

# Eureka Welding Alloys

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## TECHNICAL DATA FOR EUREKA 635 FLUX CORED WIRE

**Dated:** March 31, 1995

**Revised:** July 8, 2013

## INTRODUCTION

**Eureka 635 Flux Cored Wire** is a low 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 635 Flux Cored Wire** is a carefully balanced Chromium, Molybdenum and Nickel alloy that has an as welded hardness of 34-40 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 635 Flux Cored Wire** is often used for the welding of forging dies when repairing standard die block metal in the temper two hardness range. It exhibits good wear characteristics and much greater crack resistance when compared to standard die block metal. It is utilized as an underlay alloy for crack sensitive areas in the bottom of impressions. It is also utilized in the repair of shanks and components such as rams, sow blocks and die holders where increased hardness and strength is required over that of the Eureka N-2 and Eureka 625.

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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

.08 1.2 .35 1.5 1.1 2.3

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## PHYSICAL AND OR MECHANICAL PROPERTIES

**TENSILE STRENGTH 166,000 psi**

**YIELD STRENGTH 102,000 psi**

**ELONGATION 12%**

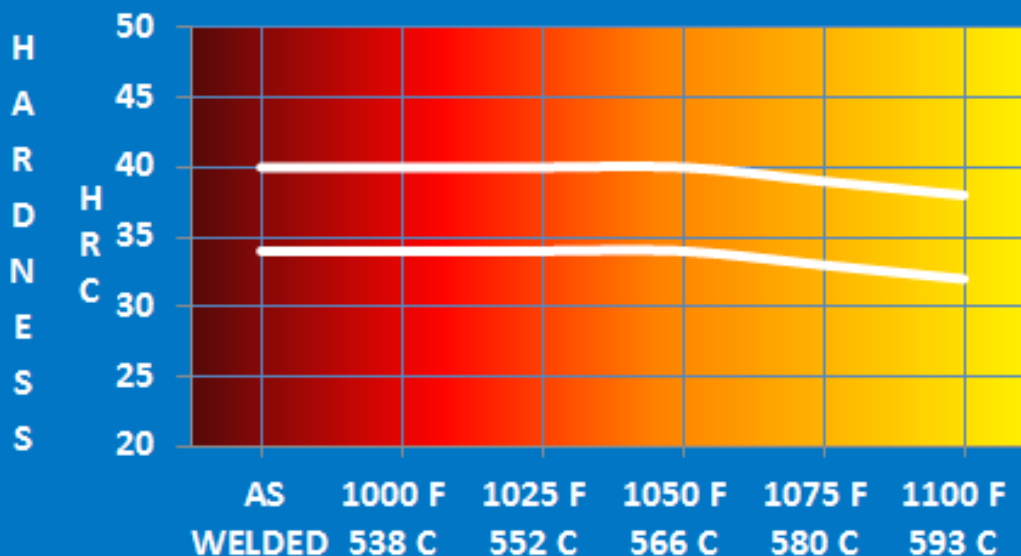
**CHARPY "V" NOTCH 35.3 Ft/lbs. @ 450 f**

**AS WELDED HARDNESS**

**34-40 HRC**

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 635



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## DOUBLE TEMPER CURVE EUREKA 635

