



INDUSTRY BASE STANDARD FOR TECHNICAL COMPETENCE 'ASSURANCE'



Discipline	Test	Competence Test Requirement
To ensure that a candidate has the skills, knowledge and ability to		
PIPEFITTING	Preparing and Assembling Welded Pipework	assemble and secure welded pipework.
	Interpret Drawing Information, Fabricate and Install Pipework	accurately read and extract information from engineering drawings and specifications, prepare, fabricate and secure welded pipework and install pipework systems and components
	Preparing and Assembling Screwed Pipework	produce and assemble metallic pipework components using screwed joints, flanges and fittings
	Dismantle, Assemble and Hand Torque Flanged Joints	dismantle, inspect, prepare, assemble and secure 4 bolt and 8 bolt flanged joints
	Fabricating and Installing Pipework Supports	use appropriate tools and equipment to fabricate and install pipework supports and store the equipment safely after use. The candidate will also have to demonstrate they can work safely whilst measuring, marking and shaping the materials for the pipe support fabrication using appropriate methods and techniques.
	Preparation and Testing of Pipework Systems	use appropriate tools and equipment to prepare and test pipework systems and components and store the equipment safely after use. The candidate will also have to demonstrate they can work safely whilst completing the testing of pipework systems using appropriate methods and techniques.
PLATING	Setting out Platework and structural steelwork	mark out plate and structural steelwork and draw set outs for configurations on to template materials or floor using marking out equipment and metric measuring equipment
	Preparing plate edges using portable edge preparation machines	use portable edge preparation machines to prepare the edges of plate for welding, through the use of appropriate equipment and metric measuring implements.
	Marking Out Plate and Structural Steelwork	accurately measure and mark out plate and structural steelwork using appropriate marking out equipment and metric measuring equipment.
	Interpret Drawing Information, Fabricate and Install Platework	accurately read and extract information from engineering drawings and specifications, to prepare, fabricate and secure welded platework and to install structural stool onto a prepared base plate
	Fabricating and Installing Pipework Supports	use appropriate tools and equipment to fabricate and install pipework supports and store the equipment safely after use. The candidate will also have to demonstrate they can work safely whilst measuring, marking and shaping the materials for the pipe support fabrication using appropriate methods and techniques
ELECTRICAL INSTALLTION	Earthing Equipment	install and terminate an earthing arrangement to a GRP or similar non metallic distribution board fed with a PVC SWA PVC cable and having 2 outgoing circuits supplied with PVC SWA PVC cables and carry out earth loop impedance testing on the 3 cables, all work to comply with the IEE regulations and recognised industry practices.
	Install, Gland and Terminate Power Cables	install and terminate 4 core 16mm 3 phase braided cable and associated gland onto a cable tray and component to meet the specification including minimum bend radius. The candidate is also required to demonstrate their skill and understanding of how to check cable for insulation resistance compliance.
	Install Emergency Lighting	install and terminate a lighting circuit which includes Maintained and Non-Maintained emergency light fittings and carry out testing and function checking, all work to comply with the relevant specification and recognised industry practices.
	Installing Support Systems	measure, cut, shape construct and install a cable support system to specification.
	Installing Screened Instrument Cable	correctly install screened instrument cables with adequate separation from other systems.
	Electrical Distribution Systems	install and terminate a 3 phase and neutral distribution board selecting the correct circuit breakers for the loads and balancing outgoing circuit loads across the 3 phases. The completed distribution board shall be marked up with an appropriate schedule
	Installing AC Electrical Motors	cable terminate and test a 3 Phase induction motor to meet the relevant specification. The candidate is also required to demonstrate their skill and understanding of how to check cable for insulation resistance compliance and change motor rotation.
ELECTRICAL MAINTENANCE	Maintaining Transformers	carry out the inspection and maintenance of a power transformer to include visual inspection and testing of associated relays and temperature trip switches using recognised methods, all work to comply with the Electricity at Work Regulations and recognised industry practises.
	Testing Portable Equipment	carry out inspection and testing of class1 and class 2 portable electric tools, all work to comply with the wiring regulations and recognised industry practices.
	Maintaining Lighting Equipment	to carry out the inspection and testing of lighting circuits in hazardous areas checking condition of fittings, seals, components and take earth loop impedance readings. All work to comply with the relevant specification.
	Battery and UPS Systems	check the Specific gravity of battery cells and take voltage readings making comparison to the manufacturers recommendations check the changeover switch and the bypass function, all work to comply with the relevant specification and recognised industry practises.
	Test Circuit Protection Devices	inspect and carry out inspection and maintenance of an Air Circuit Breaker following a laid down maintenance procedure and the manufacturers instruction operation and maintenance instructions all work is to comply with the relevant specification recognised industry practises.
	Generators	carry out inspection and testing brushless emergency generator and carry out testing of the insulation resistance of the main machine windings and the excitation windings and the resistance of the exciter diodes all work to comply with the Electricity at Work Regulations 1989 and recognised industry practises.
	Maintaining AC Electrical Motors	carry out inspection and testing of a three phase 415 volt AC motor carrying out insulation resistance tests and continuity of the motor windings, the candidate is also to report on the condition of the motor bearings. All work is to comply with the relevant specification and recognised industry practises.
	Maintaining Motor Starters	diagnose and repair faults on AC motor starters, all work to comply with the relevant specification and recognised industry practises.
MECHANICAL FITTING	Advanced Measurement for Mechanical Fitters	accurately measure components using complex measuring measurement equipment. The candidate will have to demonstrate they can work safely whilst measuring complex items, ensuring they can calibrate equipment and store the equipment safely after use.
	Aligning, Levelling and Setting Plant and Equipment	accurately align, level and set mechanical machines and components. The candidate will have to demonstrate they can work safely whilst completing the alignment, levelling and setting of engineering construction equipment, ensuring they can correctly use tools and equipment and store items safely after use.



