

## **Thermaspray showcases thermal spray coating technologies and welding capabilities in Limpopo**

Thermaspray showcased its ground-breaking thermal spray coating technologies and Plasma Transferred Arc (PTA) welding process capabilities at the Mining & Technical Exhibitions (MTE) which took place in Lephalale, Limpopo, on 3<sup>rd</sup> August 2017.

Thermaspray's range of superior quality, highly dependable coating and welding technologies protect components operating in extremely harsh environments typically found in the mining, power generation and chemical and petrochemical industries against surface wear and corrosion for improved performance and enhanced lifespan. The subsequent cost-saving benefits Original Equipment Manufacturers (OEMs) and end-users include reduced maintenance, increased uptime and improved productivity.

"Our technologies are ideal for both new as well as worn components in equipment like pumps, gearboxes, compressors and turbines," says Thermaspray Managing Director, Dr Jan Lourens. "The application of applicable protective coatings to OE parts offers substantial cost saving benefits to end-users. Coated OE performance critical parts can be refurbished and re-used whereas uncoated OE parts are normally so badly damaged that refurbishment is impossible.

"The refurbishment of worn parts by applying a protective coating is mostly more affordable compared to replacing it with a new component," continues Dr. Lourens. A worn bearing journal on a pump shaft for example can be refurbished instead of replacing the entire shaft when only a small part is damaged."

Thermaspray's range of protective coating solutions includes thermal spray as well as a range of polymers in partnership with German company, Diamant Metallplastic.

Thermal spray is a collection of techniques which include HVOF (High Velocity Oxygen Fuel), Plasma, Flame spray, Arc spray, etc. used to apply materials to substrates and feature unmatched protection and wear properties. Thermal spray is the method of applying materials onto a prepared base material by heating particles in the stream of a heat source to create a semi-molten state. Particles are then propelled by high velocity onto a prepared

#### Thermaspray (PTY) Ltd

Tel: +27 11 316 6520

Fax: +27 11 316 7527

Email: [info@thermaspray.co.za](mailto:info@thermaspray.co.za)

Website: [www.thermaspray.co.za](http://www.thermaspray.co.za)

#### Physical Address:

3 Axle Drive  
Cnr Axle Drive & Hammer Rd  
Clayville, Extension 11  
Olifantsfontein  
South Africa

#### Postal Address:

PO Box 1152  
Olifantsfontein  
1665



#### JOINT VENTURE:



# THERMASPRAY

substrate where they adhere to the base surface via a mechanical bond; particles continue to build until a specified thickness is attained. Thermal spraying provides increased resistance to high temperatures and oxidation, cavitation, chemicals and corrosion as well as wear resistance (resulting from erosion, abrasion and sliding).

While coatings offer some advantages over welding such as low heat input which avoids the risk of component distortion, certain welding processes can be used for wear and corrosion resistance. PTA welding can provide the necessary component protection with a coating that can withstand these conditions. PTA weld or clad hardfacing offers the ideal solution for applications where severe impact and corrosion are prevalent and that require a coating that can withstand such conditions by providing the necessary protection to the substrate. This welding process is used to produce high-quality weld hardfacings of Ni, Co and Fe alloys, as well as tungsten carbide containing grades of the nickel alloy.

Equipment and components such as steam generators, pumps and turbines in the power generation and chemical and petrochemical industries operate in very harsh environments and are subjected to extreme conditions. "High pressure steam and high temperatures lead to wear of components in the power generation sector," says Dr. Lourens.

ISO 9001:2008 Quality Management System and Eskom Level 1 certified Thermaspray delivers refurbishing, manufacturing and repair services to more or less seven power stations around the country. The company's scope of work spans a wide range of components including spindles, stator pump bearing and accumulator housings, fan blade shafts and liners, pump impellers, nose tip liners, deflector rings, control casings, sleeve and rotation plates, bushes as well as a range of valves.

Chemical reactions and reagents in the hostile chemical and petrochemical industries are detrimental to component surfaces and lead to rapid wear and corrosion and subsequent expensive downtime due to costly replacement or repairs. The corrosion protection properties of polymeric coating products from Thermaspray make them especially suited for the protection of components like pump casings against chemical wear. "Most of the work that we do is on new pump parts such as impellers, rings diffusers, casing rings and shafts for key Original Equipment Manufacturers (OEM) customers but refurbishment is

#### Thermaspray (PTY) Ltd

Tel: +27 11 316 6520  
Fax: +27 11 316 7527  
Email: [info@thermaspray.co.za](mailto:info@thermaspray.co.za)  
Website: [www.thermaspray.co.za](http://www.thermaspray.co.za)

Physical Address:  
3 Axle Drive  
Cnr Axle Drive & Hammer Rd  
Clayville, Extension 11  
Olifantsfontein  
South Africa

Postal Address:  
PO Box 1152  
Olifantsfontein  
1665



#### JOINT VENTURE:



# THERMASPRAY

possible on parts that have not been too severely damaged by corrosion, erosion, wear, tear caused by rust, acid, salt water, etc.," affirms Dr. Lourens.

MTE has brought hundreds of exhibitions to the heart of operations in and around all the major mines and mining areas in southern Africa since 1993. "Our comprehensive product offering is ideally positioned to the power generation and mining industries. With some 170 visitors including OEMs representing these industries, the exhibition presented us with the ideal platform to share our technologies and the added value and cost savings they deliver; all in all we consider the Exhibition to have been extremely successful for Thermaspray," concludes Mr Paul Young (figure 1), Thermaspray's Spray Shop Manager who represented Thermaspray during this expo.



**Figure 1: Paul Young & Mariette Broodryk from Thermaspray exhibiting at the MTE Lephale Expo 2017**

#### Thermaspray (PTY) Ltd

Tel: +27 11 316 6520

Fax: +27 11 316 7527

Email: [info@thermaspray.co.za](mailto:info@thermaspray.co.za)

Website: [www.thermaspray.co.za](http://www.thermaspray.co.za)

#### Physical Address:

3 Axle Drive  
Cnr Axle Drive & Hammer Rd  
Clayville, Extension 11  
Olifantsfontein  
South Africa

#### Postal Address:

PO Box 1152  
Olifantsfontein  
1665



#### JOINT VENTURE:

