

# Eureka Welding Alloys

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## TECH DATA FOR EUREKALLOY "X" FLUX CORED WIRE

**Dated:** June 11, 1998

**Revised:** June 24, 2013

## INTRODUCTION

**Eurekalloy "X" Flux Cored Wire** is a Cobalt base, hard facing filler metal that conforms to AMS 5385. The wire can be welded at low amperages, which reduces penetration and dilution. The weld deposits have good wet out. This gives a flat smooth surface to machine.

## METALLURGICAL CHARACTERISTICS

### Chemical Composition Range for Eurekalloy "X"

<b>C:</b>	0.20 – 0.30
<b>Mn:</b>	1.00 max.
<b>Si:</b>	1.00 max.
<b>Cr:</b>	25.50 – 29.00
<b>W:</b>	0.50 max.
<b>Fe:</b>	2.00 max.
<b>Ni:</b>	1.75 – 3.25
<b>Co:</b>	Balance

The room temperature hardness of **Eurekalloy "X"** (undiluted weld metal) is typically 30 - 35 HRC; this alloy will work harden up to 44 - 48 HRC. This alloy is most noted for resistance to softening at elevated temperatures. Hot hardness values of 22 HRC are maintained at 1200 °F. This alloy displays good abrasion resistance due to the moderate carbide formation and its work hardening abilities. The metal to metal wear is outstanding due to the low coefficient of friction because its ability to take a high polish. The large addition of Chromium imparts good oxidation and corrosion resistance up to 1800 °F. The impact resistance and machinability of this alloy is generally considered good.

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### RECOMMENDED APPLICATIONS

Commonly used on press forging dies, hot trimming, punching, and shearing dies, extrusion dies, and dummy blocks. Also used in high pressure, high temperature, and corrosive environments.

### WELDING PARAMETERS

Type	Size	Amp Range	Volts
Metal Cored Wire	.045"	125 – 225	16 – 28
Metal Cored Wire	1/16"	180 – 400	25 – 33
Flux Cored Wire	1/16"	180 – 400	25 – 33
Flux Cored Wire	3/32"	350 – 600	27 -- 35
Flux Cored Wire	1/8"	500 – 900	30 -- 38

**Use DCEP and Electrical Stick Out 1"**

### Recommended Shielding Gases

**75% Argon, 25% Co2  
90% Argon, 10% Co2**

### Cubic Foot Per Hour

**.045" 30-60  
1/16" 40-70  
3/32" 80-120  
1/8" 80-120**

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