

Eureka Welding Alloys

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TECHNICAL DATA FOR EUREKA ROBOWELD 78 METAL CORED WIRE

Dated: March 16, 2016

Revised

INTRODUCTION

Eureka RoboWeld 78 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.

The RoboWeld 78 produces a modified martensitic H-12 hot working tool steel deposit. The wire has a smooth spray transfer arc with nearly no slag to contend with. The wire is formulated to develop high quality weld deposits that are free of defects. The wire is designed for multi-pass welding which greatly increases productivity.

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METALLURGICAL CHARACTERISTICS

Eureka RoboWeld 78 Metal 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 RoboWeld 78 Metal Cored Wire is for the welding of H-12, H-13 or FX-2 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.

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	W	V	Ni
.30	.60	.80	4.8	2.0	2.0	.30	.60

PHYSICAL AND OR MECHANICAL PROPERTIES

WELDED HARDNESS

49-54 HRC

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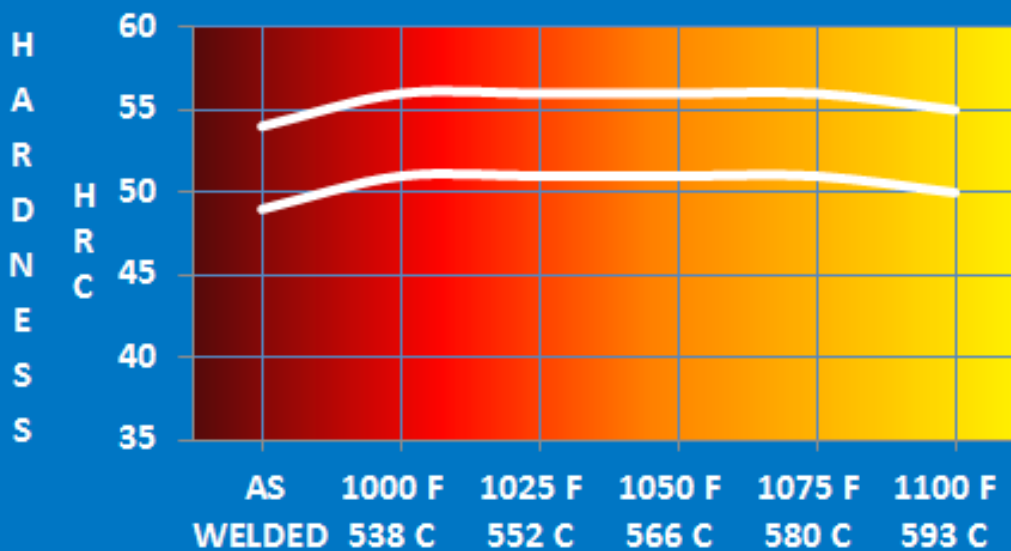
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TEMPERING DATA

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

