

Laser Clad Boiler Tubes - Technical Bulletin

LONG TERM ASSET PROTECTION FROM CORROSION, EROSION AND ABRASION – LESS CHANCE OF UNPLANNED OUTAGES!

WHY LASER CLAD AND NOT TRADITIONAL WELDING?

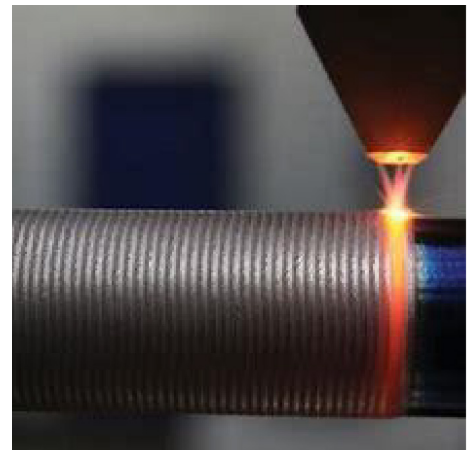


TRADITIONAL WELDING:

- Up to 20% dilution resulting in high ferrite content in weldment and loss of corrosion resistance!
- Inconsistent thickness of weld overlay decreases efficiency of heat transfer
- High heat input results in deformation of Tubes and Panels
- Weld Ripples adversely affect smooth flow of gases over the surface
- Each ripple is a potential stress raiser which can lead to cracking
- Corrosion induced stress pockets possible due to unevenness

LASER CLADDING:

- Low dilution of 4-6% resulting in cleanliness of deposited chemistry i.e. <5% ferrite content. Clad overlay will deliver the properties you expect from the chemistry
- Cladding thicknesses as low as 0.75mm resulting in less weight added, lower cost of application
- Very smooth finish 'as-clad' with no weld ripples ensures smooth flow of gases over surface and improved heat transfer
- Precisely controlled and repeatable parameters to ensure highest quality at lowest energy input
- Elimination of corrosion induced stress pockets



ALLOY SELECTION:

There is a wide selection of alloys that can be blended as required to offer the very best protection to the surface of your Boiler Tubes i.e. where corrosion and abrasion is the service environment a blend of a super-alloy (nickel bearing) and ultra-fine tungsten carbide is likely to work very well.