

# Eureka Welding Alloys

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## TECHNICAL DATA FOR EUREKA 78 FLUX CORED WIRE

**Dated:** July 8, 2013

**Revised:** December 11, 2015

## INTRODUCTION

**Eureka 78 Flux Cored Wire** is a Modified H-12 hot working tool steel alloy. The wire has a smooth spray transfer arc with a thin slag system that is easily removable. The wire is formulated to develop high quality weld deposits that are porous and crack free. The wire is designed for multi-pass welding which greatly increases productivity.

## METALLURGICAL CHARACTERISTICS

**Eureka 78 Flux Cored Wire** is a Chromium, Molybdenum, Tungsten, and Vanadium hot working alloy. It has excellent hot hardness, wear resistance and displays reasonable impact resistance. The as welded hardness is 49 - 54 HRC

## RECOMMENDED APPLICATIONS

**Eureka 78 Flux Cored Wire** is for the welding of H-12 hot work tools and dies. It is used on hot and cold trim and shearing dies, punches, extrusion dies and die casting dies. It is an excellent choice for press forging dies where high heat and abrasion are encountered. A typical application is the automobile connecting rod forging. High volume forgings that demand the ultimate in weld metal mechanical properties would be connecting rod, sleeve yoke, and hand tools. These applications are relatively shallow and usually high production. Other forged products would include earth moving equipment and farm implements, hooks and lever brake bands and other

shallow impressions, such as hand tools, pipe wrenches, and crankshafts.

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## WELDING PARAMETERS

TYPE	SIZE	AMPERAGE	VOLTS
Metal Cored Wire	.045" 1.2 mm	125 – 225	16 – 28
Metal Cored Wire	1/16" 1.6mm	180 – 400	25 – 33
Flux Cored Wire	1/16" 1.6mm	180 – 400	25 – 33
Flux Cored Wire	3/32" 2.4mm	350 – 600	27 – 35
Flux Cored Wire	1/8" 3.2mm	500 – 900	30 – 38

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 will produce low quality arc conditions

## GAS FLOW RATE

.045" 1.2 mm 20-50 CFH

1/16" 1.6mm 30-60 CFH

3/32" 2.4mm 80-120 CFH

1/8" 3.2mm 80-120 CFH

## TYPICAL CHEMISTRY

C	Mn	Si	Cr	Mo	W	V	Ni
.30	.60	.80	4.8	2.0	2.0	.30	.60

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## PHYSICAL AND OR MECHANICAL PROPERTIES

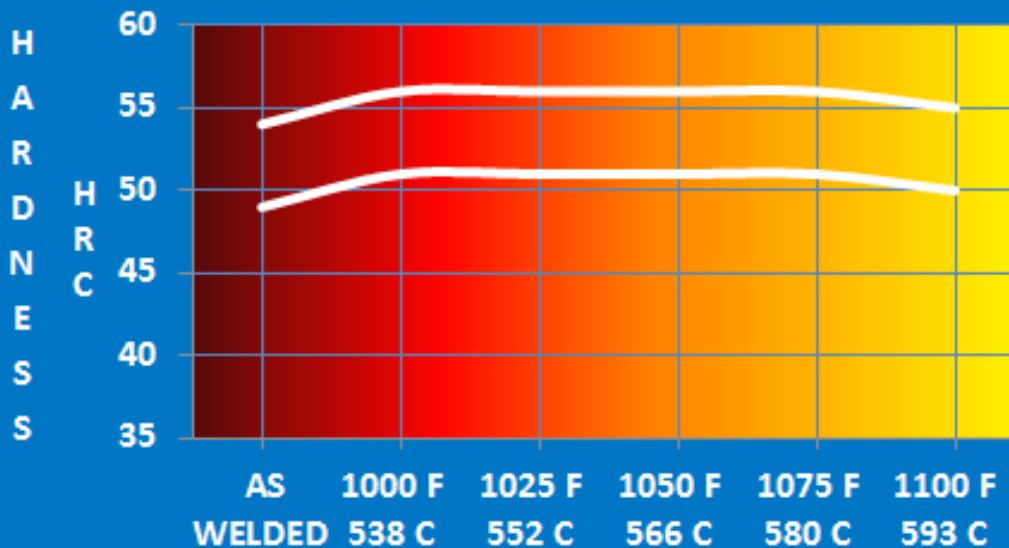
### WELDED HARDNESS

**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 78



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## DOUBLE TEMPER CURVE EUREKA 78

