QUALIFICATIONS PACK - OCCUPATIONAL STANDARDS FOR CAPITAL GOODS INDUSTRY

Contents

What are Occupational Standards(OS) ?

- OS describe what individuals need to do, know and understand in order to carry out a particular job role or function
- OS are performance standards that individuals must achieve when carrying out functions in the workplace, together with specifications of the underpinning knowledge and understanding

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Introduction

Qualifications Pack- Senior Tungsten Inert Gas Welder (GTAW)

SECTOR/S: CAPITAL GOODS

SUB-SECTOR:

1. Machine Tools
2. Dies, Moulds and Press Tools
3. Plastics Manufacturing Machinery
4. Textile Manufacturing Machinery
5. Process Plant Machinery
6. Electrical and Power Machinery
7. Light Engineering Goods

OCCUPATION: Welding and Cutting

REFERENCE ID: CSC/Q0213

ALIGNED TO: NCO-2004/7212.2

Brief Job Description: Perform manual TIG (GTAW) welding for a range of standard welding job requirements. This is for a skilled welder who can weld different materials (carbon steel, aluminum, nickel, titanium, copper and stainless steel) in various positions and prepare various joints including corner, butt, fillet and tee. Set-up and prepare for operations interpreting the right information from the WPS.

Personal Attributes: Basic communication, numerical and computational abilities. Openness to learning, ability to plan and organize own work and identify and solve problems in the course of working. Understanding the need to take initiative and manage self and work to improve efficiency and effectiveness.

Job Details

Qualifications Pack Code	**CSC/Q0213**		
Job Role	**Senior Tungsten Inert Gas Welder (GTAW)** **[Applicable for National Scenarios]**		
Credits	**TBD**	**Version number**	**1.0**
Sector	**Capital Goods**	**Drafted on**	**24/03/2014**
Sub-sector	**1. Machine Tools** **2. Dies, Moulds and Press Tools** **3. Plastics Manufacturing Machinery** **4. Textile Manufacturing Machinery** **5. Process Plant Machinery** **6. Electrical and Power Machinery** **7. Light Engineering Goods**	**Last reviewed on**	**24/11/2017**
Occupation	**Welding and Cutting**	**Next review date**	**24/11/2021**
NSQC Clearance on	**22/04/2015**		

Job Role	Senior Tungsten Inert Gas Welder (GTAW)
Role Description	Perform manual operations for performing Tungsten Inert gas Welding also known as Gas Tungsten Arc Welding (GTAW) and independently carry out TIG (GTAW) weld operations for welding joints in all positions as per Welding Procedure Specification.
NSQF level	5
Minimum Educational Qualifications **Maximum Educational Qualifications**	10th Standard pass, preferably Not Applicable
Prerequisite License and Training	Manual/ Shielded Metal Arc Welding
Minimum Job Entry Age	18 Years
Experience	3 months Manual/ Shielded Metal Arc Welding required
Applicable National Occupational Standards (NOS)	**Compulsory:** 1. CSC/N0213 Perform Tungsten Inert Gas (TIG) Welding also known as Gas Tungsten Arc Welding (GTAW) 2. CSC/N1335 Use basic health and safety practices at the workplace 3. CSC/N1336 Work effectively with others
Performance Criteria	As described in the relevant OS units

Definitions

Keywords /Terms	Description
Sector	Sector is a conglomeration of different business operations having similar business and interests. It may also be defined as a distinct subset of the economy whose components share similar characteristics and interests.
Sub-sector	Sub-sector is derived from a further breakdown based on the characteristics and interests of its components.
Occupation	Occupation is a set of job roles, which perform similar/ related set of functions in an industry.
Job role	Job role defines a unique set of functions that together form a unique employment opportunity in an organisation.
Occupational Standards (OS)	OS specify the standards of performance an individual must achieve when carrying out a function in the workplace, together with the knowledge and understanding they need to meet that standard consistently. Occupational Standards are applicable both in the Indian and global contexts.
Performance Criteria	Performance criteria are statements that together specify the standard of performance required when carrying out a task.
National Occupational Standards (NOS)	NOS are occupational standards which apply uniquely in the Indian context.
Qualifications Pack(QP)	QP comprises the set of OSs, together with the educational, training and other criteria required to perform a job role. A QP is assigned a unique qualifications pack code.
Electives	Electives are NOS/set of NOS that are identified by the sector as contributive to specialization in a job role. There may be multiple electives within a QP for each specialized job role. Trainees must select at least one elective for the successful completion of a QP with Electives.
Options	Options are NOS/set of NOS that are identified by the sector as additional skills. There may be multiple options within a QP. It is not mandatory to select any of the options to complete a QP with Options.
Unit Code	Unit code is a unique identifier for an Occupational Standard, which is denoted by an 'N'
Unit Title	Unit title gives a clear overall statement about what the incumbent should be able to do.
Description	Description gives a short summary of the unit content. This would be helpful to anyone searching on a database to verify that this is the appropriate OS they are looking for.
Scope	Scope is a set of statements specifying the range of variables that an individual may have to deal with in carrying out the function which have a critical impact on quality of performance required.
Knowledge and Understanding	Knowledge and understanding are statements which together specify the technical, generic, professional and organisational specific knowledge that an individual need to perform to the required standard.
Organisational Context	Organisational context includes the way the organisation is structured and how it operates, including the extent of operative knowledge managers have of their relevant areas of responsibility.
Technical Knowledge	Technical knowledge is the specific knowledge needed to accomplish specific designated responsibilities.

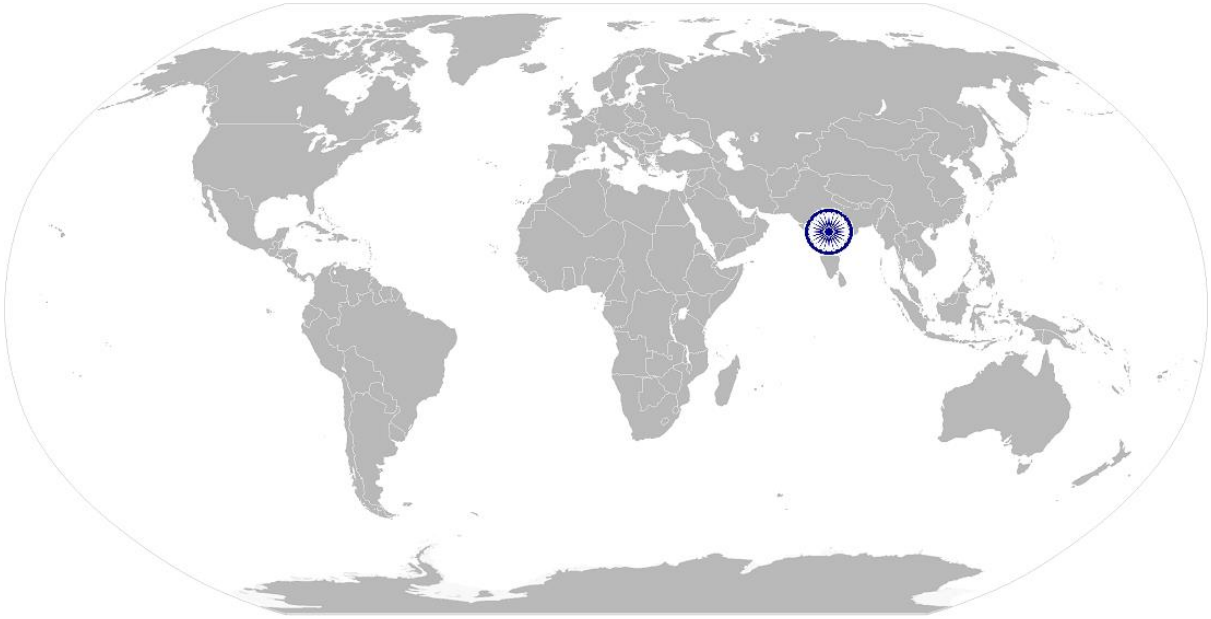
Core Skills/ Generic Skills	Core skills or generic skills are a group of skills that are the key to learning and working in today's world. These skills are typically needed in any work environment in today's world. In the context of the OS, these include communication related skills that are applicable to most job roles.

