

PRESS RELEASE

For immediate Publication

7 November 2018

Thermaspray brings 360° coating solutions with the introduction of Laser Cladding technology

Thermaspray proudly introduces laser cladding technology in a bid to offer customers a 360° coating product and service solution.

“As one of South Africa’s leading surface engineering specialists, we boast an extensive range of coating and welding solutions including thermal spray coatings, polymers and PTA cladding. So, the addition of laser cladding technology was simply a natural progression,” states Thermaspray’s Managing Director, Dr. Jan Lourens. “Our recent investment in a fiber-coupled diode laser makes us one of only a very few companies in South Africa with laser cladding capabilities and we are extremely excited to bring this technology to our customers.”

With over two decades of experience in surface engineering and coating technologies, Thermaspray did its homework to ensure that its laser cladding offering, like all its coating and welding technologies, is compliant to international standards. Laser Cladding Technician, Jordaan Lourens, who has undergone extensive training on laser cladding in Germany, will oversee the new product portfolio.

Laser cladding is a coating process akin to welding and has been especially developed for aggressive environments. Laser cladding forms a metallurgical bond with the substrate material, which makes this technology far less prone to cracking under point loading or impact when compared to thermal spray methods, which are mechanically bonded to the substrate material. Due to laser cladding’s impressive wear and abrasion resistance, this technology helps to extend equipment lifespan for reduced total cost of ownership for customers and end-users.

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While laser cladding is similar to PTA cladding in terms of the types of materials such as stellites, carbides and ceramic metal composites (cermets) that can be deposited onto the substrate, a restriction of PTA cladding comes in when heat input and dilution become critical factors. “Laser cladding offers several important advantages over traditional welding methods, notably low heat input, low dilution and very low porosity, putting laser cladding in a league of its own,” notes Jordaan.

He explains that crucial benefits of low heat input are lower residual stresses in the substrate material and avoidance of workpiece distortion. “Laser cladding enables accurate localised application of weld beads and thus presents the perfect solution for applications where localised refurbishment and sensitivity to distortion are key. Multi-layer buildups over large surface areas are also easily clad with laser applications. Laser clad coatings and refurbished areas are also far more forgiving to impacts and bumps, much like traditional welds, when compared to thermally sprayed coatings.” Jordaan adds that Thermaspray’s highly skilled team can offer expert advice on the best coating or cladding solution that will deliver optimum results.

Laser cladding enhances the surface of components to last longer, making this technology ideally suited for both the refurbishment of worn components to OEM specifications, as well as for surface enhancement of new components.

This advanced technology has seen success in the power generation, automotive, mining, petrochemical, oil and gas, and pumps industries, among others. “Laser cladding has opened up new markets for us, such as the agricultural and mining sectors, as we are now able to offer solutions that we previously could not,” notes Jordaan.

Due to its excellent properties, laser cladding is effectively applied to a diverse range of applications. It is a proven technology for the refurbishment of industrial gas turbine blade tips and turbine rotor repairs in power generation plants. Laser cladding is also successful in refurbishing down-the-hole (DTH) drilling equipment, hydraulic shafts, gearbox housings, crankshafts, guides and rollers, boiler tubes as well as logging equipment.

Thermaspray is in the process of obtaining ISO 3834 certification, which is the quality standard for welding applications. “As most power generation plants require all welding-related work done by contractors to be compliant to this standard, it is essential that we obtain this certification for our laser and PTA cladding technologies,” affirms Jordaan.

Laser cladding will be done at Thermaspray’s well-equipped, custom-built facility in Olifantsfontein, Johannesburg, with production commencing in January 2019. “We are always cognizant of keeping our customers’ downtime for maintenance and repairs to an absolute minimum,” states Jordaan. ‘The turnaround time of laser cladding depends on the size of the components; while small components can be laser clad within 20 minutes, larger components may require a few hours or more of cladding. Working closely with an international welding engineer who does consultative work for us, we successfully combine extensive global knowledge and experience with local expertise to offer the surface engineering market a turnkey solution,” concludes Jordaan. /ends

About Thermaspray

Thermaspray, headquartered in Olifantsfontein, Johannesburg, has 23 years’ experience in wear- and corrosion-resistant thermal spray coatings. In addition to providing a comprehensive range of support coating finishing technologies in the bespoke finishing shop, Thermaspray also refurbishes industrial components damaged by wear and corrosion. The company’s in-house, metallurgical laboratory is the only dedicated facility of its kind in Africa’s thermal spray industry and is equipped to undertake world-class developments and quality control. Thermaspray is a DQS ISO 9001 Quality Management and Eskom level 1 certified company.

About Surcotec

Surcotec is the oldest established thermal spray coating company in the Western Cape. The company has a wealth of experience in thermal spray coatings and mechanical component refurbishing. Surcotec’s coating services are supported by a fully equipped engineering workshop and an on-site machining division. A level 1 B-BBEE company, Surcotec is TNV ISO 9001 Quality Management certified and is certified as a level 2 nuclear supplier to Eskom.

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