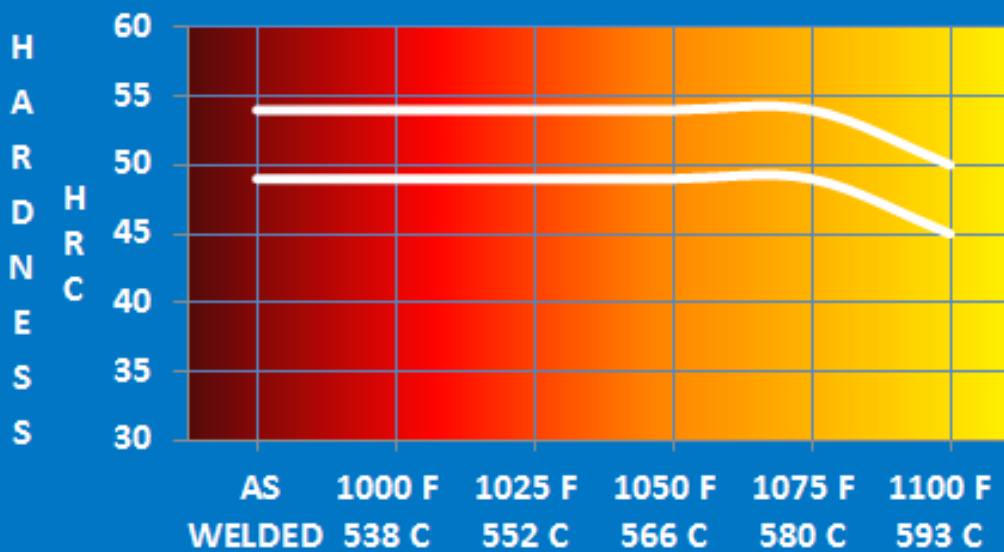
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TEMPERING DATA

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

