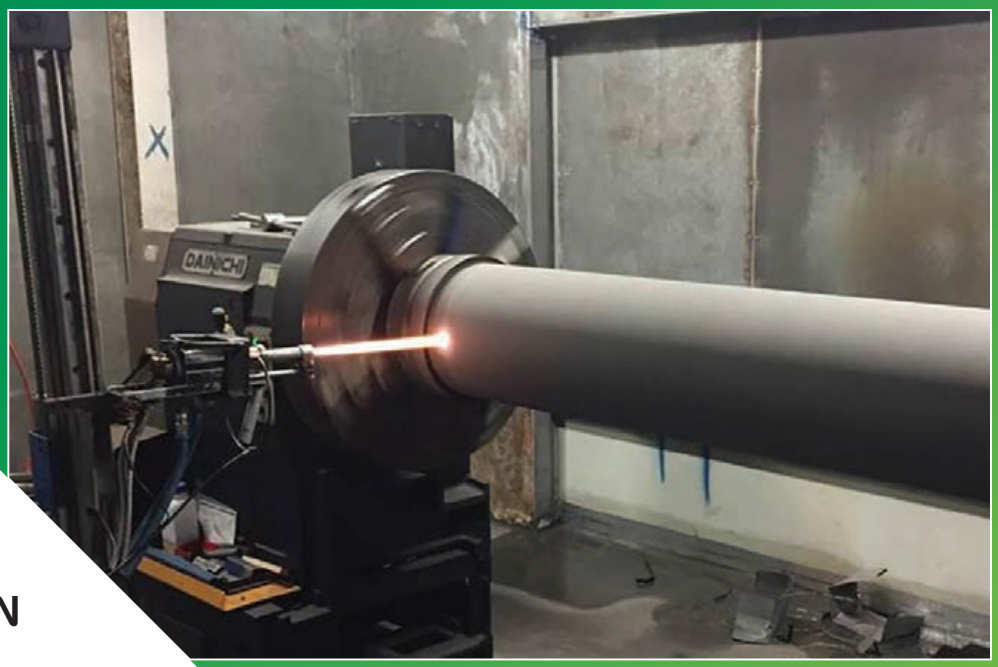
PRODUCT APPLICATION NO: HVGMTB202



The HP HVOF coating a long shaft.

PRODUCT APPLICATION

LaserBond® HP HVOF Tungsten Carbide

LaserBond® HP HVOF Process

LaserBond® High Pressure, High Velocity Oxygen Fuel (HP HVOF) thermal spray is a high-kinetic process that uses an oxygen/ fuel combustion to heat, plastify and propel a selected powder feedstock. The powder is injected into the supersonic gas jet where the particles are accelerated to a velocity of up to 750 m/s. Particles impinging on the surface at high speed of the substrate subsequently form the coating. The resulting HP HVOF coating has outstanding mechanical adhesion to the substrate material.

Advantages of LaserBond® HP HVOF Process

- High mechanical bonding strength to the base material – above 83MPa
- High achievable surface finish
- Low oxide content in coating
- Low porosity coating – typically less than 3%
- Low substrate material stress
- No heat effects on the substrate material due to mechanical bond

LaserBond® HV HVOF Tungsten Carbide Coatings

The suite of LaserBond HP HVOF Tungsten Carbide (WC) coating utilizes extremely fine WC particles in proprietary hard alloy matrixes resulting in severe service surface coatings. The coatings offer:

- Hardness from 1,150 to 1,350 HV for excellent sliding abrasion resistance
- WC with concentrations of 70 - 88% with particles from 200 to 3,000 nm for outstanding particle abrasion with a smooth surface finish.
- Coatings with porosity <3% and no cracks, reducing the risk of corrosion and spalling from under corrosion.

LASERBOND®
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HP HVOF WC Coating Alloys

Having a suite HP HVOF coatings allows LaserBond® to select the most appropriate coating material to suit the service environment of our customers wearing components.

PT3150

PT3150 is an 86% WC coating in a Cobalt alloy matrix. It will provide great fine particle, sliding and general wear and corrosion resistance in many applications.

PT3154

Similar to PT3150, PT3154 is an 86% WC coating in a Cobalt alloy matrix. Utilising ultrafine WC in the range of 200 – 1,500 nm, this coating is particularly useful for coatings where the service surface finish is critical.

PT3130

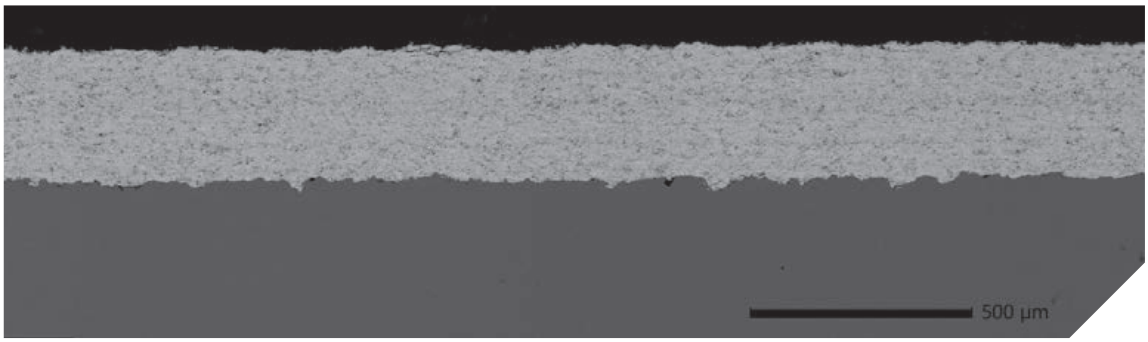
PT3130 is an 88% WC coating in a proprietary Cobalt matrix. It will provide great fine particle, sliding and general wear and corrosion resistance in many applications.

PT3170

PT3170 is a 93% WC/Cr3C2 coating, with a hard corrosion resistant matrix, making it the suitable choice for environments where both corrosion and wear are an issue. PT3170 is also thermally stable at up to 700°C.

Typical Applications/ Industries

- Shaft wear areas including seals and bearing journals
- Minerals processing consumable equipment including shaft sleeves
- Steel and Aluminum Industry rolls
- Reclamation of worn industrial components anywhere the above properties are required.



SEM Montage image of an HP HVOF PT3154 coating. This coating has minimal porosity, is crack free and well bonded to the base material.

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ISO 14001 Environment management system
ISO 45001 OH&S management system
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