

Ni Based, Self-Fluxing Alloy

# 6606 PG

## Plasma Transferred Arc Powder



# COATING

- Outstanding corrosion resistance in a wide variety of applications
- Very good abrasion resistance
- Excellent when blended with tungsten carbide materials
- Low coefficient of friction in metal-to-metal wear applications



## DESCRIPTION:

Eutroloy 6606PG is a nickel-chromium-molybdenum alloy powder designed for the plasma transferred arc process. The coating deposits produced are hard, dense, essentially pore free and are alloyed with the base metal. The levels of alloying elements in the powder are synergistically balanced to insure good weldability along with excellent performance over a broad range of corrosion environments. Applications for 6606PG coatings include those that require a unique combination of resistance to low stress abrasion and corrosion. The recommended method of finishing is by grinding with coarse grit silicon carbide wheels.

## PROCEDURE FOR USE:

Remove damaged material. Clean areas to be welded. Match heat input during welding to component, its material and dimensions, and follow the prepared welding procedure for the specific base metal chemistry. Keep dilution with base metal low. Allow workpiece to slowly cool upon completion of welding.

## COATING PROPERTIES:

Macro Hardness: HRC 55  
Micro Hardness: HV 550  
Coating Density: 8.1 g/cc  
Max. Service Temp.: 1922°F (1050°C)  
G65 Volume Loss: 25mm<sup>3</sup> (Sch A)  
Magnetic Response: Non-magnetic  
Expansion Coeff.: 12.2 x 10<sup>-6</sup> (room temp. - 1112° F (600°C))

## PARTICLE SIZE:

US Mesh	um	%w/w
+80	+180	5 max
-270	-53	5 max

## POWDER PROPERTIES:

Chemistry/Matrix:

Boron:	3%	Silicon:	4.4%
Chromium:	17.5%	Iron:	3.5%
Nickel:	Balance	Carbon:	0.3%
Molybdenum:	12.0%	Copper:	2.0%

## TYPICAL APPLICATIONS:

- Waste Incineration
- Chemical Processing
- Recovery Boilers
- Fly Ash Fans

## PARAMETERS: Plasma Transferred Arc

System: GAP 2001 and 3001 systems

Torch: E52

Anode: dictated by part geometry (1.2, 2.0 or 3mm / 90° or 180°)

Cathode: standard

Shielding Gas Nozzle: standard or high deposit

Pilot Gas: Argon 2.5 Bar - 37 psi (1.5 L/min)

Carrier Gas: 2.5 Bar - 37 psi (1.8-2.5 L/min)

Shielding Gas: Argon/5% hydrogen (10-15 L/min)

Powder Feeder: EP2

Powder Wheel Speed: dictated by part geometry: 20-100 %

Powder Feed Rate: dictated by part geometry: 5-15 lbs/hr (2.2-6.8 kgs/hr)

Amperage\*: dictated by part geometry: 90-200 A

Voltage\*: dictated by part geometry: 19-28 V

**\*NOTE:** *amperage and voltage should be kept as low as possible to maintain WC integrity, while maintaining a well bonded overlay.*

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