

# Eureka Welding Alloys

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## TECHNICAL DATA FOR EUREKA ROBOWELD N6 METAL CORED WIRE

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**Revised:**

## INTRODUCTION

**Eureka RoboWeld N6 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 N6 Metal Cored Wire** is a medium alloy filler metal. 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 defect free. The wire is designed for multi-pass welding which greatly increases productivity.

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## METALLURGICAL CHARACTERISTICS

**Eureka RoboWeld N6 Metal Cored Wire** is a carefully balanced Molybdenum, Manganese and Nickel alloy that has an as welded hardness of 25-30 HRC and work hardens up to 40HRC. This alloy displays high impact resistance and moderate abrasion resistance. The microstructure of ferrite and bainite promotes high crack resistivity.

## RECOMMENDED APPLICATIONS

**Eureka RoboWeld N6 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
<b>Metal Cored Wire</b>	<b>1/16" 1.6mm</b>	<b>180 – 350</b>	<b>24 – 31</b>

**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**

## **PHYSICAL AND OR MECHANICAL PROPERTIES**

### **AS WELDED HARDNESS**

**25-30 HRC**

## **TYPICAL CHEMISTRY**

<b>C</b>	<b>Mn</b>	<b>Si</b>	<b>Mo</b>	<b>Ni</b>
<b>.08</b>	<b>1.0</b>	<b>.45</b>	<b>.50</b>	<b>6.0</b>

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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 ROBOWELD N6