Acronyms

Keywords /Terms	Description
GTAW	Gas Tungsten Arc Welding
TIG	Tungsten Inert Gas Welding
NDT	Non-Destructive Testing
DT	Destructive Testing
WPS	Welding Procedure Spefication
RT	Radiographic Testing
UT	Ultrasonic Testing
DPT	Dye Penetrant Testing
MPT	Magnetic Particle Testing
FPT	Fluoroscent Penetrant Testing
CO_2	Carbon Dioxide
CPR	Cardiac Pulmonary Resuscitation

CSC/N0213 Perform Tungsten Inert Gas (TIG) Welding also known as Gas Tungsten Arc Welding (GTAW)

National Occupational Standard



Overview

This unit is about manual operations for performing tungsten inert gas (TIG) welding also known as gas tungsten arc welding (GTAW). The person would be able to independently carry out TIG (GTAW) weld operations for welding joints in all positions as per Welding Procedure Specification (WPS).

CSC/N0213 Perform Tungsten Inert Gas (TIG) Welding also known as Gas Tungsten Arc Welding (GTAW)

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Unit Code	**CSC/N0213**
Unit Title (Task)	**Perform Tungsten Inert Gas (TIG) Welding also known as Gas Tungsten Arc Welding (GTAW)**
Description	This unit covers the performing of manual TIG (GTAW) welding for a range of standard welding job requirements. This involves welding different materials (carbon steel, aluminum and stainless steel) in various positions. The welder can prepare various joints including corner, butt, fillet and tee.
Scope	This unit/task covers the following: • Work Safely • Prepare for welding operations • Carry out welding operations • Test for quality • Post welding techniques • Deal with contingencies

Performance Criteria(PC) w.r.t. the Scope	
Element	**Performance Criteria**
Work safely	To be competent, the user/individual on the job must be able to: PC1. work safely at all times, complying with health and safety legislation, regulations and other relevant guidelines PC2. adhere to procedures or systems in place for health and safety, personal protective equipment (PPE) and other relevant safety regulations for TIG welding operations Safety precautions: e.g. general workshop safety; fire prevention; general hazards; manual lifting; overhead lifting; shopfloor housekeeping including surface conditions; waste disposal; stability of surrounding structures, furniture etc. PC3. check the condition of welding leads, gas connection arrangements, earthing arrangements and electrode holder PC4. report any faults or potential hazards to appropriate authority
Prepare for welding operations	To be competent, the user/individual on the job must be able to: PC5. interpret weld procedure data sheets specifications Interpreting the WPS: welding process (ISO Codes); parent metal; consumables; pre welding joint preparation (cleaning, edge preparation, assembly, pre-heat); welding parameters; welding positions (EN ISO 6947 – PA, PB, PC, PD, PE, PF, PG; ASME IX – I-6 G/1-6 F); number and arrangement of runs to fully fill/weld joints; electrode (W); filler wire; electrical conditions required (type of current, alternating [A.C.] direct [D.C.], electrode polarity

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	(negative), welding current ranges; methods of arc ignition (scratch, high frequency, lift start); shielding gas (type, flow rate, pre-weld gas flow, postweld gas flow); techniques (including autogenous); control of heat input; interpass/run cleaning/back gouging methods; root pass with back purging of gases on the root side of the welding; post welding activities (wiring brushing, removal of excess weld metal where required); post-weld heat treatment (normalising, stress relief) PC6. select welding machines eg. transformer, inverters (AC/DC), rectifiers and generators, according to the materials and task PC7. select proper welding torch and tungsten electrode that meet the job requirement and specification Selection and preparation of tungsten electrode: types and classification of tungsten electrodes for different materials; angle and technique of preparation of the tungsten electrode tips; selection of the tungsten electrode diameter as per current PC8. obtain filler wire according to specifications PC9. prepare for the TIG welding process PC10. prepare the materials and joint in readiness for welding Material and joint preparation: made rust free; cleaned – free from scaling, paint, oil/grease; chemical cleaning; made dry and free from moisture; edges to be welded prepared as per job requirement (eg. flat, square or beveled); use various machines and techniques for the above (eg. chamfering machine, grinding and stripping, etc.); correctly positioned (Positioning: devices and techniques- jigs and fixtures; setting up the joint in the correct position and alignment) PC11. select tungsten electrode by the colour of the tip according to base metal, and correct diameter PC12. select and fit the welding shielding gases for a range of given applications PC13. plan the welding activities before they start them effectively and efficiently for achieving specifications as per WPS Checking activities: correct set-up of the joint; proper condition of electrical connections; welding return and earthing arrangements; operating parameters PC14. connect torches and the components Torch components: cables, water carrying tubes, ceramic nozzle, collet, collet holder, gas lens, teflon washers, bakelite cap, ceramic shields/nozzles PC15. connect and adjust regulators and flow meters to cylinders PC16. read, set and adjust current (amperage) as required PC17. set pre-purge with shielding gas as required

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	PC18. prepare tungsten by sharpening or balling it to desired tip shape PC19. set and verify gas flow rates PC20. prepare and support the joint, using the appropriate methods PC21. tack weld the joint at appropriate intervals, and check the joint for accuracy before final welding PC22. obtain clearance from quality control for weld joint before welding PC23. match feed and travel speed as required
Carry out welding operations	To be competent, the user/individual on the job must be able to: PC24. perform TIG welding operations using appropriate welding techniques to meet welding procedure specification requirements Welding techniques: fine adjustment of parameters (current and gas flow); selection of gas nozzle if required; selection of the outer nozzle ; correct manipulation of the torch; blending in stops/starts and tack welds; starting techniques PC25. use correct technique for starting the arc (using HF (high frequency) unit, scratching the electrode on the job material, lifting the electrode immediately after touching the job material) PC26. use correct angle of torch and filler wire PC27. weld the joint to the specified quality, dimensions and profile PC28. use manual welding and related equipment, to carry out TIG welding processes PC29. use welding consumables appropriate to the material and application, to include AC current types and DC current types Welding consumables: filler wires for different base materials, shielding gas PC30. produce joints of the required quality and of specified dimensional accuracy which achieve a weld quality equivalent to Level B of ISO 5817 Weld quality check standards: required parameters for dimensional accuracy; weld finishes are built up to the full section of the weld; joins at stop/start positions merge smoothly; weld surface (free from cracks; substantially free from porosity; free from any pronounced hump or crater; substantially free from shrinkage cavities; substantially free from arcing or chipping marks); fillet welds are: equal in leg length, slightly convex in profile (where applicable), size of the fillet equivalent to the thickness of the material welded; weld contour is: of linear and of uniform profile; smooth and free from excessive undulations; regular and has an even ripple formation; welds are adequately fused, and there is minimal undercut, overlap and surface inclusions; tack welds are blended in to form part of the finished weld, without excessive hump; corner joints have minimal burn through to the underside of the joint or, where appropriate

