

## QUALIFICATIONS PACK - OCCUPATIONAL STANDARDS FOR AUTOMOTIVE INDUSTRY

### 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-Welding and Quality Technician

**SECTOR:** AUTOMOTIVE

**SUB-SECTOR:** Manufacturing

**OCCUPATION:** Welding

**REFERENCE ID:** ASC/Q3109

**ALIGNED TO:** NCO-2015/7212.0100, 7212.0200, 7212.0300, 2149.10

**Brief Job Description:** Welding and Quality Technician may also be called Assistant welder. The role primarily involves supporting senior welder in all types of Gas Discharge Arc Welding ( MIG, MAG, and TIG ), Resistance Welding (Spot Welding, Projection Welding, Butt Welding) and Automatic or Robotic Welding Process and in build quality inspection activities.

**Personal Attributes:** The individual should be able to read basic drawings, identify various tools and equipments, observe gauges, dials etc. Maintaining arm steadiness, ability to quickly move hand to grasp and assemble objects (dexterity), reading, writing and communication skills and sensitivity towards safety for self, others and equipment.

Job Details	Qualifications Pack Code	ASC/Q3109		
	Job Role	Welding and Quality Technician (Applicable for national scenarios)		
	Credits	TBD	Version number	1.0
	Sector	Automotive	Drafted on	18/10/16
	Sub-sector	Manufacturing	Last reviewed on	18/10/16
	Occupation	Welding	Next review date	20/10/18
	NSQC Clearance on			

Job Role	Welding and Quality Technician
Role Description	The Role requires the person to understand different welding processes and quality requirements and is expected to assist in giving quality output from a welding process in conformance to quality and design parameters.
NSQF level	3
Minimum Educational Qualifications	10 <sup>th</sup> Standard pass, preferably
Maximum Educational Qualifications	NA
Training (Suggested but not mandatory)	Training: to ASDC standards (ASC/Q 3101 Welding Assistant Level-2) <ul style="list-style-type: none"> <li>Different Welding techniques used in organization, Reading and writing skills</li> <li>5S &amp; Safety</li> </ul>
Minimum Job Entry Age	1. ASDC recommends that candidates should seek full employment not before attaining an age of 18 years. 2. However, as per Factories Act 1948 and Shops & Establishment Act 1953: <ul style="list-style-type: none"> <li>No one can be employed before attaining age of 14.</li> <li>A person between the age of 15 – 18 (both inclusive) could be employed only with employers who follow safety and security systems &amp; processes and also that the employee in this bracket will be working under supervision.</li> </ul> 3. Please note that under the Factories Act 1948, and Shops & Establishment Act 1953 different States may have slightly varying provision which need to be adhered to.
Experience	NIL if already certified to ASDC qualification : ASC/Q 3101 Welding Assistant Level-2

	OR 0 to 6 months or more in manufacturing environment
Applicable National Occupational Standards (NOS)	<p><b>Compulsory:</b></p> <ol style="list-style-type: none"> <li>1. <a href="#">ASC/N3103 Understand welding job requirements and related processes</a></li> <li>2. <a href="#">ASC/N3104 Prepare the welding machine for the welding process</a></li> <li>3. <a href="#">ASC/N3105 Support the welder in the welding process</a></li> <li>4. <a href="#">ASC/N3106 Remove the finished goods and store them in the designated place</a></li> <li>5. <a href="#">ASC/N6301 Inspect and maintain the product quality</a></li> <li>6. <a href="#">ASC/N0006 Maintain a safe and healthy working environment</a></li> <li>7. <a href="#">ASC/N0007 Conduct quality checks and inspection of the finished metal cast products</a></li> <li>8. <a href="#">ASC/N0008 Conduct regular cleaning and maintenance of the equipment</a></li> <li>9. <a href="#">ASC/N0021 Maintain 5S at the work premises</a></li> </ol> <p><b>Optional:</b> NA</p>
Performance Criteria	As described in the relevant OS units

Definitions

Keywords/Terms	Description
Core Skills/Generic Skills	Core Skills or Generic Skills are a group of skills that are key to learning and working in today's world. These skills are typically needed in any work environment. In the context of the NOS, these include communication related skills that are applicable to most job roles.
Function	Function is an activity necessary for achieving the key purpose of the sector, occupation, or area of work, which can be carried out by a person or a group of persons. Functions are identified through functional analysis and form the basis of NOS.
Job role	Job role defines a unique set of functions that together form a unique employment opportunity in an organization.
Knowledge and Understanding	Knowledge and Understanding are statements which together specify the technical, generic, professional and organizational specific knowledge that an individual needs in order to perform to the required standard.
National Occupational Standards (NOS)	NOS are Occupational Standards which apply uniquely in the Indian context.
Occupation	Occupation is a set of job roles, which perform similar/related set of functions in an industry.
Organisational Context	Organisational Context includes the way the organization is structured and how it operates, including the extent of operative knowledge managers have of their relevant areas of responsibility.
Performance Criteria	Performance Criteria are statements that together specify the standard of performance required when carrying out a task.
Qualifications Pack(QP)	Qualifications Pack comprises the set of NOS, together with the educational, training and other criteria required to perform a job role. A Qualifications Pack is assigned a unique qualification pack code.
Qualifications Pack Code	Qualifications Pack Code is a unique reference code that identifies a qualifications pack.
Scope	Scope is the 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 the quality of performance required.
Sector	Sector is a conglomeration of different business operations having similar businesses 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.
Sub-functions	Sub-functions are sub-activities essential to fulfil the achieving the objectives of the function.
Technical Knowledge	Technical Knowledge is the specific knowledge needed to accomplish specific designated responsibilities.
Unit Code	Unit Code is a unique identifier for a NOS unit, which can be denoted with an 'N'
Unit Title	Unit Title gives a clear overall statement about what the incumbent should be able to do.

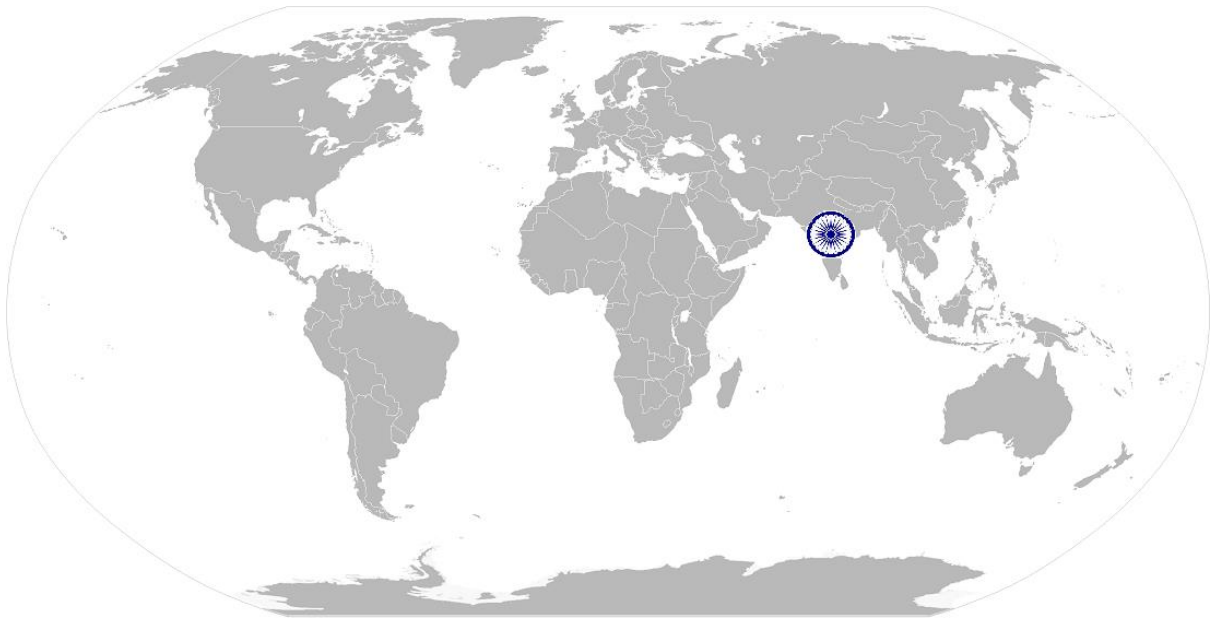
Acronyms

Vertical	Vertical may exist within a sub-sector representing different domain areas or the client industries served by the industry.
Keywords/ Terms	Description
NOS	National Occupational Standard(s)
NSQF	National Standards Qualifications Framework
OEM	Original Equipment Manufacturer
OS	Occupational Standard(s)
QP	Qualifications Pack
MIG	Metal Inert Gas
TIG	Tungsten Inert Gas
MAG	Metal Active Gas

ASC/N3103 Understand welding job requirements and related processes

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# National Occupational Standard



## Overview

This unit is about understanding the job requirement and the activities & equipment associated with the process to complete the job requirement.

## ASC/N3103 Understand welding job requirements and related processes

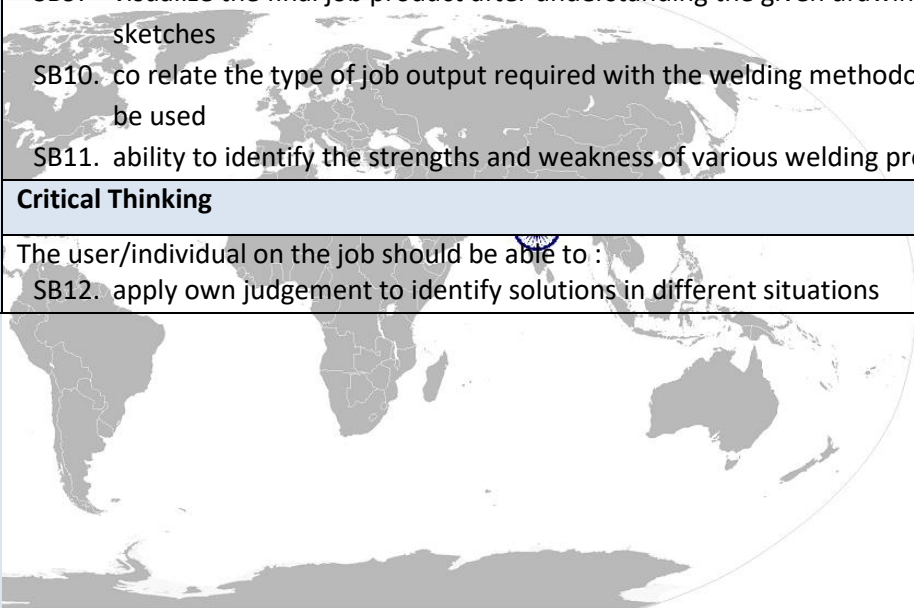
National Occupational Standard

<b>Unit Code</b>	<b>ASC/N3103</b>
<b>Unit Title (Task)</b>	<b>Understand welding job requirements and related processes</b>
<b>Description</b>	This NOS is about understanding the welding job requirement, and the related materials/process/tools/equipment and standards.
<b>Scope</b>	<p>This unit/ task covers the following:</p> <ul style="list-style-type: none"> <li>understanding the engineering drawing, specification , sketches and work order</li> <li>understanding about materials/process/tools/equipment in relation to welding</li> </ul>
<b>Performance Criteria(PC) w.r.t. the Scope</b>	
<b>Element</b>	<b>Performance Criteria</b>
<b>Understand the engineering drawings, sketches and work order</b>	<p>To be competent, the user/individual on the job must be able to:</p> <p>PC1. understand the work order (work output) required from the process and discuss the same with the operator</p> <p>PC2. refer all engineering drawings and sketches related to the work output to understand the measurement and shape of the required work output</p> <p>PC3. clearly understanding the does and don'ts of the manufacturing process as defined in SOPs/ Work Instructions or defined by supervisors</p>
<b>Escalations of queries on the given job</b>	<p>To be competent, the user/individual on the job must be able to:</p> <p>PC4. Refer the queries to the Operator/ Welder if they cannot be resolved by the assistant welder on own discuss and conclude.</p> <p>PC5. obtain help or advice from specialist if the problem is outside his/ her area of competence or experience</p>
<b>Knowledge and Understanding (K)</b>	
<b>A. Organizational Context</b> (Knowledge of the company / organization and its processes)	<p>The user/individual on the job needs to know and understand:</p> <p>KA1. relevant standards and procedures followed in the company</p> <p>KA2. different types of products manufactured by the company</p> <p>KA3. functional processes like Procurement, Store management, inventory management, quality management and key contact points for query resolution</p>
<b>B. Technical Knowledge</b>	<p>The user/individual on the job needs to know and understand:</p> <p>KB1. different types of welding processes and associated equipments</p> <p>KB2. different types of joints</p> <p>KB3. the method of reading and interpreting sketches and engineering drawings</p> <p>KB4. how to visualize the final product output</p>

