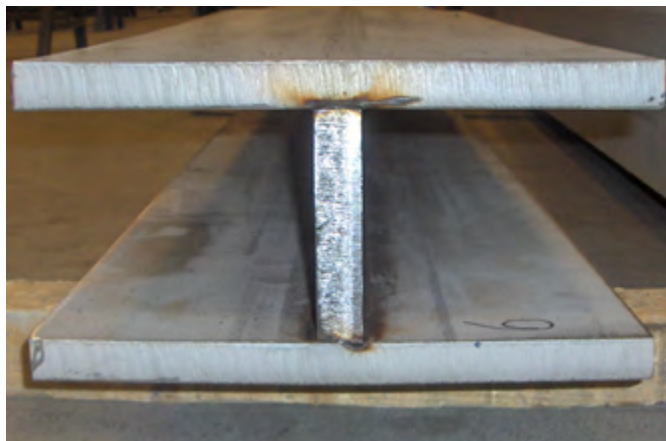


Special beams for sludge water tanks



sp. beam 180x350x25x25mm

Profile:	<i>Special Tailored Beams</i>
Material grade:	<i>SS 304L & SS 316L</i>
Execution:	<i>laser fused</i>
Industry served:	<i>Energy & Power</i>
Destination:	-

For a large project, approximately 200 ton of special tailored beams (height from 180 to 613mm and different thicknesses from 10 up to 30mm) and standard U-channels were produced in laser fused execution.

Material grade was predominantly 1.4307 (AISI 304L), and marginally 1.4404 (AISI 316L).

The bars were needed in different lengths from 1.1m to 8.5m, thus a chaotic optimisation over all pieces was performed, reaching a minimum on scrap and off-cuts with lots of savings. The laser fused bars were supplied in multiple length, where each single piece had to be identified.

A huge matrix had to be generated for the tractability of each single piece, where the complete production records, indicating each single production step, with date and operator were stored.

The special and extremely stringent quality requirements of the project demanded for repeated auditing and supervision from the committing company.

The standard quality controls and NDT's were screwed up reaching 100% control on all sections supplied (some 1848 pieces for a total of 3587m) including:

- Visual inspection of the weld
- Macro etching on each bar's end
- Dye penetrant testing on each weld
- Ultrasonic testing on the beams having ≥ 20 mm webs

A lifetime record had to be supplied together with the products.



detail with beams composing the structure of a tank module

