

“O₂ plant Pressure Vessel Repairs”

Assignment

Kraatz was contracted by Namibia Custom Smelter (NCS) through the international project management company SMP to repair a pressure vessel at the Namibia Custom Smelters site in Tsumeb. The pressure vessel is part of a secondhand oxygen plant bought from the USA. The assignment was part of a recertification to the latest applicable pressure vessel code ASME.

The Pressure vessel was fitted with a manhole for repairs in the USA, but the correct procedures were not followed or documented and subsequently the nozzle was to be cut out and replaced with a patch of the same diameter, material thickness and steel grade.

Full compliance to the latest ASME code was imperative and as part of such Kraatz has supplied a 3G ASME coded welder. A dished- end (conforming to the specified material specs) was produced following a third-party witnessing of the cast number transfer. A repair procedure was compiled according to the ASME standard as well as a comprehensive Quality pack conforming to international standards.

Getting the job done

A small team of highly skilled Kraatz employees under strong supervision consisting out of a boilermaker a welder and a project manager were up for the assignment. Tight time schedules were set and accuracy and quality were of high importance. 100% X-ray inspection confirmed that full compliance to the ASME standard was adhered to. The total duration of the project was 5 days and it was executed on site in Tsumeb.

Kraatz had to strictly adhere to all safety procedures as it was a confined space entry with hot work and welding both on the inside and outside of the pressure vessel.



Figure 2: 3G TIG root run in progress

Key Learning's

Kraatz has the capability and capacity in the country to deliver successfully on difficult highly specialized projects previously contracted to contractors outside Namibia. The multinational quality control and inspection company had the following to say to the Kraatz team.

“Thank you for the repair work you guys have completed, the welding of the patch is of a good standard and high quality, the alignment of the patch is acceptable to the codes and we see no problems in the future with this repair.”



Figure 1: Pressure vessel before repairs



Figure 3: Completed insert after 100% X-ray