DTEC Engineering Limited



Automated Weld Overlay Cladding

Vessel and Piping Components

DTEC Engineering have specialised in automated weld overlay since 2009. The proprietary Vclad[®] weld overlay technology provides both field and workshop based capability for the oil refining, chemical, and power generation industries.

Our recent service expansion is the introduction of advanced automated TIG welding technology primarily focused on providing component cladding capability for the oil & gas, and chemical manufacturing industries.



Applications include:

- Flange faces, bores, and sealing ring grooves
- Pipe and nozzle bores
- Pipe and tube o.d. including boiler tubes
- Tube sheets
- Vessel/heat exchanger covers and end box sealing faces
- Bespoke components for specialist applications.

Capacity:

- Standard component capacity 1.5 tonne
- 2 x automated programmable TIG cladding systems
- 2 x CMT Vclad[®] boiler tube weld overlay systems Refer to boiler tube weld overlay sheet for further detail
- Multiple field application Vclad[®] vessel weld overlay systems

Multi-axis programable automation and advanced welding technology enable a precision and high integrity application of weld metal in a range of materials.

Weld overlay cladding provides the opportunity to apply corrosion or erosion resistant materials to existing components. The weld overlay can be applied to the entire component or specific areas that require protection.

Readily available carbon steel and stainless steel components can be can be clad with corrosion resistant alloys at significantly reduced cost compared to obtaining specialist alloy forgings.





DTEC Engineering are accredited to ISO 3834-2 Comprehensive Quality Requirements for Fusion Welding

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Automated Weld Overlay Cladding

Vessel and Process Equipment



309 stainless steel applied to carbon steel flange blind



The weld overlay cladding is a precision applied layer of high integrity weld metal.

Alloy selection is only limited by the availability of weld filler metals, and therefore creates extensive opportunity to introduce high performance materials that significantly improve corrosion resistance.

This provides greater flexibility in selecting the optimum material for the process conditions.

The improved economics of selecting weld overlay cladding compared to component replacement in alternative wrought material is significant, further enhanced by advantageous delivery lead times.





verlay solutions

Carbon steel pipe i.d. cladding in Monel



Ductility: Side bend test for weld procedure qualification

Typical Alloy Weld Overlay Cladding Materials

- Austenitic and Martensitic stainless steels
- Nickel Chrome alloys: 625, 622, 686, 800, 825
- Hastelloy
- Monel
- Stellite 6



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