## ASC/N3103 Understand welding job requirements and related processes

	<p>KB5. the impact of various physical parameters like temperature, pressure, electrode distance on the properties of final output product like durability, ductility, surface feel etc.</p> <p>KB6. basic principles of geometry and drawing</p> <p>KB7. how to carry out visual and dimensional inspection</p>
<b>Skills (S)</b>	
<b>A. Core Skills/ Generic Skills</b>	<b>Reading Skills</b>
	<p>The user/ individual on the job needs should have ability to :</p> <p>SA1. prepare draft level drawings and charts</p> <p>SA2. read equipment manuals and process documents to understand the equipments and processes better</p> <p>SA3. read internal information documents send by internal customers (other functions within the organization)</p>
	<b>Writing Skills</b>
	<p>The user/ individual on the job needs should have ability to :</p> <p>SA4. prepare draft drawings for the final output product and share the same with the Welder/ operator</p> <p>SA5. note down observations (if any) related to the welding process and share the same with welder and supervisor</p>
	<b>Oral Communication (Listening and Speaking skills)</b>
	<p>The user/ individual on the job should have ability to:</p> <p>SA6. discuss task lists and job requirements with team members</p> <p>SA7. discuss with operator/ supervisor in order to understand the nature of the problem</p> <p>SA8. attentively listen and comprehend the information given by the technician/team members</p>
<b>B. Professional Skills</b>	<b>Decision Making</b>
	<p>The user/individual on the job should be able to :</p> <p>SB1. analyses a given situation and decide on an appropriate action for completing the task within resources</p>
	<b>Plan and Organize</b>
	<p>The user/individual on the job should be able to :</p> <p>SB2. plan work assigned on a daily basis and provide estimates of time required for each piece of work</p> <p>SB3. prioritize actions to achieve required outcomes</p> <p>SB4. follow instructions and work on areas of improvement identified</p> <p>SB5. complete the assigned tasks with minimum supervision</p>

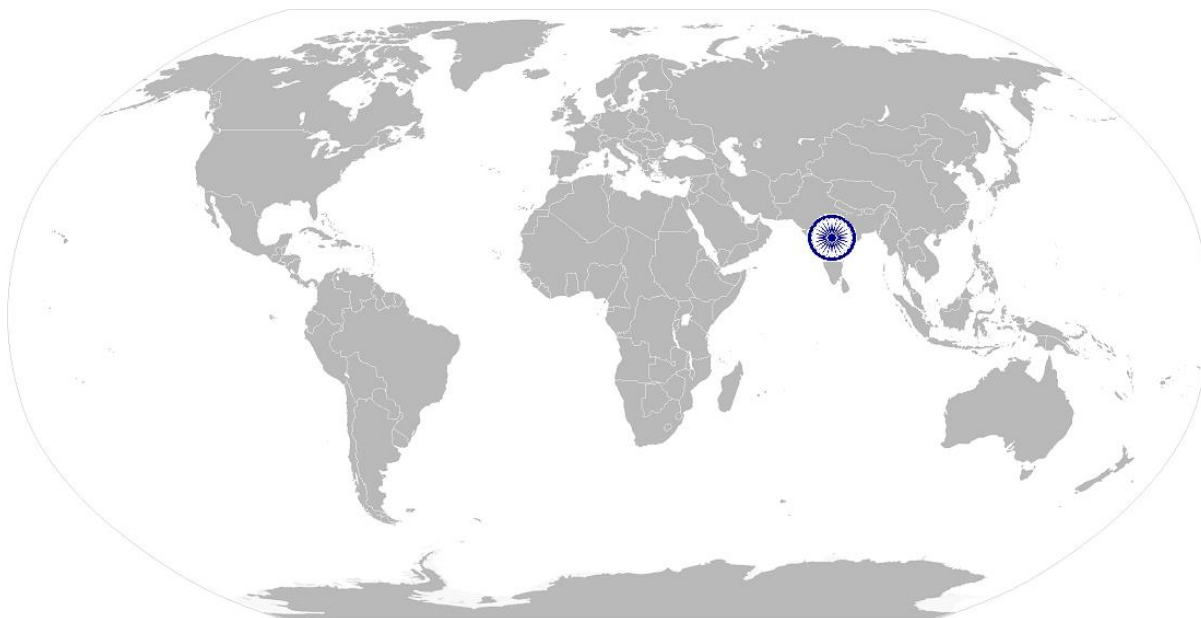
## ASC/N3103 Understand welding job requirements and related processes

	SB6. complete the job defined by the supervisor within the timelines and quality norms
	<b>CustomerCentricity</b>
	The user/individual on the job should be able to : SB7. meet or exceed internal and external customer/team expectations
	<b>Problem Solving</b>
	The user/individual on the job should be able to : SB8. analyses a problem and attempt to find an acceptable solution and take help of concerned people if required
	<b>Analytical Thinking</b>
	The user/individual on the job should be able to : SB9. visualize the final job product after understanding the given drawing/sketches SB10. co relate the type of job output required with the welding methodology to be used SB11. ability to identify the strengths and weakness of various welding process
	<b>Critical Thinking</b>
	The user/individual on the job should be able to : SB12. apply own judgement to identify solutions in different situations