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	PC31. use both methods to produce the various joints a) with filler wire b) without filler wire (autogenously) PC32. produce joints from various materials in different forms Materials: ferrous: carbon steel, stainless steel (all grades); non-ferrous: aluminium and aluminium alloys; nickel and nickel alloys; titanium; copper and copper alloys Forms: sheet (less than 1.5 mm), plate (8 mm), section, pipe/tube, other forms PC33. weld joints in good access situations, in select positions PC34. shut down and make safe the welding equipment on completion of the welding activities PC35. make sure that the work area is maintained and left in a safe and tidy condition
Test for quality	To be competent, the user/individual on the job must be able to: PC36. use appropriate methods and equipment to check the quality, and that all dimensional and geometrical aspects of the weld are to the specification PC37. check that the welded joint conforms to the specification, by checking various quality parameters using visual inspection Quality parameters: dimensional accuracy; alignment/ squareness; size and profile of weld; visual defects; NDT/DT tested defects Types of visual inspections: use of visual techniques, lighting, low powered magnification, fillet weld gauges PC38. identify various weld defects Types of weld defects: lack of continuity of the weld; uneven and irregular ripple formation, incorrect weld size or profile, undercutting, overlap, inclusions, porosity, internal cracks, surface cracks, lack of fusion, lack of penetration, welding spatter, gouges, stray arc strikes, sharp edges PC39. detect surface imperfections and deal with them appropriately PC40. carry out LPT tests to assess fine defect open to the surface not detected by visual inspection (VT)
Post welding techniques	To be competent, the user/individual on the job must be able to: PC41. assist in preparation for non-destructive testing of the welds for a range of tests Non-destructive tests (NDT): visual inspection, leak test: dye penetrant (DPT), fluorescent penetrant (FPT); magnetic particle (MPT); radiographic (RT); ultrasonic (UT) PC42. prepare for destructive tests on weld specimens for select tests Destructive tests (DT): nick break test; bend tests (such as face, root or side, as appropriate); metallographic; mechanical (peel, tensile and shear, fatigue,

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	impact tests); chemical PC43. follow the established organisational process for dealing with the welded pieces including handover, storage, safety and security, record keeping, etc.
Deal with contingencies	To be competent, the user/individual on the job must be able to: PC44. detect equipment malfunctions and deal with them appropriately PC45. deal promptly and effectively with problems within their control, and seek help and guidance from the relevant people if they have problems that they cannot resolve
Knowledge and Understanding (K)	
A. Organizational Context (Knowledge of the company / organization and its processes)	The user/individual on the job needs to know and understand: KA1. relevant legislation, standards, policies, and procedures followed in the company KA2. key purpose of the organization KA3. department structure and hierarchy protocols KA4. work flow and own role in the workflow KA5. dependencies and interdependencies in the workflow KA6. support functions and types of support available for incumbents in this role
B. Technical Knowledge	The user/individual on the job needs to know and understand: KB1. the types of fire extinguishers and their suitable uses in case of welding related fires KB2. the effects of exposure to welding fume KB3. range of welding equipment available Welding equipment: transformer (variable wave forms and wave balancing); rectifier (pulsing); inverter; generator; measuring equipment for electrical output and continuity (voltmeter/multi-meter, ammeter/shunts/coils, tong tester); equipment for current regulation; high frequency unit; torches; electrodes; filler wires; water cooling and circulation system for TIG torch (water cooled torch); return clamps; foot pedal; ancillary equipment (table grinders for tungsten electrode, wire brushes, linishers, hammer, power saw, angle, pedestal and straight grinders, chisel); other equipment Shielding gases equipment: cylinders; manifold systems; regulators (fixed, single stage, two-stage); gas flow meters; gas tubes and connectors; solenoid valves; economisers KB4. basic principles of TIG welding and the functions of welding equipment Basic principles of TIG welding: the arc burns between a non- consumable tungsten electrode and the workpiece; exclusively inert gases (Argon, Helium) are used as shielding gases; TIG welding installation; for most applications an electrode with a negative polarity is used; for welding of aluminum, alternating current must be used; for arc ignition a high-frequency high

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	voltage is used KB5. concepts and mechanisms of welding Welding concepts and mechanisms: rated output (duty cycle); measurement of electrical output and continuity; power source characteristics (volt/ampere graph, flat characteristic, constant voltage output); types of current AC and DC and polarity; AC welding (square wave forms and wave balancing); DC pulsed TIG welding; function of induction (principle, effect, fixed, stepped, variable control); return; earth; indirect control of welding current; relay for electrical power KB6. different types of power source KB7. how to compare welding consumables for suitability for a range of given applications KB8. welding consumables classification Consumables classification: sizes [diameters, lengths]; strength and elongation of the weld metal; impact properties of the weld metal; chemical composition of the weld metal; protection of bare wires KB9. safe working practices, precautions and procedures to be followed when preparing and using TIG welding equipment Safety precautions (TIG Welding): protection from live and other electrical components, including insulation, proper earthing, proper loading, etc.; proper handling and placement of hot metal; taking account of splatter and related safe distance; adequate lighting; appropriate personal protective equipment (suitable aprons, welding gloves, respirators, safety boots, correctly fitting overalls, suitable eye shields/goggles); protection of self and others from the effects of the welding arc; fume extraction/control measures; safety measures for elevated and trench working; reduction in the local air concentration due to release of argon gas during welding in confined places KB10. hazards associated with TIG welding and safety precautions to minimize risk Safety precautions (general): general workshop safety; fire prevention; general hazards; manual lifting; overhead lifting; surface conditions stability of surrounding structures, furniture, etc KB11. different variants of the TIG welding (eg. orbital welding, internal bore welding, NG-TIG etc.) KB12. personal protective equipment to be worn for the welding activities KB13. correct handling and storage of gas cylinders KB14. manual TIG welding process KB15. type and thickness of base metals KB16. current types and polarity KB17. types of tungsten

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	KB18. types, selection and application of filler wires and welding electrodes KB19. reasons for using shielding gases, and the types and application of the various gases Shielding gases: shielding gases for GTAW; applications for shielding gases/gas mixtures (argon, argon/helium mixtures, argon/hydrogen mixtures, nitrogen argon/nitrogen mixtures); gas pressure requirements; flow rates for applications; back purging; trialing shield for material like titanium KB20. impact of shielding gas composition and purity on welding quality KB21. use, impact and importance of gas pressures and flow rates in relationship to the type of material being welded KB22. pre- and post-flow purge and its importance KB23. importance and application of back purging KB24. types of welded joints to be produced Types of joints: fillet lap joints, tee fillet joints, corner joints, butt joints (square, single vee, double vee, single j (for higher thickness), double j) KB25. terminology used for the appropriate welding positions Welding Positions: flat (PA) IG/1F, horizontal vertical (PB) 2F, horizontal (PC) 2G, vertical upwards (PF) 3F / 3G, vertical downwards (PG) 3F / 3G, Plate to Pipe (Fixed) 5F, Pipe to Pipe 5G, Pipe welding at inclined position 6G KB26. types of torches such as air cooled and liquid cooled KB27. how to prepare the materials in readiness for the welding activity KB28. how to set up and restrain the joint, and the tools and techniques to be used KB29. appropriate tack welding size and spacing (in relationship to material thickness) KB30. checks to be made prior to welding Checking activities: correct set-up of the joint; proper condition of electrical connections; welding return and earthing arrangements; operating parameters KB31. operating the welding equipment to produce a range of joints in the various joint positions KB32. effects of the electrical characteristics of the TIG welding arc Electrical characteristics: power source characteristics (volt/ampere graph, drooping characteristic, constant current output); effects of types of current and electrode polarity: heat input/distribution, electrode, weld bead profile, penetration, methods of a.c. arc stabilisation (including: square wave), welding current features (pulse current, slope in, slope out), voltage (open circuit, arc) KB33. gouging and back gouging principles, methods and procedures KB34. purpose and importance of pre-heating requirements for base metals

