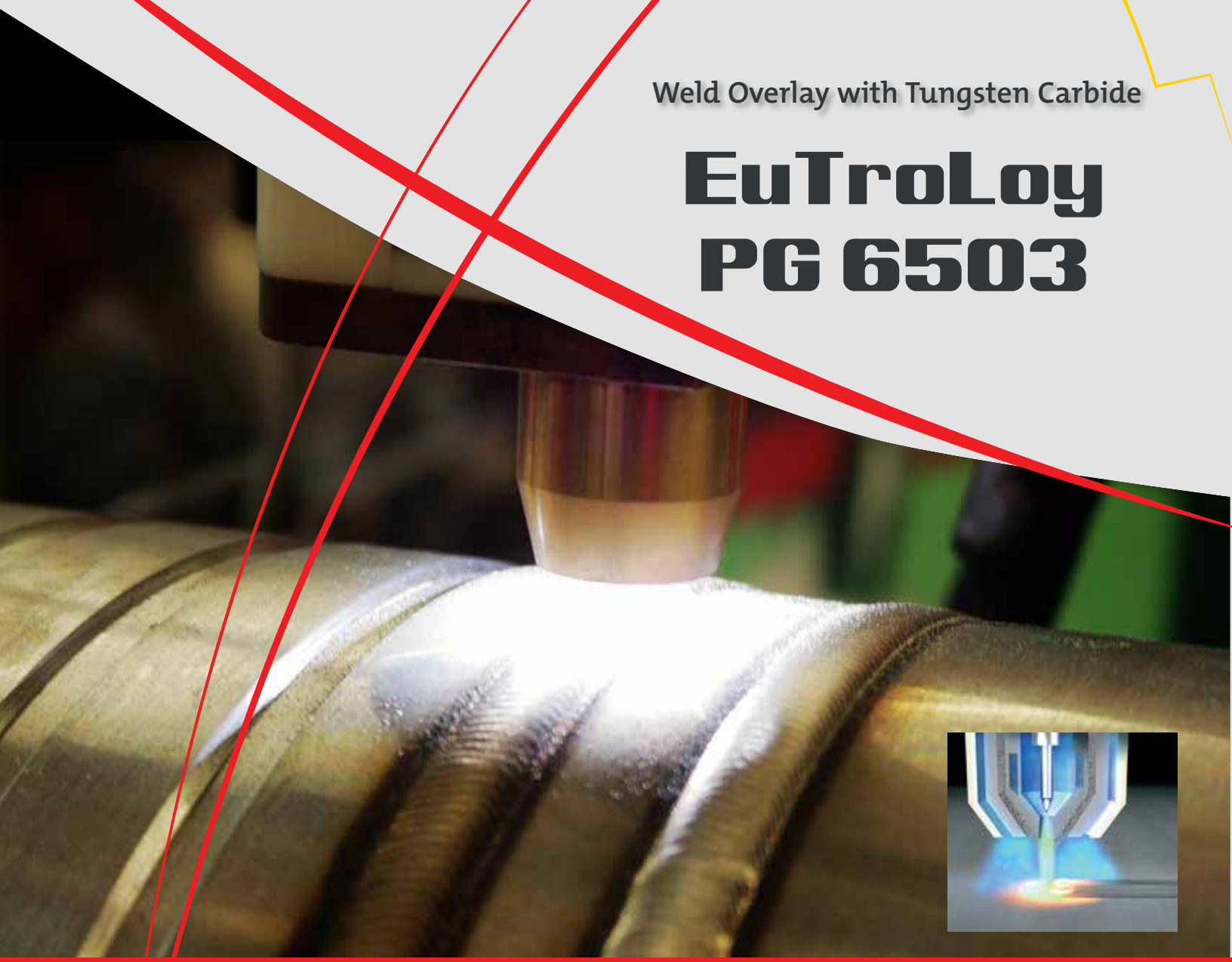
Castolin Eutectic®
Eutectic Castolin

Weld Overlay with Tungsten Carbide

EuTroLoy PG 6503



- Nickel based, chromium-free, matrix with maximum Tungsten Carbide concentration
- Up to 3mm weld overlay thickness per pass
- Wear resistant overlay on steels, stainless steels, cast irons and nickel based alloys
- Excellent carbide distribution throughout the overlay
- Low dilution means full coating properties for extended wear resistance

EuTroLoy PG 6503

EuTroLoy PG 6503 is a blended powder consisting of a nickel, chrome-free, matrix with cast and crushed tungsten carbide. The powder is specifi cally designed for use with the plasma transferred arc welding process. The coatings produced are hard, dense and especially resistant to low stress abrasion and erosion. Careful control of the chemistry and particle size distribution of both powder components assures consistent performance in the most challenging applications.

PG 6503 is made for use in Eutectic's GAP plasma transferred arc equipment. Please contact Eutectic to determine which GAP equipment is right for your coating needs.

TECHNICAL DATA

Coating Properties	
Typical matrix hardness:	53-55 HRC
Microhardness of WC:	2400 (50-100g load kg/mm^2)
Volume of WC:	~ 60%
Typical matrix chemistry:	Ni, B, Si
ASTM G-65 Test Results:	9-11mm^3 volume loss (Ref. D2 tool steel 32 mm^3)
Powder Properties	
Carbide:	Cast and Crushed WC-WC^{2}C
Carbide to matrix ratio:	60/40
Melting temperature:	~ 2500°F (1370°C)
Max. operating temp:	~ 1200°F (650°C)
Typical Hardness	Matrix 50 HRC (carbide 2400HV)
Density:	0.405 lb/in^3 (11.2g/cm^3)
Thickness limit:	Up to 3 mm per pass
Deposition rate:	5-20 lb/hr (2.2-9kg/hr)

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 specifi c base metal chemistry. Keep dilution with base metal low. Allow workpiece to slowly cool upon completion of welding.

Finishing: Coatings of PG 6503 can be finished by grinding.

Parameters for 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.

TYPICAL APPLICATIONS

Oil and Gas: Stabilizer and hardbanding applications

Agricultural: Ground engagement tools, rub bars, decanter screws

Mining: Shovel bucket teeth, shrouds and adaptors, conveyer screws

Utilities: Fan blades, clinker grinders

Recyclers: Wear guides, defl ectors, mixing & paddles

Castolin Eutectic® Eutectic Castolin

Eutectic Corporation:
N94 W14355 Garwin Mace Dr.
Menomonee Falls WI, 53051 USA
+1 800. 558. 8524 • eutectic.com

Eutectic Canada:
428, rue Aimé-Vincent Vaudreuil-Dorion,
Québec J7V 5V5 Canada
+1 800. 361. 9439 • eutectic.ca

Follow Us On...

01-2024