## ASC/N3103 Understand welding job requirements and related processes

### NOS Version Control

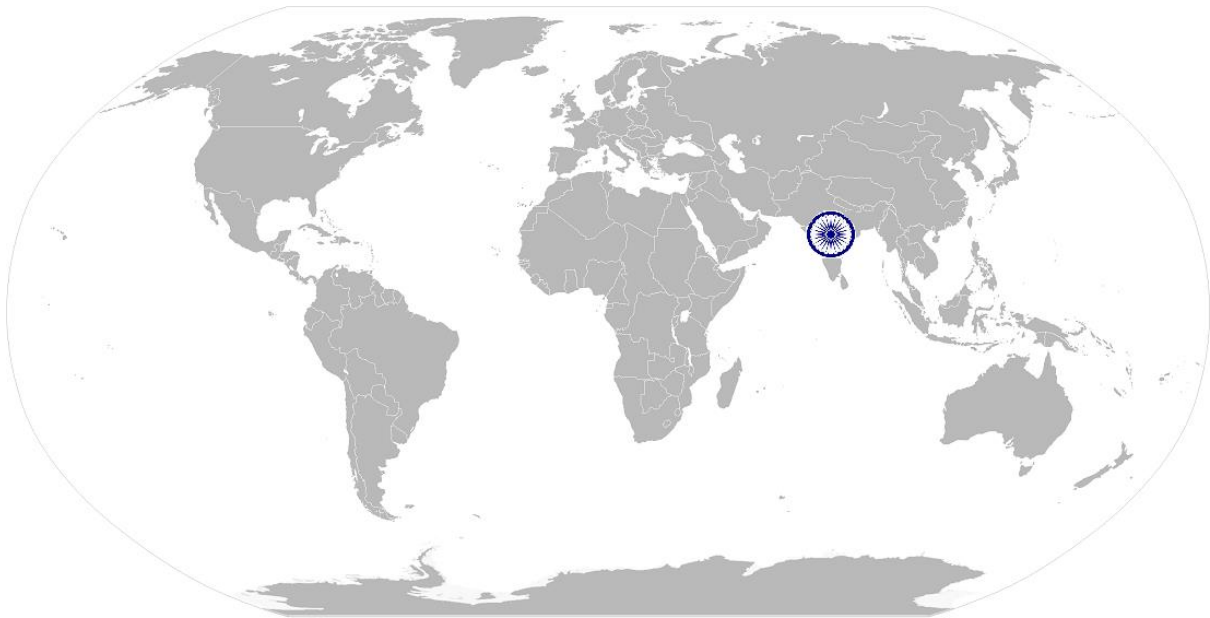
NOS Code	ASC/N3103		
Credits	TBD	Version number	1.0
Industry	Automotive	Drafted on	18/10/16
Industry Sub-sector	Manufacturing	Last reviewed on	18/10/16
Occupation	Welding	Next review date	20/10/18



ASC/N3104 Prepare the welding machine for the welding process

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# National Occupational Standard



## Overview

This unit is about preparing the welding machine, auxiliary apparatus and metalwork pieces for the welding process.

ASC/N3104

**Prepare the welding machine for the welding process**

National Occupational Standard

<b>Unit Code</b>	<b>ASC/N3104</b>
<b>Unit Title (Task)</b>	<b>Prepare the welding machine for the welding process</b>
<b>Description</b>	The NOS is about selecting the appropriate electrode and filler material for the welding process, on basis of work order, preparing the surface of the metal parts by removing dust, moistures, rough edges, cleaning the welding apparatus and installing the metal part on the welding machine/assembly block.
<b>Scope</b>	<p>This unit/ task covers the following:</p> <ul style="list-style-type: none"> <li>Assistant Welder will be responsible for: <ul style="list-style-type: none"> <li>understand the engineering drawing, sketches and work order</li> <li>arranging the electrodes and other material required for the welding process in the correct place</li> <li>cleaning and maintaining the welding apparatus</li> </ul> </li> </ul>
<b>Performance Criteria(PC) w.r.t. the Scope</b>	
<b>Element</b>	<b>Performance Criteria</b>
<b>Arrange for the electrodes, flux, filler material as per the requirement of the welding process</b>	<p>To be competent, the user/individual on the job must be able to:</p> <p>PC1. discuss with the operator right welding methodology and process to be adopted for completing the work order</p> <p>PC2. discuss the various welding parameters like temperature, pressure, electrode type, electrode distance (gap), Welding current, voltage, process time etc. before starting the welding process</p> <p>PC3. discuss the material required and the equipment availability for executing the activity with the team members</p> <p>PC4. discuss with the operator on the type of electrode material and thickness, filler material and flux to be used for the welding process</p> <p>PC5. ensure that the required material is procured from the store before starting the welding process</p>
<b>Clean the welding equipment before executing the welding process and setup the equipment</b>	<p>To be competent, the user/individual on the job must be able to:</p> <p>PC6. clean the surface of the electrodes and the welding gun and remove dust or any other impurities</p> <p>PC7. clean other welding machine auxiliaries (welding transformer, gas discharge unit, flux wire) before the initiation of the welding process</p> <p>PC8. setup the welding apparatus as per process standard and the work instruction</p>
<b>Prepare the surface of the part ( work pieces) on which welding needs to be conducted</b>	<p>To be competent, the user/individual on the job must be able to:</p> <p>PC9. clean the surface to the metal parts (work pieces) which need to be joint</p> <p>PC10. remove any extra material, sharp edges etc. which might impact the final welded product</p>

ASC/N3104

## Prepare the welding machine for the welding process

	<p>PC11. ensure the work pieces available for welding is in line with the product drawing/ sketches available with the operator</p> <p>PC12. in case the parts are not as per the given measurements, remove extra material by using chippers, grinders etc.</p>
<b>Escalations of queries for the given job</b>	<p>To be competent, the user/individual on the job must be able to:</p> <p>PC13. immediately refer the queries to an operator and the supervisor</p>
<b>Knowledge and Understanding (K)</b>	
<b>A. Organizational Context</b> (Knowledge of the company / organization and its processes)	<p>The user/individual on the job needs to know and understand:</p> <p>KA1. relevant standards and procedures followed in the company</p> <p>KA2. different types of products manufactured by the company</p>
<b>B. Technical Knowledge</b>	<p>The user/individual on the job needs to know and understand:</p> <p>KB1. different types of welding processes and associated equipment</p> <p>KB2. Different cleaning methods for electrodes, metal surfaces etc.</p> <p>KB3. how to use measuring instruments like vernier, calipers, micrometer</p> <p>KB4. different types of joints</p> <p>KB5. how to read and interpret sketches and engineering drawings</p> <p>KB6. basic principles of geometry and drawing</p> <p>KB7. materials used in welding &amp; their key properties</p>
<b>Skills (S)</b>	
<b>A. Core Skills/ Generic Skills</b>	<b>Reading Skills</b>
	<p>The user/ individual on the job needs should have ability to:</p> <p>SA1. read and interpret engineering drawing and sketches</p> <p>SA2. read equipment manuals and process documents to understand the equipment and processes better</p> <p>SA3. read internal information documents send by internal customers ( other functions within the organization)</p>
	<b>Writing Skills</b>
	<p>The user/ individual on the job needs should have ability to:</p> <p>SA4. prepare draft drawings for the final output product and share the same with the Welder/ operator</p> <p>SA5. note down observations (if any) related to the welding process and share the same with welder and supervisor</p>
	<b>Oral Communication (Listening and Speaking skills)</b>
	<p>The user/ individual on the job should have ability to:</p> <p>SA6. discuss task lists and job requirements with team members</p>

