

Eureka Welding Alloys

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TECHNICAL DATA FOR EUREKA 645 FLUX CORED WIRE

Dated: March 31, 1995

Revised: July 8, 2013

INTRODUCTION

Eureka 645 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 645 Flux Cored Wire is a carefully balanced Chromium, Molybdenum and Nickel alloy that has an as welded hardness of 45-50 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 645 Flux Cored Wire is used for the welding of hammer dies and many types of press dies. It is used on connecting rods, crankshafts and yokes. It is good for intricate impressions that require high strength and good wear resistance. This alloy has good hot hardness and is resistant to heat checking. The high alloy content promotes good resistance to oxidation at elevated temperatures.

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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 Cr Mo Ni

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PHYSICAL AND OR MECHANICAL PROPERTIES

AS WELDED HARDNESS

45-50 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.

SINGLE TEMPER CURVE EUREKA 645



