

Eureka Welding Alloys

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TECHNICAL DATA FOR EUREKA EXP-10 METAL CORED WIRE

Dated: March 31, 1995

Revised: July 8, 2013

INTRODUCTION

Eureka EXP-10 Metal Cored Wire is an iron based alloy for welding on cast iron. 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 porous and crack free. The wire is designed for multi-pass welding which greatly increases productivity.

METALLURGICAL CHARACTERISTICS

Eureka EXP-10 Metal Cored Wire deposits are designed to form an austenitic band over the cast iron in one layer. The alloy in multiple layers is sufficiently hard enough to work on the noncritical areas of the die. The hardness of pure weld metal is 35-40 HRC. Where additional hardness is required **Eureka EXP-10** provides an excellent underlay.

RECOMMENDED APPLICATIONS

Eureka EXP-10 Metal Cored Wire is mainly used as an underlay on cast iron. The first layer of **EXP-10** on cast iron is soft and crack free. This makes for a good base for a hard alloy overlay. Eureka EXP-10 is commonly used for the repair and reclamation of all grades of nodular and grey cast irons in any heat treated condition. It is used on automotive cast iron draw dies, punches and binder rings. The alloy is good for engineering changes and repair of slug marks. It is NOT recommended for joining.

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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 Ni Mo

.10 1.0 .60 5.0 10.0 1.0

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PHYSICAL AND OR MECHANICAL PROPERTIES

AS WELDED HARDNESS

35-40 HRC

First Layer on Cast Iron: 20HRC