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	KB35. purpose and importance of post-heating in welding KB36. methods to achieve pre-heat and post heat requirements KB37. tools and methods to measure temperature for pre-heat and post-heat requirements such as thermal chalk, thermocouple, etc. KB38. how to control distortion (such as welding sequence; deposition technique) KB39. problems that can occur with the welding activities KB40. how to close down the welding equipment safely and correctly KB41. how to prepare the welds for examination KB42. how to check the welded joints for uniformity, alignment, position, weld size and profile KB43. various procedures for visual examination of the welds for cracks KB44. types of non-destructive and destructive tests KB45. correct procedure for carrying out the Dye Penetrant Test KB46. handling of weld specimens for tests and methods of removing a test piece of weld from a suitable position in the joint Handling specimens for tests: handling hot materials, using chemicals for cleaning and etching; using equipment to fracture welds. KB47. safe working practices and procedures to be adopted when preparing the welds for examination KB48. importance of leaving the work area and equipment in a safe condition on completion of the welding activities
Skills (S)	
A. Core Skills/ Generic Skills	**Reading Skills**
	The user/ individual on the job needs to know and understand how to: SA1. read and interpret information correctly from various job specification documents, health and safety instructions, memos, etc. applicable to the job in English and/or local language
	Writing Skills
	The user/individual on the job needs to know and understand how to: SA2. fill up appropriate technical forms, process charts, activity logs as per organizational format in English and/or local language SA3. undertake numerical operations, geometry and calculations/ formulae (including addition, subtraction, multiplication, division, fractions and decimals, percentages and proportions, simple ratios and averages) SA4. use appropriate measuring techniques SA5. use and convert imperial and metric systems of measurements SA6. apply appropriate degree of accuracy to express numbers Units and number systems representing degree of accuracy: decimals places,

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	significant figures, fractions as a decimal quantity SA7. use and understand tolerance in terms of limits of size SA8. check measurements, angles, orientation and slopes SA9. types of reference lines such as tangent lines, datam lines, centre lines and work points SA10. check square of material using corner-to-corner dimensions and triangulation (3-4-5) method SA11. select and use tools and equipment such as measuring tapes, levels, squares, protractors and dividers SA12. ability to check dimensions of components SA13. calculate the value of angles in a triangle
	Oral Communication (Listening and Speaking skills)
	The user/individual on the job needs to know and understand how to: SA14. convey and share technical information clearly using appropriate language SA15. check and clarify task-related information SA16. liaise with appropriate authorities using correct protocol SA17. communicate with people in respectful form and manner in line with organizational protocol
B. Professional Skills	**Decision Making**
	NA
	Plan and Organize
	The user/individual on the job needs to know and understand how to: SB1. plan, prioritize and sequence work operations as per job requirements SB2. organize and analyze information relevant to work SB3. basic concepts of shop-floor work productivity including waste reduction, efficient material usage and optimization of time
	Customer Centricity
	The user/individual on the job needs to know and understand how to: SB4. exercise restraint while expressing dissent and during conflict situations SB5. avoid and manage distractions to be disciplined at work SB6. manage own time for achieving better results SB7. work in a team in order to achieve better results SB8. identify and clarify work roles within a team SB9. communicate and cooperate with others in the team for better results SB10. seek assistance from fellow team members
	Problem Solving

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	The user/individual on the job needs to know and understand how to: SB11. identify problems with work planning, procedures, output and behavior and their implications SB12. prioritize and plan for problem solving SB13. communicate problems appropriately to others SB14. identify sources of information and support for problem solving SB15. seek assistance and support from other sources to solve problems SB16. identify effective resolution techniques SB17. select and apply resolution techniques SB18. seek evidence for problem resolution
	Analytical Thinking
	The user/individual on the job needs to know and understand how to: SB19. undertake and express new ideas and initiatives to others SB20. modify work plan to overcome unforeseen difficulties or developments that occur as work progresses SB21. participate in improvement procedures including process, quality and internal/external customer/supplier relationships SB22. enhance one's competencies in new and different situations and contexts to achieve more
	Critical Thinking
	The user/individual on the job needs to know and understand how to: SB23. participate in on-the-job and other learning, training and development interventions and assessments SB24. clarify task related information with appropriate personnel or technical adviser SB25. seek to improve and modify own work practices SB26. maintain current knowledge of application standards, legislation, codes of practice and product/process developments

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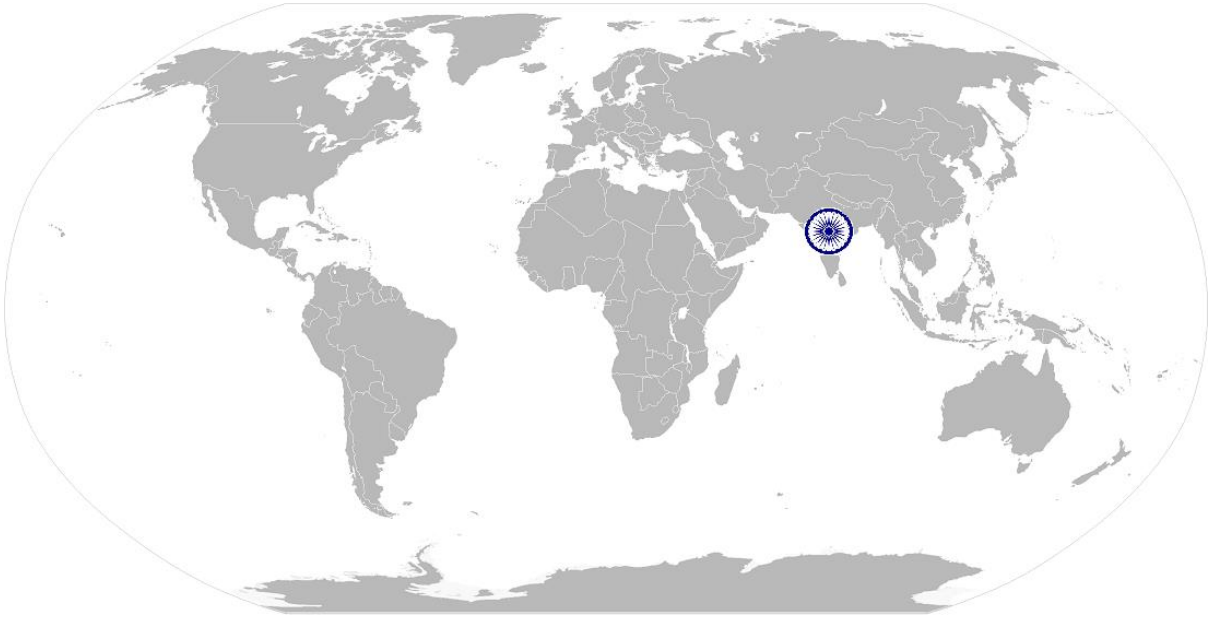
NOS Version Control

NOS Code	**CSC/N0213**		
Credits	**TBD**	**Version number**	**1.0**
Industry	**Capital Goods**	**Drafted on**	**24/03/2014**
Industry Sub-sector	**1. Machine Tools 2. Dies, Moulds and Press Tools 3. Plastics Manufacturing Machinery 4. Textile Manufacturing Machinery 5. Process Plant Machinery 6. Electrical and Power Machinery 7. Light Engineering Goods**	**Last reviewed on**	**24/11/2017**
Occupation	**Welding and Cutting**	**Next review date**	**24/11/2021**

CSC/N1335 Use basic health and safety practices at the workplace

National Occupational Standard



Overview

This unit covers health, safety and security at the workplace. This includes procedures and practices that candidates need to follow to help maintain a healthy, safe and secure work environment.

