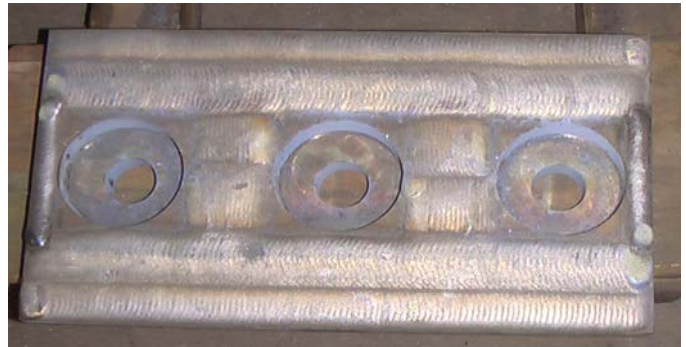
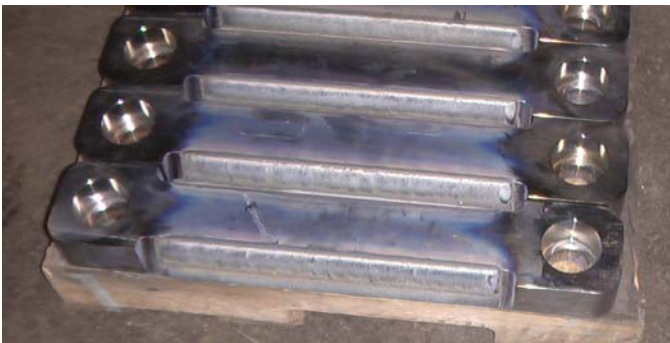




INDUSTRIAL LTD REVOLUTION

Plasma Transfer Arc (PTA)

Hard facing by Plasma Transfer Arc (PTA) has many advantages and markets; Agricultural, Lawn and Garden, and Construction, Industrial, Mining and Railroad Equipment.



Mining components, 3mm to 6mm tungsten carbide overlay applied. 250 of each part per year.

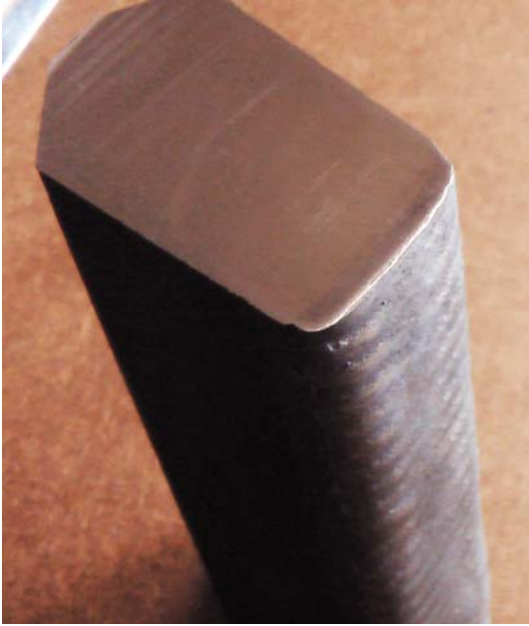


Ground excavation teeth, 3mm tungsten carbide or 3 mm chrome carbide applied to tips and around locking mechanism to increase cast life. Customer has doubled the life of the tooth. 500 parts per year.

A typical part will wear out in sections and the rest is still good. Industrial Revolution Ltd looks at worn parts and puts protection at these locations to make the achieve even wear and the longest life possible.

If the part is a hardened, high alloy cast, or critical dimension, we pre and post heat as required and even stress relieve if the situation calls for it.

20 Morrell Street, Brantford Ontario, N3T 4J2
Tel: 519-751-0867, Fax: 519-751-7792
e-mail: info-request@industrial-revolution.net



One of the many advantages of the PTA process is the very shallow weld dilution profile. From the photo you can see a distinct line where the tungsten carbide overlay and the base metal meet. The overlay material has minimal dilution from the base metal with this process.

Plasma transferred arc (PTA) hard facing is a versatile method of depositing high-quality metallurgical fused deposits on relatively low cost surfaces. Soft alloys, medium and high hardness materials, and carbide composites can be deposited on a variety of substrates to achieve diverse properties such as mechanical strength, wear and corrosion resistance, and creep. PTA hard facing has several significant advantages over traditional welding processes such as oxyfuel (OFW) and gas tungsten arc (GTAW) welding.

Grouser Bar, 3mm Tungsten Carbide

The PTA process:

- PTA is easily automated, providing a high degree of reproducibility.
- PTA allows precise metering of metallic powder feedstocks. As a result a lesser quantity of material is used when compared to other traditional welding processes.
- PTA permits precise control of important weld parameters i.e. powder feed rates, gas flow rates, amperage, voltage, and heat input, ensuring a high degree of consistency from lot to lot. Controlled heat input ensures weld dilutions that can be controlled from 5-7% in most cases.
- PTA produces deposits of a given alloy that are tougher and more corrosion resistant than counterparts laid down by GTAW or OFW processes. Weld deposits are characterized by very low levels of inclusions, oxides, and discontinuities.
- PTA produces smooth deposits that significantly reduce the amount of post weld machining required.
- PTA parameters can be adjusted to provide a variety of deposits in thicknesses from 1.2 to 2.5 mm (0.05 to 0.10 in.) or higher. These can be deposited by a single pass at a rate of 1 kg/h up to 13 kg/h depending upon the torch, powder and application.