

Eureka Welding Alloys

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TECHNICAL DATA FOR EUREKA ROBOWELD 635 METAL CORED WIRE

Dated: January 30, 2015

INTRODUCTION

Eureka RoboWeld 635 Metal Cored Wire was specifically developed for robotic welding of forging dies of most any designs. The RoboWeld wires when used with the **NEWELD** robotic process do not require peening of weld metal due to lower welding stresses. This is accomplished through a combination of five factors;

- 1) High quality wires utilizing the very best raw materials available.
- 2) The programmed pulse arc welding energy has lower penetration, dilution, and heat input.
- 3) The programmed robot maintains precise torch angles, stick out length and travel speeds.
- 4) Programed arc start up and arc ending amperages and voltages are ramped up and down.
- 5) Only a few layers of weld metal are required to achieve nearly pure weld metal.

Eureka RoboWeld 635 Metal Cored Wire is a medium alloy welding wire that 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.

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METALLURGICAL CHARACTERISTICS

Eureka RoboWeld 635 Metal 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 RoboWeld 635 Metal 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.

WELDING PARAMETERS

TYPE	SIZE	AMPERAGE	VOLTS
Metal Cored Wire	1/16" 1.6mm	180 – 350	24 – 31

**Use DC Current with a Stick Out of
1/2"-3/4" (12mm-19mm)**

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RECOMMENDED SHIELDING GASES

90% Argon, 10% Co2

92% Argon, 8% Co2

GAS FLOW RATE

1/16" 1.6mm 40-80 CFH

TYPICAL CHEMISTRY

C	Mn	Si	Cr	Mo	Ni
.08	1.2	.33	1.5	1.1	2.3

PHYSICAL AND OR MECHANICAL PROPERTIES

TENSILE STRENGTH 142,000 psi

YIELD STRENGTH 102,000 psi

ELONGATION 12%

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

AS WELDED HARDNESS

34-40 HRC

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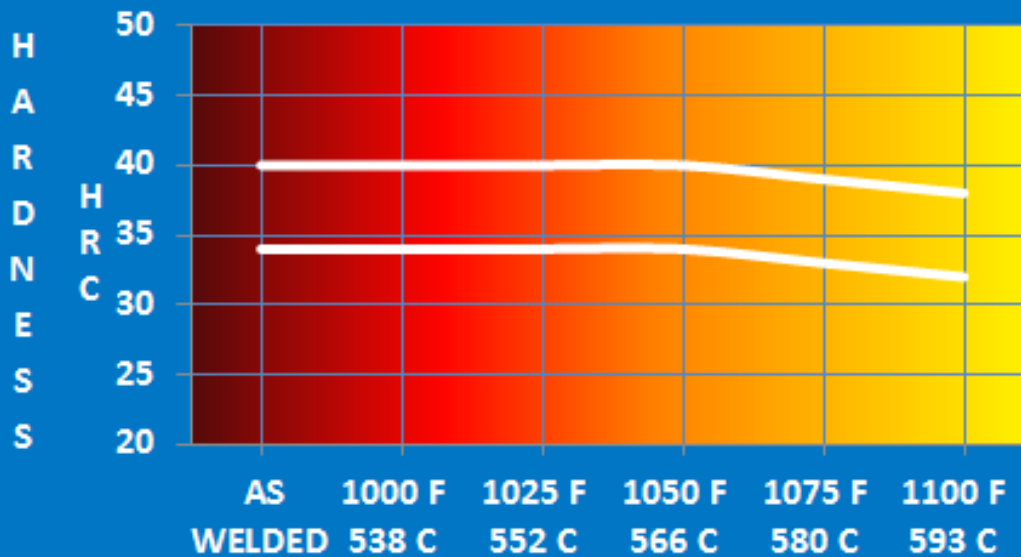
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The tempering data is to be used as a guide. Your results may differ due to the many variables in the utilization of this product.

SINGLE TEMPER CURVE EUREKA 635



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DOUBLE TEMPER CURVE EUREKA 635

