

# Eureka Welding Alloys

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## TECHNICAL DATA FOR EUREKA 640 FLUX CORED WIRE

**Dated:** March 31, 1995

**Revised:** July 8, 2013

## INTRODUCTION

**Eureka 640 Flux Cored Wire** is a medium alloy filler metal. 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 640 Flux Cored Wire** is a carefully balanced Chromium, Molybdenum and Nickel alloy that has an as welded hardness of 38-43 HRC. This alloy displays high impact properties and moderate abrasion resistance. The major micro constitute consists of bainite which displays high crack resistivity.

## RECOMMENDED APPLICATIONS

**Eureka 640 Flux Cored Wire** is often used for the welding of forging dies when upgrading from standard die block metal in the temper two hardness range. It is utilized in the repair of components such as rams, sow blocks and die holders where increased hardness and wear is required over that of the Eureka N-2, Eureka 625 and Eureka 635. It is utilized as an underlay alloy in crack sensitive areas often in the bottom of impressions.

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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 may produce lower 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 Ni

.12 1.2 .35 2.7 1.7 4.2

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## PHYSICAL AND OR MECHANICAL PROPERTIES

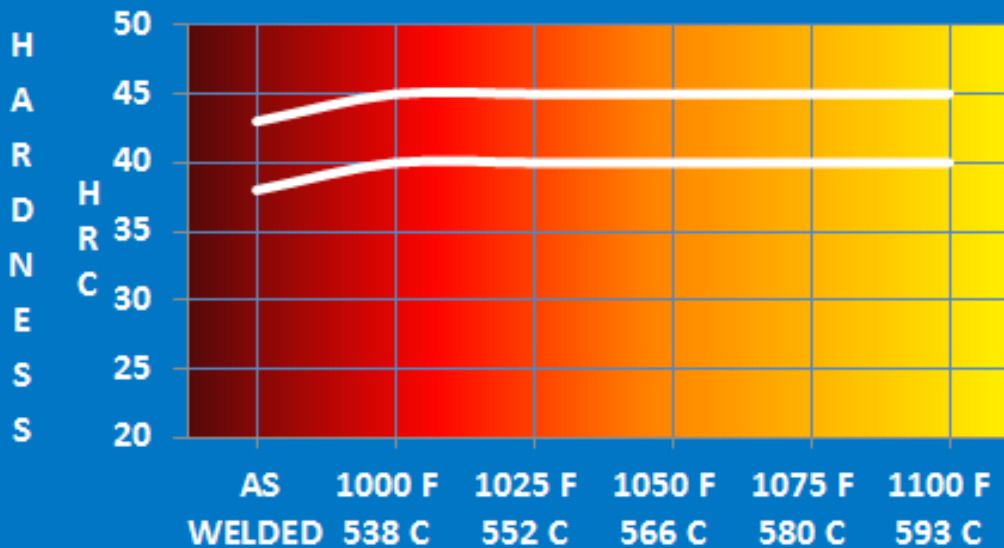
### AS WELDED HARDNESS

**38-43 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 640



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## DOUBLE TEMPER CURVE EUREKA 640