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MECHANICAL MAINTENANCE	Repairing Faults and Adjusting Mechanical Plant and Equipment	dismantle assemblies, repair/replace worn components and bearings and to assemble and adjust mechanical drive and actuating assemblies. The candidate will have to demonstrate they can work safely whilst completing the repair and adjustment of engineering construction equipment and machinery, ensuring they can correctly use required tools and equipment and store items safely after use.
	Maintaining Hydraulic Systems	maintain hydraulic systems and system components and store the equipment safely after use. The candidate will have to demonstrate they can work safely whilst removing, reinstalling and testing components within a hydraulic system, and disassembling, maintaining, inspecting and reassembling hydraulic components using appropriate equipment, methods and techniques
	Maintaining Belt and Chain Drives	maintain belt and chain systems and system components and store the equipment safely after use. The candidate will have to demonstrate they can work safely whilst removing, inspecting, reinstalling and tensioning components within belt and chain drive systems using appropriate equipment, methods and techniques.
	Charge Accumulator Systems	carry out charge pressure checks on hydraulic accumulators. They must demonstrate an understanding of the dangers associated with working with high pressure equipment including Nitrogen cylinders.
	Dismantle, Assemble and Hand Torque Flanged Joints	dismantle, inspect, prepare, assemble and secure 4 bolt and 8 bolt flanged joints
	Maintaining Pneumatic Systems	maintain pneumatic systems and system components and store the equipment safely after use. The candidate will have to demonstrate they can work safely whilst removing, reinstalling and testing components within a pneumatic system, and disassembling, maintaining, inspecting and reassembling pneumatic components using appropriate equipment, methods and techniques.
	Maintaining Pumps	maintain pump systems and pump components and store the equipment safely after use. The candidate will have to demonstrate they can work safely whilst disassembling, maintaining, inspecting and reassembling pump components using appropriate equipment, methods and techniques
	Maintaining Valves	maintain valve components and store the equipment safely after use. The candidate will have to demonstrate they can work safely whilst disassembling, maintaining, inspecting, reassembling valve components and leak testing using appropriate equipment, methods and techniques.
INSTRUMENT & CONTROL MAINTENANCE	Pressure Measurement and Systems	reconfigure, calibrate and function check an electronic pressure transmitter, pressure gauge and pressure switch. The candidate will have to demonstrate they can work safely throughout the work scope and complete the appropriate documentation to the required standard.
	Temperature Measurement Systems	reconfigure, calibrate and function check an electronic temperature transmitter. The candidate will have to demonstrate they can work safely throughout the work scope and complete the appropriate documentation to the required standard.
	Re-ranging Level Measurement Systems	reconfigure, calibrate and function check a displacement type level transmitter. The candidate will have to demonstrate they can work safely throughout the work scope and complete the appropriate documentation to the required standard.
	Range Calculation & Commissioning of Level Measurement Systems	reconfigure, calibrate and function check a differential pressure type level transmitter. The candidate will have to demonstrate they can work safely throughout the work scope and complete the appropriate documentation to the required standard.
	Orifice Plate Flow Transmitter Commissioning	re-commission a differential pressure flow transmission into a fully operation condition and calibrate the transmitter. The Candidate will have to demonstrate they can work safely throughout the work scope and complete the appropriate documentation to the required standard.
	Dismantle and Assemble Process System Control Valve Assemblies	maintain a typical process control valve and set up for operational conditions. The candidate will have to demonstrate they can work safely whilst maintaining the valve assembly using appropriate methods and techniques.
	Maintain Process System Control Valve Assemblies	maintain a typical process control valve and set it up for operational conditions. The candidate will have to demonstrate that they can work safely whilst maintaining the actuator assembly using appropriate methods and techniques.
	Calibrate & Commission Process System Control Valve Assemblies	maintain, calibrate and commission a typical process control valve and set it up for operational conditions. The candidate will have to demonstrate that they can work safely using appropriate methods and techniques
THERMAL INSULATION	Thermal Insulation	apply insulation and cladding to pipework at four specific points using the correct materials and techniques to the specified tolerances. All work is to comply with current regulations and recognised industry practices.
	INDUSTRIAL COATINGS APPLICATION	Abrasive Blast Cleaning (Direct Pressure)
Industrial Coatings Airless Spray Application		correctly select and set-up the airless spray equipment in a safe and efficient manner. All equipment checks will be undertaken to ensure the equipment is ready to use. Associated items will have to be checked also such as power (air/electric), paint lines, spray gun/tip and safety devices. The cleanliness of the prepared mild steel test plate will have to be checked by the candidate to ensure there is no contamination (dusts/debris). The environmental conditions will have to be conducted, monitored and recoded throughout
Industrial Coatings Brush Application		correctly select the equipment in a safe and efficient manner. All equipment checks will be undertaken to ensure the equipment is ready to use. The cleanliness of the prepared mild steel test plate will have to be checked by the candidate to ensure there is no contamination (dusts/debris). The environmental conditions will have to be conducted, monitored and recoded throughout.