**ASC/N3104**

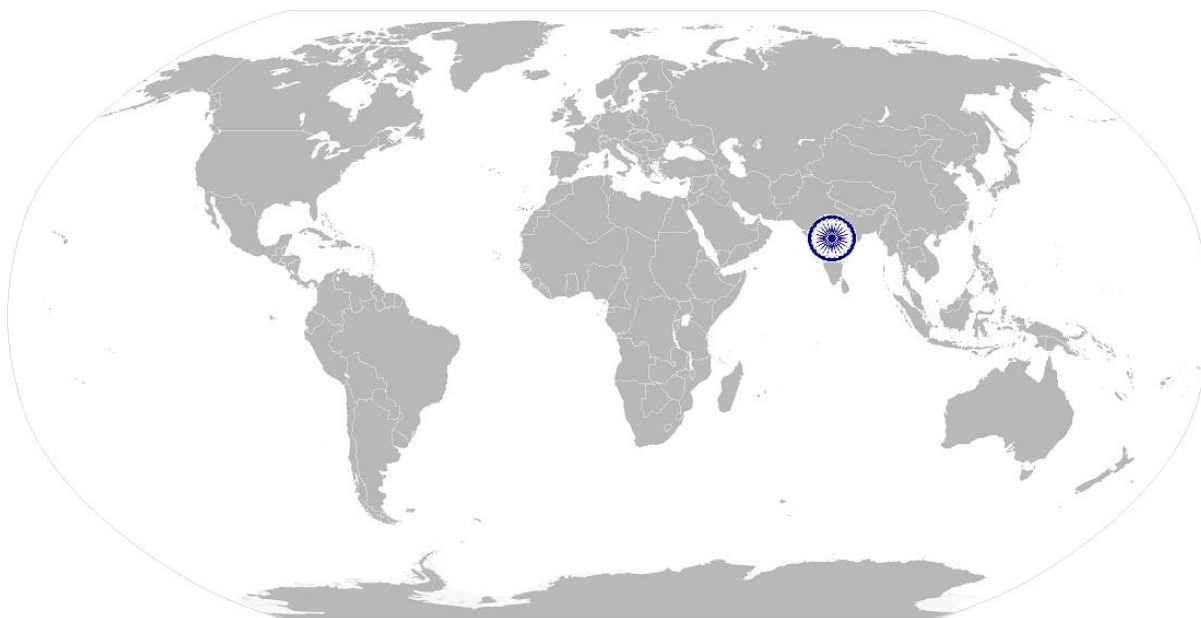
**Prepare the welding machine for the welding process**

	<p>SA7. discuss with operator/ supervisor in order to understand the nature of the problem</p> <p>SA8. attentively listen and comprehend the information given by the technician/team members</p>
<b>B. Professional Skills</b>	<b>Decision Making</b>
	<p>The user/individual on the job should be able to :</p> <p>SB1. analyses a given situation and decide on an appropriate action for completing the task within resources</p>
	<b>Plan and Organize</b>
	<p>The user/individual on the job should be able to :</p> <p>SB2. plan work assigned on a daily basis and provide estimates of time required for each piece of work</p> <p>SB3. prioritize actions to achieve required outcomes</p> <p>SB4. follow instructions and work on areas of improvement identified</p> <p>SB5. complete the assigned tasks with minimum supervision</p> <p>SB6. complete the job defined by the supervisor within the timelines and quality norms</p>
	<b>CustomerCentricity</b>
	<p>The user/individual on the job should be able to :</p> <p>SB7. meet or exceed internal and external customer/team expectations</p>
	<b>Problem Solving</b>
	<p>The user/individual on the job should be able to :</p> <p>SB8. analyses a problem and attempt to find an acceptable solution and take help of concerned people if required</p>
	<b>Analytical Thinking</b>
	<p>The user/individual on the job should be able to :</p> <p>SB9. visualize the final job product after understanding the given drawing/</p> <p>SB10. sketches</p> <p>SB11. co relate the type of job output required with the welding methodology to be used</p> <p>SB12. identify the strengths and weakness of various welding process</p>
	<b>Critical Thinking</b>
	<p>The user/individual on the job should be able to :</p> <p>SB13. apply own judgement to identify solutions in different situations</p>

**ASC/N3104      Prepare the welding machine for the welding process**

## NOS Version Control

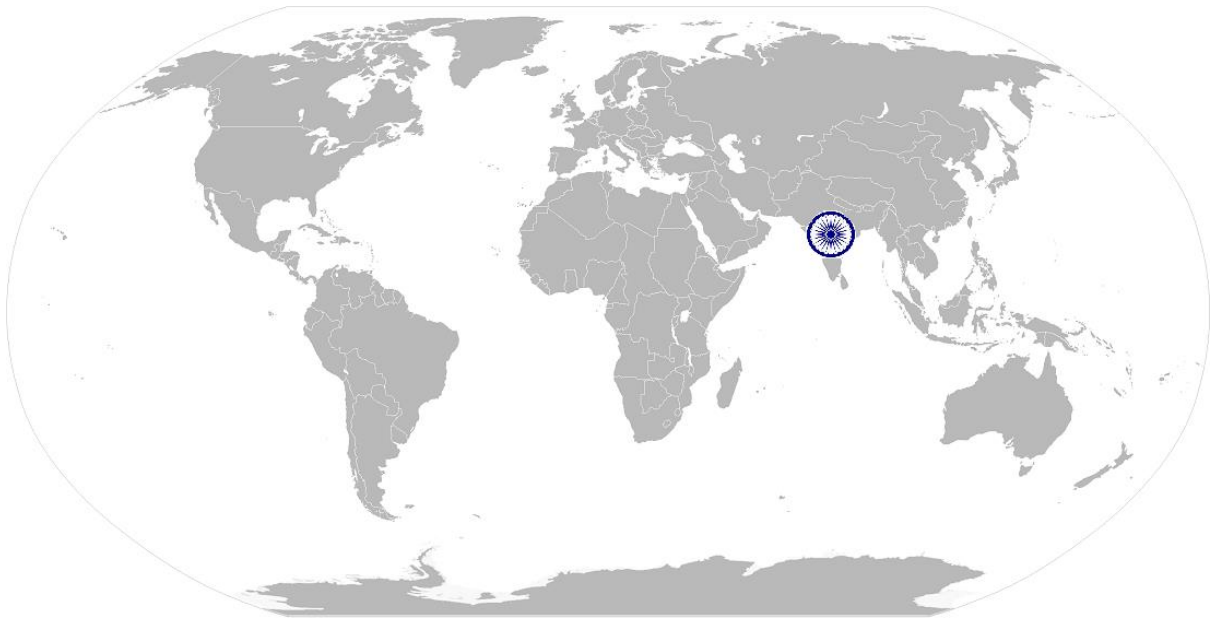
NOS Code	ASC/N3104		
Credits	TBD	Version number	1.0
Industry	Automotive	Drafted on	18/10/16
Industry Sub-sector	Manufacturing	Last reviewed on	18/10/16
Occupation	Welding	Next review date	20/10/18



