Qualimet

WELDING & METALS ENGINEERING

April 2013

Welding Repairs - Planning Makes all the Difference

Welding repairs are required when a pressure vessel's condition has deteriorated to the point where the vessel does not, or soon will not, meet Code requirements.

The secret to a successful welding repair is to keep track of, and correctly assess, all the relevant factors. Hiring a qualified, experienced welding consultant can make all the difference. For example:

- You've already got a WPS developed that could be used for the repair. But is it the best choice for long-term value?
- Do you have appropriate material samples for repair weld procedure development? If not, and there are sourcing challenges, do you know how to meet them?
- Are you familiar with all the Code requirements governing the repair?
- You find you're repairing a piece of equipment over and over. Does this mean there's a more effective way?

A qualified, full-service welding engineering consultant like Qualimet can help with all the above. Qualimet will provide total care of your welding repair engineering needs, including:

- The interdisciplinary engineering expertise (mechanical, civil, and materials/metallurgical) required to evaluate your needs.
- A full materials testing lab.
- Experienced staff who will develop a welding repair procedure to meet all applicable Code requirements and give you the best value over time.
- Certified welding inspection services.

How to Plan for Your Welding Repair

When it comes to welding repairs, planning makes a huge difference. Here are some tips for planning your welding repair:

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1. **Determine the wear mechanism(s) and extent of wear.** Is thinning local, or widespread? Is there any pitting corrosion? Understanding the wear pattern is the first step in designing an effective welding repair.
2. **Confirm that a repair is in fact required.** Fabrication thickness typically exceeds design thickness. Even if some wear has occurred, the vessel may still be Code-compliant. In such cases, a review of wear rates can tell you if the vessel can be safely left as-is until the next repair opportunity.
3. **Be sure you have appropriate material samples for developing the welding procedure.** If the equipment is fabricated using uncommon materials, start material procurement efforts early.

   In the future, if you purchase equipment made of uncommon materials, try asking the vendor to supply you with any leftover materials. Store these away for future use in developing and testing repair procedures.

4. **Hire a welding engineering consultant with the expertise to deliver the optimal welding procedure.** Poorly chosen welding repair procedures can cause major headaches. A good full-service welding engineering consultant can take care of all the steps above and ensure that your welding repair is as trouble-free as possible.

Don't risk your equipment with substandard repairs. Qualimet provides experienced full-service welding engineering consulting services, including the development of welding repair procedures. For more information, please contact EJ at 780-641-0757) or ej@qualimet.ca.

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