CSC/N1335 Use basic health and safety practices at the workplace

National Occupational Standard

Unit Code	**CSC/N1335**
Unit Title (Task)	**Use basic health and safety practices at the workplace**
Description	This OS unit is about knowledge and practices relating to health, safety and security that candidates need to use in the workplace. It covers responsibilities towards self, others, assets and the environment.
Scope	This unit/task covers the following: • Health and safety • Fire safety • Emergencies, rescue and first-aid procedure

Performance Criteria(PC) w.r.t. the Scope	
Element	**Performance Criteria**
Health and safety	To be competent, the user/individual on the job must be able to: PC1. use protective clothing/equipment for specific tasks and work conditions Protective clothing: leather or asbestos gloves, flame proof aprons, flame proof overalls buttoned to neck, cuffless (without folds), trousers, reinforced footwear, helmets/hard hats, cap and shoulder covers, ear defenders/plugs, safety boots, knee pads, particle masks, glasses/goggles/visors Equipment: hand shields, machine guards, residual current devices, shields, dust sheets, respirator PC2. state the name and location of people responsible for health and safety in the workplace PC3. state the names and location of documents that refer to health and safety in the workplace PC4. identify job-site hazardous work and state possible causes of risk or accident in the workplace Hazards: sharp edged and heavy tools; heated metals; oxy fuel and gas cylinders; welding radiation; hazardous surfaces (sharp, slippery, uneven, chipped, broken, etc.); hazardous substances (chemicals, gas, oxy-fuel, fumes, dust, etc.); physical hazards (working at heights, large and heavy objects and machines, sharp and piercing objects, tolls and machines, intense light, load noise, obstructions in corridors, by doors, blind turns, noise, over stacked shelves and packages, etc.) electrical hazards (power supply and points, loose and naked cables and wires, electrical machines and appliances, etc.) Possible causes of risk and accident: physical actions; reading; listening to and giving instructions; inattention; sickness and incapacity (such as

CSC/N1335 Use basic health and safety practices at the workplace

	drunkenness); health hazards (such as untreated injuries and contagious illness) PC5. carry out safe working practices while dealing with hazards to ensure the safety of self and others Safe working practices: using protective clothing and equipment; putting up and reading safety signs; handle tools in the correct manner and store and maintain them properly; keep work area clear of clutter, spillage and unsafe object lying casually; while working with electricity take all electrical precautions like insulated clothing, adequate equipment insulation, use of control equipment, dry work area, switch off the power supply when not required, etc.; safe lifting and carrying practices; use equipment that is working properly and is well maintained; take due measures for safety while working in confined places, trenches or at heights, etc. including safety harness, fall arrestors, etc. PC6. state methods of accident prevention in the work environment of the job role Methods of accident prevention: training in health and safety procedures; using health and safety procedures; use of equipment and working practices (such as safe carrying procedures); safety notices, advice; instruction from colleagues and supervisors PC7. state location of general health and safety equipment in the workplace General health and safety equipment: fire extinguishers; first aid equipment; safety instruments and clothing; safety installations (eg fire exits, exhaust fans) PC8. inspect for faults, set up and safely use steps and ladders in general use Ladder faults: corrosion of metal components, deterioration, splits and cracks timber components, imbalance, loose rungs, missing/ unfixed nuts or bolts, etc. Ladders set up: firm/level base, clip/lash down, leaning at the correct angle, etc. PC9. work safely in and around trenches, elevated places and confined areas PC10. lift heavy objects safely using correct procedures PC11. apply good housekeeping practices at all times Good housekeeping practices: clean/tidy work areas, removal/disposal of waste products, protect surfaces PC12. identify common hazard signs displayed in various areas Various areas: on chemical containers; equipment; packages; inside buildings; in open areas and public spaces, etc. PC13. retrieve and/or point out documents that refer to health and safety in the workplace Documents: fire notices, accident reports, safety instructions for equipment

CSC/N1335 Use basic health and safety practices at the workplace

	and procedures, company notices and documents, legal documents (eg government notices)
Fire safety	To be competent, the user/individual on the job must be able to: PC14. use the various appropriate fire extinguishers on different types of fires correctly Types of fires: Class A: eg. ordinary solid combustibles, such as wood, paper, cloth, plastic, charcoal, etc.; Class B: flammable liquids and gases, such as gasoline, propane, diesel fuel, tar, cooking oil, and similar substances; Class C: eg. electrical equipment such as appliances, wiring, breaker panels, etc. (These categories of fires become Class A, B, and D fires when the electrical equipment that initiated the fire is no longer receiving electricity); Class D: combustible metals such as magnesium, titanium, and sodium (These fires burn at extremely high temperatures and require special suppression agents) PC15. demonstrate rescue techniques applied during fire hazard PC16. demonstrate good housekeeping in order to prevent fire hazards PC17. demonstrate the correct use of a fire extinguisher
Emergencies, rescue and first-aid procedures	To be competent, the user/individual on the job must be able to: PC18. demonstrate how to free a person from electrocution PC19. administer appropriate first aid to victims where required eg. in case of bleeding, burns, choking, electric shock, poisoning etc. PC20. demonstrate basic techniques of bandaging PC21. respond promptly and appropriately to an accident situation or medical emergency in real or simulated environments PC22. perform and organize loss minimization or rescue activity during an accident in real or simulated environments PC23. administer first aid to victims in case of a heart attack or cardiac arrest due to electric shock, before the arrival of emergency services in real or simulated cases PC24. demonstrate the artificial respiration and the CPR Process PC25. participate in emergency procedures Emergency procedures: raising alarm, safe/efficient, evacuation, correct means of escape, correct assembly point, roll call, correct return to work PC26. complete a written accident/incident report or dictate a report to another person, and send report to person responsible Incident Report includes details of: name, date/time of incident, date/time of report, location, environment conditions, persons involved, sequence of events, injuries sustained, damage sustained, actions taken, witnesses, supervisor/manager notified PC27. demonstrate correct method to move injured people and others during an emergency

