

Nozzle welding

Onsite ID nozzle repair, upgrades and new build

Capabilities

Sulzer provides a complete range of services relating to the repair, upgrade or new build installation of nozzles.

Our onsite field service teams can repair corroded or eroded nozzles by building back the worn area, restoring to an acceptable thickness and applying an upgraded metallurgy by weld overlay processes to reduce future issues.

Alternatively we can replace the nozzle completely with a new nozzle having an ID with upgraded metallurgy by weld overlay processes fabricated in our facility and then installed by our field service teams.

Technology

State-of-the-art automated welding equipment for small bore cladding and spiral cladding capable of welding diameters as small as 55 mm to 800 mm (2' to 31.5") and up to 1,6m (63") deep in 2G, 5G and 6G configurations.

Repairs and upgrades

Nozzle replacements in pressure vessels are costly and can be time consuming and also may require subsequent hydro-testing.

CladFuse™ enables Sulzer to build up material thickness to reestablish the pressure envelope and to provide an improved metallurgical resistance to any corrosion and erosion.



Picture 1: On site nozzle repair

New builds

Sulzer offers new nozzles with ID weld overlay for erosion and/or corrosion protection. Our ID cladding equipment allows for cladding of nozzle inside diameters of 50 mm (2.0") to unlimited diameter.

ID weld overlay of mild steel nozzles is a perfect solution for mitigation of dissimilar welds and nozzle life extension. Extensive range of overlay materials are available.



Picture 2: New build nozzle with automated weld overlay

CladFuse™ characteristics

- GMAW-P, GTAW-P and HWGTAW-P processes
- Controllable and minimal dilution rates, <10%
- Accurate control of parameters to achieve high quality overlay claddings
- Optimized material thickness application
- High speed rates reducing turnaround down time
- Applicable to any nozzle orientation
- Wide range of materials

Key features

- Nozzle weld overlay on various base materials including carbon and alloy steels e.g. stainless, nickel, chrome
- Wide range of filler wire materials possible such as: Alloy 622, 625 Inconel, 686, 300/400 series stainless steel, C276 Hastelloy, CoCr Stellite, and more
- Comprehensive range of weld procedures available
- Diameter from 50 mm (2.0") to unlimited
- Depth of nozzle up to 1,6m (63") deep
- Nozzle orientation: any
- All welding positions possible: 2G, 5G, and 6G
- Weld overlay according to ASME, PED, EN codes, etc.
- Bespoke applications for specific projects

Qualifications

We hold a comprehensive range of welding certifications, including ASME, National Board, and European, permitting us to provide a complete range of welding services covering your needs.



ISO 9001 certification assures our customers of a quality service.

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Sulzer's comprehensive weld overlay offerings

Sulzer is offering a wide range of automated weld overlay services for both customer sites and in our fabrication facilities including:

- Nozzle ID welding
- Tower and vessel overlay
- Coker drum overlay
- Boiler waterwall membrane panels
- Boiler tube overlay
- Pipe and fittings
- CRA pipeline ID overlay welding

Typical applications:

- Towers and vessels
- Reactors
- Separators
- Coker drums
- Heat exchangers
- Digesters
- Coal-fired boilers
- Waste to Energy boilers
- Biomass boilers
- Furnaces
- Storage tanks
- And more

Global capability

Sulzer has a global network that is well placed, equipped and experienced to service our customers in any needs and requirements

Our facilities are located around the world with service facilities in:

- USA
- Canada
- Mexico
- Brazil
- UK
- Germany
- Saudi Arabia
- India
- Thailand
- Singapore
- China
- Australia

Each service facility has the capabilities to meet the demand of the local market, supported by the skills and expertise of the complete service organization including Sulzer's vast network of engineers and technical experts.

Mobilizing from our facilities we have the ability and proven track record to execute projects at any location around the world.