

METABOND — Making Strong Connections

METABOND's proposed service portfolio covers Welding Engineering, materials consultancy, qualification, inspection, training, troubleshooting and technical manpower support. Target sectors include oil and gas, petrochemical, power, pressure equipment, piping, structural fabrication, pipe and tube manufacturing, and wider industrial manufacturing sectors in the United Arab Emirates and the wider GCC region.

The specific scope of work, deliverables, responsibilities, and applicable technical requirements shall be defined and mutually agreed upon for each client assignment.

Scope of Services

01 Welding Engineering and Metallurgical Consultancy

Code and project compliance support; WPS development, review and approval support; PQR/WPQR trials, testing and documentation; welder and operator qualifications (WQT/WPQ). Material and consumable selection; weldability and metallurgy assessments for carbon, alloy, stainless, duplex and super duplex steels, nickel-based alloys and dissimilar joints. Joint design, welding sequences, distortion control and residual stress management.

02 Welding Inspection, Quality Assurance and Management Systems

Welding inspection, manufacturing surveillance and QA/QC; coordination and technical management of VT, RT, UT, PAUT, TOFD, PT and MT. NDT procedure and acceptance-criteria reviews; discontinuity evaluation and repair recommendations. Inspection plans, weld mapping, traceability, quality records and turnover dossiers. Implementation support for ISO 3834 and ISO 14731; welding procedures, work instructions, checklists and quality control plans. Qualification registers and continuity records; consumable control and traceability; equipment maintenance, verification and calibration management. Welding KPIs, digital records, internal and fabricator audits, supplier assessments and rejection-reduction support.

03 Fabrication Engineering, Failure Analysis and Troubleshooting

Pressure vessel, piping and pipeline fabrication methods and production planning; workshop layouts, fabrication sequences and process development. Welding productivity improvement, manufacturing troubleshooting and rework reduction; pipe mill installation, start-up and commissioning support; Corrosion-resistance assessments; investigation of cracking, porosity, recurring discontinuities, corrosion, leakage and premature failures. Metallurgical assessment of hardness, embrittlement and heat-affected zone degradation; root cause analysis, corrective and preventive recommendations, repair engineering, repair qualification support and independent technical reports.

04 Welding Equipment, Consumables and Industrial Procurement

Technical specification, selection and evaluation of GTAW, GMAW, SAW, PAW, FCAW and SMAW equipment, including welding automation systems, manipulators, positioners, fixtures and mechanized torches. Filler-metal specification development, consumable brand evaluation and qualification trials; Procurement engineering support, including vendor sourcing and assessment, technical bid evaluation, supplier selection recommendations and coordination of factory inspections and acceptance testing.

05 Technical Manpower and Welding Training

Provision and secondment of welding engineers, inspectors and welding coordinators; sourcing and deployment coordination for welding supervisors, qualified welders and welding operators. Provision of QA/QC specialists and appropriately certified NDT personnel.

Welder qualification preparation, practical skills development and training for mechanized and automatic welding operators. Customized technical workshops covering welding metallurgy, defect prevention, inspection practices and manufacturing quality, tailored to personnel competency levels and operational needs.