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Knowledge and Understanding (K)	
A. Organizational Context (Knowledge of the company / organization and its processes)	The user/individual on the job needs to know and understand: KA1. names (and job titles if applicable), and where to find, all the people responsible for health and safety in a workplace KA2. names and location of documents that refer to health and safety in the workplace
B. Technical Knowledge	The user/individual on the job needs to know and understand: KB1. meaning of "hazards" and "risks" KB2. health and safety hazards commonly present in the work environment and related precautions KB3. possible causes of risk, hazard or accident in the workplace and why risk and/or accidents are possible KB4. possible causes of risk and accident Possible causes of risk and accident: physical actions; reading; listening to and giving instructions; inattention; sickness and incapacity (such as drunkenness); health hazards (such as untreated injuries and contagious illness) KB5. methods of accident prevention Methods of accident prevention: training in health and safety procedures; using health and safety procedures; use of equipment and working practices (such as safe carrying procedures); safety notices, advice; instruction from colleagues and supervisors KB6. safe working practices when working with tools and machines KB7. safe working practices while working at various hazardous sites KB8. where to find all the general health and safety equipment in the workplace KB9. various dangers associated with the use of electrical equipment KB10. preventative and remedial actions to be taken in the case of exposure to toxic materials Exposure: ingested, contact with skin, inhaled Preventative action: ventilation, masks, protective clothing/ equipment); Remedial action: immediate first aid, report to supervisor Toxic materials: solvents, flux, lead KB11. importance of using protective clothing/equipment while working KB12. precautionary activities to prevent the fire accident KB13. various causes of fire Causes of fires: heating of metal; spontaneous ignition; sparking; electrical heating; loose fires (smoking, welding, etc.); chemical fires; etc. KB14. techniques of using the different fire extinguishers

CSC/N1335 Use basic health and safety practices at the workplace

	KB15. different methods of extinguishing fire KB16. different materials used for extinguishing fire Materials: sand, water, foam, CO_2, dry powder KB17. rescue techniques applied during a fire hazard KB18. various types of safety signs and what they mean KB19. appropriate basic first aid treatment relevant to the condition eg. shock, electrical shock, bleeding, breaks to bones, minor burns, resuscitation, poisoning, eye injuries KB20. content of written accident report KB21. potential injuries and ill health associated with incorrect manual handing KB22. safe lifting and carrying practices KB23. personal safety, health and dignity issues relating to the movement of a person by others KB24. potential impact to a person who is moved incorrectly
Skills (S)	
A. Core Skills/ Generic Skills	**Reading Skills**
	The user/ individual on the job needs to know and understand how to: SA1. read and comprehend basic content to read labels, charts, signages SA2. read and comprehend basic English to read manuals of operations SA3. read an accident/incident report in local language or English
	Writing Skills
	The user/individual on the job needs to know and understand how to: SA4. write an accident/incident report in local language or English
	Oral Communication (Listening and Speaking skills)
	The user/individual on the job needs to know and understand how to: SA5. question coworkers appropriately in order to clarify instructions and other issues SA6. give clear instructions to coworkers, subordinates others
B. Professional Skills	**Decision Making**
	The user/individual on the job needs to know and understand how to: SB1. make appropriate decisions pertaining to the concerned area of work with respect to intended work objective, span of authority, responsibility, laid down procedure and guidelines
	Plan and Organize
	The user/individual on the job needs to know and understand how to: SB2. plan and organize their own work schedule, work area, tools, equipment and materials to maintain decorum and for improved productivity
	Customer Centricity

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	The user/individual on the job needs to know and understand how to: SB3. remain congenial while discussing and debating issues with co-workers SB4. follow appropriate protocols for communication based on situation, hierarchy, organizational culture and practice SB5. ask for, provide and receive required assistance where possible to ensure achievement of work related objectives SB6. thank coworkers for any assistance received SB7. offer appropriate respect based on mutuality and respect for fellow workmanship and authority
	Problem Solving
	The user/individual on the job needs to know and understand how to: SB8. think through the problem, evaluate the possible solution(s) and suggest an optimum /best possible solution(s) SB9. identify immediate or temporary solutions to resolve delays SB10. identify sources of support that can be availed of for problem solving for various kind of problems SB11. seek appropriate assistance from other sources to resolve problems SB12. report problems that you cannot resolve to appropriate authority
	Analytical Thinking
	The user/individual on the job needs to know and understand how to: SB13. identify cause and effect relations in their area of work SB14. use cause and effect relations to anticipate potential problems and their solution
	Critical Thinking
	NA

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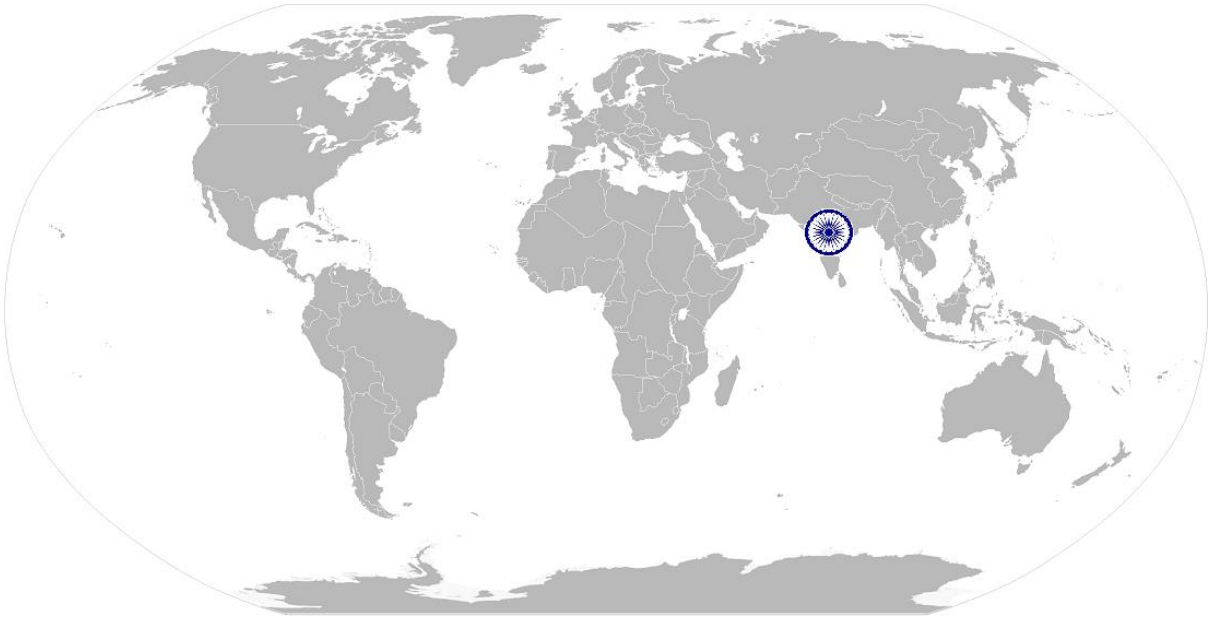
NOS Version Control

NOS Code	CSC/N1335		
Credits	TBD	Version number	1.0
Industry	Capital Goods	Drafted on	24/03/2014
Industry Sub-sector	1. Machine Tools 2. Dies, Moulds and Press Tools 3. Plastics Manufacturing Machinery 4. Textile Manufacturing Machinery 5. Process Plant Machinery 6. Electrical and Power Machinery 7. Light Engineering Goods	Last reviewed on	24/11/2017
Occupation	Welding and Cutting	Next review date	24/11/2021

CSC/N1336 **Work effectively with others**

National Occupational Standard



Overview

This unit covers basic practices that improve effectiveness of working with others in an organizational set-up.

