

Eureka Welding Alloys

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TECHNICAL DATA FOR EUREKA ROBOWELD1216 METAL CORED WIRE

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Revised:

INTRODUCTION

Eureka RoboWeld 1216 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 1216 produces a martensitic high speed 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 1216 Metal Cored Wire are an AISI M-2 molybdenum high speed steel tool alloy that has an as welded hardness 55–60 HRC. This alloy has extreme wear resistance and moderate impact resistance. Tempering the weld deposits at 1025 F results in a secondary hardness of 62 HRC and higher.

RECOMMENDED APPLICATIONS

Eureka RoboWeld 1216 Metal Cored Wire is recommended for welding AISI M-2 molybdenum high speed steel tools and other high speed tool steel grades. Typical applications encountered are trim steels, piercing punches, broaches, reamers, knives, drills, taps and shears. **Eureka 1216** is utilized in mainly high wear areas and also used on AISI D-2 where a complete heat treat cycle will be used.

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
.85	.30	.30	4.3	5.0	6.2	2.0

PHYSICAL AND OR MECHANICAL PROPERTIES

Welded Hardness

55-60 HRC

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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 1216

