

Eureka Welding Alloys

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TECHNICAL DATA FOR EUREKA N3 FLUX CORED WIRE

Dated: March 31, 1995

Revised: July 8, 2013

INTRODUCTION

Eureka N3 Flux Cored Wire is a medium alloy filler metal. The wire 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.

METALLURGICAL CHARACTERISTICS

Eureka N3 Flux Cored Wire is a carefully balanced Molybdenum, Manganese and Nickel alloy that has an as welded hardness of 30-35HRC and tempers up to 35-40HRC. This alloy displays high impact resistance and moderate abrasion resistance. The microstructure of ferrite and bainite promotes high crack resistivity.

RECOMMENDED APPLICATIONS

Eureka N3 Flux 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.

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WELDING PARAMETERS

TYPE	SIZE	AMPERAGE	VOLTS
Metal Cored Wire	.045" 1.2 mm	125 – 225	16 – 28
Metal Cored Wire	1/16" 1.6mm	180 – 400	25 – 33
Flux Cored Wire	1/16" 1.6mm	180 – 400	25 – 33
Flux Cored Wire	3/32" 2.4mm	350 – 600	27 – 35
Flux Cored Wire	1/8" 3.2mm	500 – 900	30 – 38

Use DC Current with a Stick Out of
1/4" - 1 1/4" (6mm-32mm)

RECOMMENDED SHIELDING GASES

75% Argon, 25% Co2

90% Argon, 10% Co2

92% Argon, 8% Co2

100% CO2 may produce lower quality arc conditions

GAS FLOW RATE

.045" 1.2 mm 20-50 CFH

1/16" 1.6mm 30-60 CFH

3/32" 2.4mm 80-120 CFH

1/8" 3.2mm 80-120 CFH

TYPICAL CHEMISTRY

C Mn Si Mo Ni

.08 .55 .55 2.0 4.0

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PHYSICAL AND OR MECHANICAL PROPERTIES

AS WELDED HARDNESS

30-35 HRC

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.