CSC/N1336 **Work effectively with others**

National Occupational Standard

Unit Code	**CSC/N1336**
Unit Title (Task)	**Work effectively with others**
Description	This unit covers basic etiquette and competencies that a candidate is required to possess and demonstrate in their behavior and interactions with others at the workplace. These cover areas such as communication etiquette, discipline, listening etc.
Scope	This unit/task covers the following: • Work effectively with others

Performance Criteria (PC) w.r.t. the Scope	
Element	**Performance Criteria**
Work effectively with others	To be competent, the user/individual on the job must be able to: PC1. accurately receive information and instructions from the supervisor and fellow workers, getting clarification where required PC2. accurately pass on information to authorized persons who require it and within agreed timescale and confirm its receipt PC3. give information to others clearly, at a pace and in a manner that helps them to understand PC4. display helpful behavior by assisting others in performing tasks in a positive manner, where required and possible PC5. consult with and assist others to maximize effectiveness and efficiency in carrying out tasks PC6. display appropriate communication etiquette while working Communication etiquette: do not use abusive language; use appropriate titles and terms of respect; do not eat or chew while talking (vice versa) etc. PC7. display active listening skills while interacting with others at work PC8. use appropriate tone, pitch and language to convey politeness, assertiveness, care and professionalism PC9. demonstrate responsible and disciplined behaviors at the workplace Disciplined behaviors: e.g. punctuality; completing tasks as per given time and standards; not gossiping and idling time; eliminating waste, honesty, etc. PC10. escalate grievances and problems to appropriate authority as per procedure to resolve them and avoid conflict

Knowledge and Understanding (K)	
A. Organizational Context (Knowledge of the company / organization and	The user/individual on the job needs to know and understand: KA1. legislation, standards, policies, and procedures followed in the company relevant to own employment and performance conditions KA2. reporting structure, inter-dependent functions, lines and procedures in the work area

its processes)	KA3. relevant people and their responsibilities within the work area KA4. escalation matrix and procedures for reporting work and employment related issues
B. Technical Knowledge	The user/individual on the job needs to know and understand: KB1. various categories of people that one is required to communicate and co-ordinate with in the organization KB2. importance of effective communication in the workplace KB3. importance of teamwork in organizational and individual success KB4. various components of effective communication KB5. key elements of active listening KB6. value and importance of active listening and assertive communication KB7. barriers to effective communication KB8. importance of tone and pitch in effective communication KB9. importance of avoiding casual expletives and unpleasant terms while communicating professional circles KB10. how poor communication practices can disturb people, environment and cause problems for the employee, the employer and the customer KB11. importance of ethics for professional success KB12. importance of discipline for professional success KB13. what constitutes disciplined behavior for a working professional KB14. common reasons for interpersonal conflict KB15. importance of developing effective working relationships for professional success KB16. expressing and addressing grievances appropriately and effectively KB17. importance and ways of managing interpersonal conflict effectively
Skills (S)	
A. Core Skills/ Generic Skills	**Reading Skills**
	The user/ individual on the job needs to know and understand how to: SA1. read basic terms and terminologies to accurately interpret work related documents, labels, supervisor instructions in the local language SA2. read and interpret accurate information from various relevant work instructions and records
	Writing Skills
	The user/ individual on the job needs to know and understand how to: SA3. write clear and legible notes to self, colleagues and seniors to pass messages, keep records, prepare to-do lists, take down instructions SA4. write basic numbers, quantities and work related terminology for operational requirements in the local language
	Oral Communication (Listening and Speaking skills)

CSC/N1336 **Work effectively with others**

	The user/individual on the job needs to know and understand how to: SA5. interact with the supervisor appropriately (correct protocol and manner of speaking) in order to understand the basic requirements of the product, production plans and other associated requirements SA6. give clear instructions to co-workers about the type of output required and answer queries SA7. display active listening skills while interacting with co-workers and other in the workplace
B. Professional Skills	**Decision Making**
	NA
	Plan and organize
	The user/individual on the job needs to know and understand how to: SB1. use appropriate planning to maintain a smooth relationship with fellow team members SB2. take steps within one's limits of authority to initiate modification in plan if the circumstances require it
	Customer centricity
	The user/individual on the job needs to know and understand how to: SB3. check that work meets customer requirements SB4. deliver consistent and reliable service to internal and external customers
	Problem Solving
	The user/individual on the job needs to know and understand how to: SB5. work with co-workers and supervisor to resolve any issues that threaten disruption, increase risk, cause delays or under-achievement of quality and targets as per the planned schedule
	Analytical Thinking
	NA
	Critical Thinking
	NA

CSC/N1336 **Work effectively with others**

NOS Version Control

NOS Code	CSC/N1336		
Credits	TBD	Version number	1.0
Industry	Capital Goods	Drafted on	24/03/2014
Industry Sub-sector	1. Machine Tools 2. Dies, Moulds and Press Tools 3. Plastics Manufacturing Machinery 4. Textile Manufacturing Machinery 5. Process Plant Machinery 6. Electrical and Power Machinery 7. Light Engineering Goods	Last reviewed on	24/11/2017
Occupation	Welding and Cutting	Next review date	24/11/2021

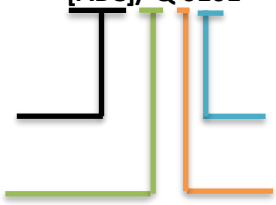
Annexure

Nomenclature for QP and NOS

Qualifications Pack

9 characters

[ABC]/ Q 0101



[Insert 3 letter codes for SSC]

Q denoting Qualifications Pack

QP number (2 numbers)

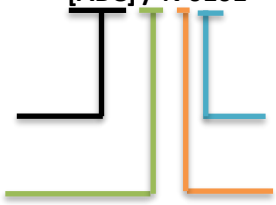
Occupation (2 numbers)

Occupational Standard

An example of NOS with 'N'

9 characters

[ABC] / N 0101



[Insert 3 letter codes for SSC]

N denoting National Occupational Standard

OS number (2 numbers)

Occupation (2 numbers)

Back to top…

The following acronyms/ codes have been used in the nomenclature above:

Sub-sector	Range of Occupation numbers
Machine Tools	01-13
Dies, Moulds and Press Tools	01-13
Plastic Manufacturing Machinery	01-13
Textile Manufacturing Machinery	01-13
Process Plant Machinery	01-13
Electrical and Power Machinery	01-13
Light Engineering Goods	01-13

Sequence	Description	Example
Three letters	Capital Goods	CSC
Slash	/	/
Next letter	Whether **Q**P or **N**OS	N
Next two numbers	Occupation code	01
Next two numbers	OS number	01

Criteria For Assessment Of Trainees

Job Role: Senior Tungsten Inert Gas Welder (GTAW)

Qualification Pack: CSC/Q0213

Sector Skill Council: Capital Goods Skill Council

Guidelines for Assessment

1. Criteria for assessment for each Qualification Pack will be created by the Sector Skill Council. Each Performance Criteria (PC) will be assigned marks proportional to its importance in NOS. SSC will also lay down proportion of marks for Theory and Skills Practical for each PC.
2. The assessment for the theory part will be based on knowledge bank of questions created by the SSC.
3. Assessment will be conducted for all compulsory NOS, and where applicable, on the selected elective/option NOS/set of NOS.
4. Individual assessment agencies will create unique question papers for theory part for each candidate at each examination/training center (as per assessment criteria below).
5. Individual assessment agencies will create unique evaluations for skill practical for every student at each examination/training center based on this criterion.
6. To pass the Qualification Pack , every trainee should score a minimum of 70% of aggregate marks to successfully clear the assessment.
7. In case of *unsuccessful completion*, the trainee may seek reassessment on the Qualification Pack.

