



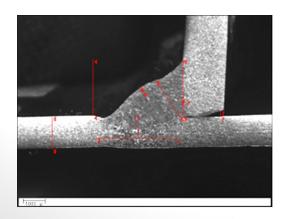


## Qualifying PQR through advanced metallography, before

the coupon plate is welded proves to be very economical and time saving especially wherein qualification involves TPI requirement. TCR Advanced can qualify the welding process by fine tuning heat input parameters of welding by tests like micro-hardness and color metallography - resulting in to high success rate of qualification of PQR coupon sample.

ASME section IX provides the guide lines for the minimum tests required to qualify the welding procedure and the welders. For critical applications it is required to add more tests like color metallography and micro-hardness profile to identify presence of deleterious phases that can be detrimental to long term reliability of component.

Root cause investigation cases associated with abnormal impact value of weld/ HAZ solved by TCR Advanced has helped the fabrication companies to fine tune the welding parameters and attain required properties consistently.



TCR Advanced provides weld dimensional measurement services at laboratory as well as at clients end



## services



Repair weld technology requires in depth understanding of metallurgical degradations vis-à-vis operating conditions, clear understanding of physical metallurgy and welding technology.

When critical machinery component of any plant is under breakdown the immediate right solution is sought, many times the repair welding are done with little or no understanding about the metallurgical fundamentals which in turn proves to be disastrous and management looses the trust in the technical competency. This philosophy promotes haste decisions for replacing the components at premium cost. Instead of this a systematic detailed metallurgical onsite investigation would provide the extent and nature of degradation there by utilizing knowledge of metallurgy a proper welding procedure can be devised. TCR Advanced has helped the industries by providing the repair solutions on critical cases like rotors, impellers, pump casing, shaft, nitride components reformers, and so on.



## Value added services

- Metallurgical solutions to welding problems
- Root cause analysis for abnormal impact values
- Repair welding procedures
- Consultancy for providing WPS/PQR/WPQ
- Qualification of electrode/filler wire (EQT)
- Welding inspection services
- Destructive and not destructive testing of welds
- Onsite weld testing services like PMI, ferrite measurement, hardness test





**Experts in Metallography and Failure Investigation**