ASC/N3105 Support the welder in the welding process

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# National Occupational Standard



## Overview

This unit is about support the welder is conducting the actual welding process for the selected metal pieces as per the given work order and the standards specified by the organization.

# ASC/N3105

## Support the welder in the welding process

National Occupational Standard	Unit Code	ASC/N3105
	Unit Title (Task)	Support the welder in the welding process
	Description	This NOS is about supporting the operator and the manufacturing team in welding processes.
	Scope	<p>This unit/ task covers the following:</p> <ul style="list-style-type: none"> <li>Assistant Welder will be responsible for:</li> <li>installing the welding work pieces on the apparatus</li> <li>check the operations of the machine and assist the welding process</li> <li>recording the observations during the process</li> <li>escalations of any queries regarding the job</li> </ul>
	Performance Criteria(PC) w.r.t. the Scope	
	Element	Performance Criteria
	Installing the welding work pieces on the welding apparatus	<p>To be competent, the user/individual on the job must be able to:</p> <p>PC1. hold the parts which need to be welded together using a clamp and align them with the electrodes as per the job requirement so that the work pieces do not fall down/ turn</p> <p>PC2. install the work pieces on the Welding apparatus keeping in mind the electrodes distance, contact area, pressure, temperature application etc. as specified in the Welding process/work instructions</p>
	Check the operations of the welding machines and auxiliaries and conduct a test process	<p>To be competent, the user/individual on the job must be able to:</p> <p>PC3. check for operation of core welding equipment like welding gun, welding transformer, gas cylinders, gas discharge units as per welding process/work instructions</p> <p>PC4. support the operator in conducting destructive and non-destructive test activity</p>
	Conduct the actual welding process	<p>To be competent, the user/individual on the job must be able to:</p> <p>PC5. support the operator in the Gas Discharge welding by holding the welding gun and the filler material/ gas discharge</p>
	Check measurement instruments for monitoring welding process parameters	<p>To be competent, the user/individual on the job must be able to:</p> <p>PC6. help the welder in monitoring the welding process parameters (Pressure, Temperature, gas discharge flow, electrode force, electrode distance etc.) by observing various instrument and gauges and correct if not within standards</p>
	Measure the two parts (work pieces) welded and remove welding inconsistency	<p>To be competent, the user/individual on the job must be able to:</p> <p>PC7. measure the final welded piece and compare the dimensions as prescribed in the work order engineering drawing</p>

## ASC/N3105

## Support the welder in the welding process

	<p>PC8. in case the parts are not as per the given measurements, remove extra material by using chippers, grinders etc.</p> <p>PC9. if there are any bulges, then hammer the bulges and give the work pieces the desired shape</p> <p>PC10. keep the operator informed of any inconsistency in the welding process, quality issues etc. so that the same can be dealt immediately</p>
<b>Knowledge and Understanding (K)</b>	
<b>A. Organizational Context</b> (Knowledge of the company / organization and its processes)	<p>The user/individual on the job needs to know and understand:</p> <p>KA1. relevant standards and procedures followed in the company</p> <p>KA2. different types of products manufactured by the company</p>
<b>B. Technical Knowledge</b>	<p>The user/individual on the job needs to know and understand:</p> <p>KB1. different types of welding processes and associated equipment</p> <p>KB2. different cleaning methods for electrodes, metal surfaces etc.</p> <p>KB3. measuring instruments like Vernier calipers, micrometer</p> <p>KB4. different types of joints used in welding</p> <p>KB5. how to read and interpret sketches and engineering drawings</p> <p>KB6. how to visualize the final product output and hence decide on the key steps to be followed for welding safety precautions to be taken for welding activities</p>
<b>Skills (S)</b>	
<b>A. Core Skills/ Generic Skills</b>	<b>Reading Skills</b>
	<p>The user/ individual on the job needs to know and understand how to:</p> <p>SA1. read and interpret engineering drawing and sketches</p> <p>SA2. read equipment manuals and process documents to understand the equipment and processes better</p> <p>SA3. read internal information documents send by internal customers (other functions within the organization)the equipment in the plant area</p> <p>SA4. read parameter reading on various types of monitoring panels</p>
	<b>Writing Skills</b>
	<p>The user/individual on the job needs to know and understand how to:</p> <p>SA5. document information from the sketches and engineering drawings</p> <p>SA6. note measurements, equipment panel readings for various process parameters in the required reporting formats</p>
	<b>Oral Communication (Listening and Speaking skills)</b>
	<p>The user/individual on the job needs to know and understand how to:</p> <p>SA7. discuss task lists, schedules and activities with the operator and supervisor</p>