Compulsory NOS **Total Marks: 300**				**Marks Allocation**	
Assessment outcomes	**Assessment Criteria for outcomes**	**Total Marks**	**Out of**	**Theory**	**Skills Practical**
CSC/N0213 Perform Tungsten Inert Gas (TIG) Welding also known as Gas Tungsten Arc Welding (GTAW)	PC1.work safely at all times, complying with health and safety legislation, regulations and other relevant guidelines	100	2	1	1
	PC2.adhere to procedures or systems in place for health and safety, personal protective equipment (PPE) and other relevant safety regulations for TIG welding operations		2	1	1
	PC3.check the condition of welding leads, gas connection arrangements, earthing arrangements and electrode holder		1	0	1
	PC4.report any faults or potential hazards to appropriate authority		1	0	1
	PC5.interpret weld procedure data sheets specifications		2	1	1
	PC6.select welding machines eg. transformer, inverters (AC/DC), rectifiers and generators, according to the materials and task		2	0	2

	PC7.select proper welding torch and tungsten electrode that meet the job requirement and specification		1	0	1
	PC8.obtain filler wire according to specifications		2	1	1
	PC9.prepare for the TIG welding process		2	0	2
	PC10.prepare the materials and joint in readiness for welding		2	0	2
	PC11.select tungsten electrode by the colour of the tip according to base metal and correct diameter		3	1	2
	PC12.select and fit the welding shielding gases for a range of given applications		2	1	1
	PC13.plan the welding activities before they start them effectively and efficiently for achieving specifications as per WPS		3	1	2
	PC14.connect torches and the components		3	1	2
	PC15.connect and adjust regulators and flow meters to cylinders		2	0	2
	PC16.read, set and adjust current (amperage) as required		2	0	2
	PC17.set pre-purge with shielding gas as required		2	0	2
	PC18.prepare tungsten by sharpening or balling it to desired tip shape		2	0	2
	PC19.set and verify gas flow rates		2	0	2
	PC20.prepare and support the joint, using the appropriate methods		3	1	2
	PC21.tack weld the joint at appropriate intervals, and check the joint for accuracy before final welding		2	0	2
	PC22.obtain clearance from quality control for weld joint before welding		1	0	1
	PC23.match feed and travel speed as required		2	1	1
	PC24.perform TIG welding operations using appropriate welding techniques to meet welding procedure specification requirements		4	1	3
	PC25.use correct technique for starting the arc (using HF (high frequency) unit, scratching the electrode on the job material, lifting the electrode immediately after touching the job material)		3	1	2
	PC26.use correct angle of torch and filler wire		2	1	1
	PC27.weld the joint to the specified quality, dimensions and profile		3	1	2

	PC28.use manual welding and related equipment, to carry out TIG welding processes		3	1	2
	PC29.use welding consumables appropriate to the material and application, to include AC current types and DC current types		2	1	1
	PC30.produce joints of the required quality and of specified dimensional accuracy which achieve a weld quality equivalent to Level B of ISO 5817		4	1	3
	PC31.use both methods to produce the various joints a) with filler wire b) without filler wire (autogenously)		3	1	2
	PC32.produce joints from various materials in different forms		3	1	2
	PC33.weld joints in good access situations, in select positions		3	1	2
	PC34.shut down and make safe the welding equipment on completion of the welding activities		2	0	2
	PC35.make sure that the work area is maintained and left in a safe and tidy condition		1	0	1
	PC36.use appropriate methods and equipment to check the quality, and that all dimensional and geometrical aspects of the weld are to the specification		3	1	2
	PC37.check that the welded joint conforms to the specification, by checking various quality parameters using visual inspection		3	1	2
	PC38.identify various weld defects		2	0	2
	PC39.detect surface imperfections and deal with them appropriately		2	0	2
	PC40.carry out LPT tests to assess fine defect open to the surface not detected by visual inspection (VT)		3	1	2
	PC41.assist in preparation for non-destructive testing of the welds for a range of tests		2	1	1
	PC42.prepare for destructive tests on weld specimens for select tests		2	1	1
	PC43.follow the established organisational process for dealing with the welded pieces including handover, storage, safety and security, record keeping, etc.		2	1	1
	PC44.detect equipment malfunctions and deal with them appropriately		1	0	1
	PC45.deal promptly and effectively with problems within their control, and seek help and guidance from the relevant people if they have problems that they cannot resolve		1	0	1

		Total	100	26	74
CSC/N1335 Use basic health and safety practices at the workplace	PC1.use protective clothing/equipment for specific tasks and work conditions	100	4	1	3
	PC2.state the name and location of people responsible for health and safety in the workplace		3	1	2
	PC3.state the names and location of documents that refer to health and safety in the workplace		3	1	2
	PC4.identify job-site hazardous work and state possible causes of risk or accident in the workplace		5	2	3
	PC5.carry out safe working practices while dealing with hazards to ensure the safety of self and others		4	2	2
	PC6.state methods of accident prevention in the work environment of the job role		3	2	1
	PC7.state location of general health and safety equipment in the workplace		5	2	3
	PC8.inspect for faults, set up and safely use steps and ladders in general use		5	2	3
	PC9.work safely in and around trenches, elevated places and confined areas		5	2	3
	PC10.lift heavy objects safely using correct procedures		4	2	2
	PC11.apply good housekeeping practices at all times		5	2	3
	PC12.identify common hazard signs displayed in various areas		3	1	2
	PC13.retrieve and/or point out documents that refer to health and safety in the workplace		4	1	3
	PC14.use the various appropriate fire extinguishers on different types of fires correctly		3	1	2
	PC15.demonstrate rescue techniques applied during fire hazard		3	1	2
	PC16.demonstrate good housekeeping in order to prevent fire hazards		4	1	3
	PC17.demonstrate the correct use of a fire extinguisher		4	1	3
	PC18.demonstrate how to free a person from electrocution		4	1	3
	PC19.administer appropriate first aid to victims where required eg. in case of bleeding, burns, choking, electric shock, poisoning etc.		3	1	2
	PC20.demonstrate basic techniques of bandaging		3	1	2

	PC21.respond promptly and appropriately to an accident situation or medical emergency in real or simulated environments		3	1	2
	PC22.perform and organize loss minimization or rescue activity during an accident in real or simulated environments		3	1	2
	PC23.administer first aid to victims in case of a heart attack or cardiac arrest due to electric shock, before the arrival of emergency services in real or simulated cases		3	1	2
	PC24.demonstrate the artificial respiration and the CPR Process		3	1	2
	PC25.participate in emergency procedures		4	1	3
	PC26.complete a written accident/incident report or dictate a report to another person, and send report to person responsible		3	1	2
	PC27.demonstrate correct method to move injured people and others during an emergency		4	2	2
		Total	**100**	**36**	**64**
CSC/N1336 Work effectively with others	PC1.accurately receive information and instructions from the supervisor and fellow workers, getting clarification where required	100	10	3	7
	PC2.accurately pass on information to authorized persons who require it and within agreed timescale and confirm its receipt		10	3	7
	PC3.give information to others clearly, at a pace and in a manner that helps them to understand		10	3	7
	PC4.display helpful behavior by assisting others in performing tasks in a positive manner, where required and possible		10	3	7
	PC5.consult with and assist others to maximize effectiveness and efficiency in carrying out tasks		10	3	7
	PC6.display appropriate communication etiquette while working		10	3	7
	PC7.display active listening skills while interacting with others at work		10	3	7
	PC8.use appropriate tone, pitch and language to convey politeness, assertiveness, care and professionalism		10	3	7
	PC9.demonstrate responsible and disciplined behaviors at the workplace		10	3	7
	PC10.escalate grievances and problems to appropriate authority as per procedure to resolve them and avoid conflict		10	3	7
		Total	**100**	**30**	**70**