



# Welding & Fabrication

Rotech is a UKAS accredited metallurgical test laboratory to ISO 17025. Go to [www.UKAS.com](http://www.UKAS.com) for our current schedule of accredited tests. We have years of experience in destructive weld testing and failure investigations. Over recent years we are increasingly called upon for involvement with pWPS and WPQR regarding weld Procedure Qualification and Welder Approval (re-approval) work; often (but not always in conjunction with third party witnessing). We also have large welding fabrication customers who use us for SPWHT/PWHT. We have staff qualified to PCN Level 2 for Visual Weld Inspection (not UKAS accredited) and MPI (not UKAS accredited). All types of joining processes (arc, resistance, friction, electron beam etc) can be accommodated.

## Rotech Laboratories can help you

### If you are involved with:

- Requirements for welding/joining process training, as we have a close association with leading welder training and certification companies
- ISO 9001 and ISO/TS 16949 supplemental are directly applicable to welding/joining processes (assuming welding/joining is within the scope of certification) and approval testing of welders is required. When welding procedure approval is not required, BS 4872 Pt1 for steel and BS 4872 Pt2 for aluminium (TIG/MIG) are still current and applicable. Rotech carries out work to these standards when required
- Qualification of welding procedures to ASME IX and/or EN ISO 15607 and standards relating to this are required most of which are listed in the box to the right
- PPAP test data for automotive industry weldments irrespective of the manufacturing process i.e. manual, semi-automatic or automatic. Our laboratory results can be direct inputs to your PPAP, 8D, FMEA and other QA system needs
- The UK nuclear power debate and, as such, understand the requirements of RCC-M and the links to ASME III-Rules for Construction of Nuclear Power Plant Components-particularly regarding materials and Fabrication and Installation-NB-2000 and NB-4000 series

**Welding and Fabrication sectors served** Petro chemical, turbine and power generation; Pressure vessel manufacture, Transport-aerospace, automotive, railway, marine; construction equipment, fluid handling and pipeline fabrication, communications and computers and all aspects of specialised and general fabrication of metals including brazing and soldering.

### Principle specifications we are involved with include:

- ASME IX, ASME B31.3, AWS/SFA 5.23 (from ASME Boiler and pressure Vessel Code part II C)
- EN ISO 15607 (was EN 288-1) general rules for qualification of welding procedures
- EN ISO 15614 (14 parts) (was EN 288-3 -4 etc. inc BS 4870 Pts 1/2/3) primarily arc welding procedure tests for different alloys and products
- EN ISO 14555 and 15620 (was BS 6223) for stud and friction welding procedure tests and pWPS/WPS formats
- EN ISO 15609 (several parts-weld procedure spec'ns inc pWPS/WPS formats) from different welding processes. (Replaces BS EN 288-2 and parts of EN ISO 9956)
- EN1011 (eight parts concerned with technical recommendations/aspects for welding different materials and processes) Replaces BS 5135/BS 7475/BS3019/BS 3571-1/BS 4570
- EN 287-1 and EN ISO 9606 (several parts) Approval/Qualification testing of welders for different materials. For aluminium replaces EN 287-2 and BS 4871 Pt2)
- EN ISO 5817/EN ISO 3834 (several parts)/EN ISO 10042 Quality Levels and quality requirements. Replaces EN729-1/4

Product and/or process failures in both welding and fabrication (e.g. forming cracking or dimensional instability) whilst not welcome do happen. When they do, we can help to avoid repetition of similar failures by providing expert advice using the extensive resources and experience of our failure investigation department fully equipped with Scanning Electron Microscopy (SEM) and EDAX facilities.

Much of our recent weld testing work includes the requirements of BS EN 1090 and CE Marking of Structural Steel and Aluminium Products.