**ASC/N3105**

**Support the welder in the welding process**

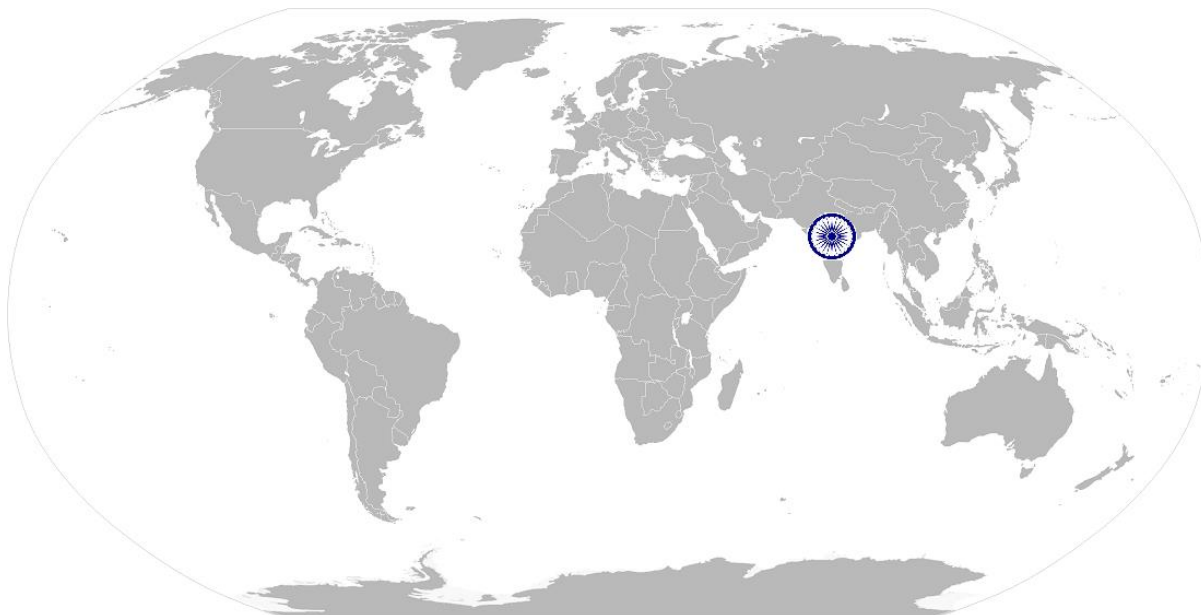
	<p>SA8. effectively communicate with the team members Question the operator/ welding shop supervisor in order to understand the nature of the problem and to clarify queries</p> <p>SA9. attentively listen with full attention and comprehend the information given by the speaker</p>
<b>B. Professional Skills</b>	<b>Decision Making</b>
	<p>The user/individual on the job should be able to :</p> <p>SB1. analyses a given situation and decide on an appropriate action for completing the task within resources</p>
	<b>Plan and Organize</b>
	<p>The user/individual on the job should be able to :</p> <p>SB2. plan work assigned on a daily basis and provide estimates of time required for each piece of work</p> <p>SB3. prioritize actions to achieve required outcomes</p> <p>SB4. follow instructions and work on areas of improvement identified</p> <p>SB5. complete the assigned tasks with minimum supervision</p> <p>SB6. complete the job defined by the supervisor within the timelines and quality norms</p>
	<b>CustomerCentricity</b>
	<p>The user/individual on the job should be able to :</p> <p>SB7. meet or exceed internal and external customer/team expectations</p>
	<b>Problem Solving</b>
	<p>The user/individual on the job should be able to :</p> <p>SB8. analyses a problem and attempt to find an acceptable solution and take help of concerned people if required</p>
	<b>Analytical Thinking</b>
	<p>The user/individual on the job should be able to :</p> <p>SB9. analyses the complexity of work to determine how it can be successfully carried out</p> <p>SB10. anticipate and analyses a given situation from all aspects</p>
	<b>Critical Thinking</b>
	<p>The user/individual on the job should be able to :</p> <p>SB11. apply own judgement to identify solutions in different situations</p>

ASC/N3105

Support the welder in the welding process

## NOS Version Control

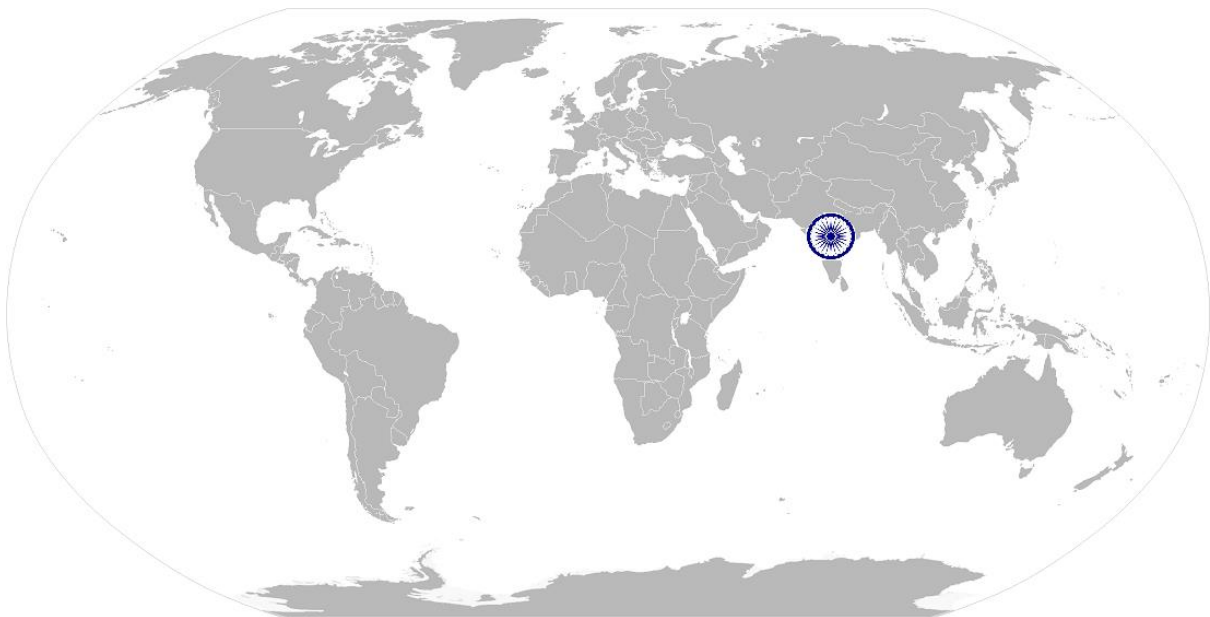
NOS Code	ASC/N3105		
Credits	TBD	Version number	1.0
Industry	Automotive	Drafted on	18/10/16
Industry Sub-sector	Manufacturing	Last reviewed on	18/10/16
Occupation	Welding	Next review date	20/10/18



ASC/N3106 Remove the finished goods and store them in the designated place

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# National Occupational Standard



## Overview

This unit is about unloading the finished goods from the production line and store them properly in the designated area/ move the finished goods on subsequent platform on the assembly line.

## ASC/N3106 Remove the finished goods and store them in the designated place

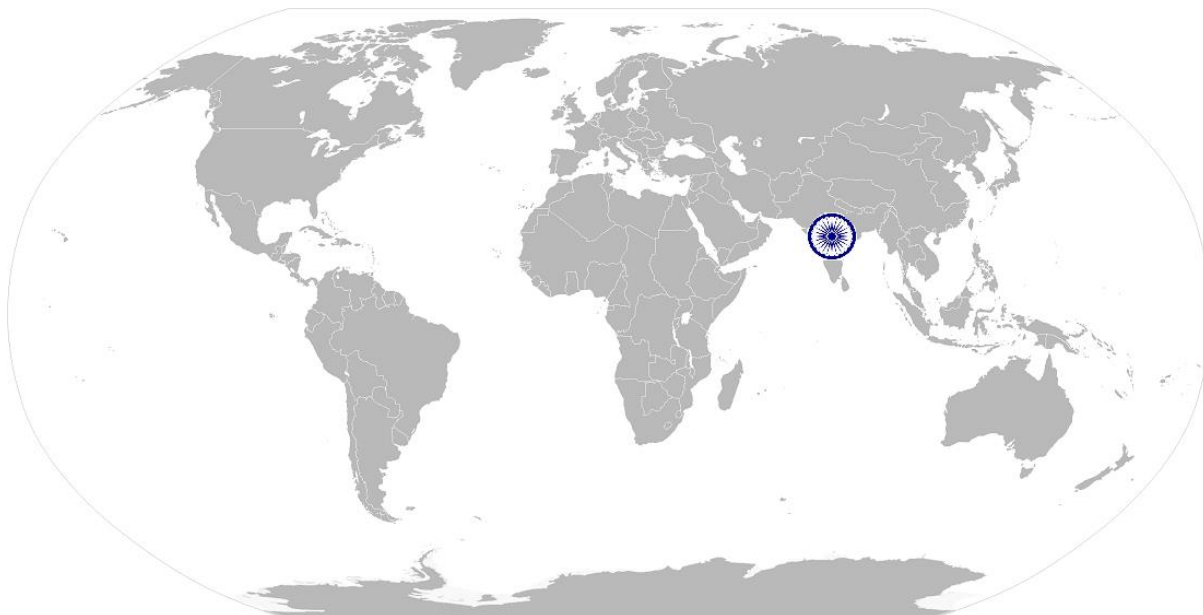
National Occupational Standard	Unit Code	ASC/N3106
	Unit Title (Task)	Remove the finished goods and store them in the designated place
	Description	This unit is about unloading the finished goods from the production line and store them properly in the designated area for moving to the next operation
	Scope	<p>This unit/ task covers the following:</p> <ul style="list-style-type: none"> <li>Assistant Welder will be responsible for: <ul style="list-style-type: none"> <li>unloading the finished goods from the bin/trolley</li> <li>storing the finished goods in the proper designated location</li> </ul> </li> </ul>
	Performance Criteria(PC) w.r.t. the Scope	
	Element	Performance Criteria
	Unload the Finished Goods	<p>To be competent, the user/individual on the job must be able to:</p> <p>PC1. depending on the shape/weight of the output select a suitable method for movement</p> <p>PC2. clamp the product and lift the output object using suitable equipment like hoist, lifts, crane etc.</p> <p>PC3. ensure that there is no damage to the lifted work pieces</p> <p>PC4. carry the output product to the designated area using hangars, conveyor belts, cranes, forklifts etc.</p>
	Store the finished goods	<p>To be competent, the user/individual on the job must be able to:</p> <p>PC5. post inspection process, tag the right quality pieces for future identification</p> <p>PC6. carry the tagged pieces to the storage areas using suitable method of movement means</p> <p>PC7. keep a record of the finished goods along with the storage identification numbers for easy sorting</p>
	Knowledge and Understanding (K)	
	A. Organizational Context (Knowledge of the company / organization and its processes)	<p>The user/individual on the job needs to know and understand:</p> <p>KA1. relevant standards and procedures followed in the company</p> <p>KA2. functional processes like Procurement, Store management, inventory management, quality management and key contact points for query resolution</p>
	B. Technical Knowledge	<p>The user/individual on the job needs to know and understand:</p> <p>KB1. basic level operations of lifting equipment like hoists, cranes, Pulley etc.</p> <p>KB2. methods of storage and tagging of final product</p>
	Skills (S)	
		Reading Skills

### ASC/N3106 Remove the finished goods and store them in the designated place

<b>A. Core Skills/ Generic Skills</b>	The user/ individual on the job should have ability to: SA1. read equipment manuals and process documents SA2. read safety instructions related to movement of goods
	<b>Writing Skills</b>
	The user/ individual on the job should have ability to: SA3. note equipment part codes, name tags etc. in the prescribed formats and records for the same SA4. note observations related to movement and storage of final product
	<b>Oral Communication (Listening and Speaking skills)</b>
	The user/ individual on the job should have ability to: SA5. discuss task lists and job requirements with team members SA6. listen and analyses any noise and vibrations in the equipment and report the same to the maintenance team for preventive action SA7. attentively listen and comprehend the information given by the technician and team members
<b>A. Professional Skills</b>	<b>Decision Making</b>
	The user/individual on the job should be able to : SB1. analyses a given situation and decide on an appropriate action for completing the task within resources
	<b>Plan and Organize</b>
	The user/individual on the job should be able to : SB2. plan work assigned on a daily basis and provide estimates of time required for each piece of work SB3. prioritize actions to achieve required outcomes SB4. follow instructions and work on areas of improvement identified SB5. complete the assigned tasks with minimum supervision SB6. complete the job defined by the supervisor within the timelines and quality norms
	<b>CustomerCentricity</b>
	The user/individual on the job should be able to : SB7. meet or exceed internal and external customer/team expectations
	<b>Problem Solving</b>
	The user/individual on the job should be able to : SB8. analyses a problem and attempt to find an acceptable solution and take help of concerned people if required
	<b>Analytical Thinking</b>
	The user/individual on the job should be able to :

**ASC/N3106 Remove the finished goods and store them in the designated place**

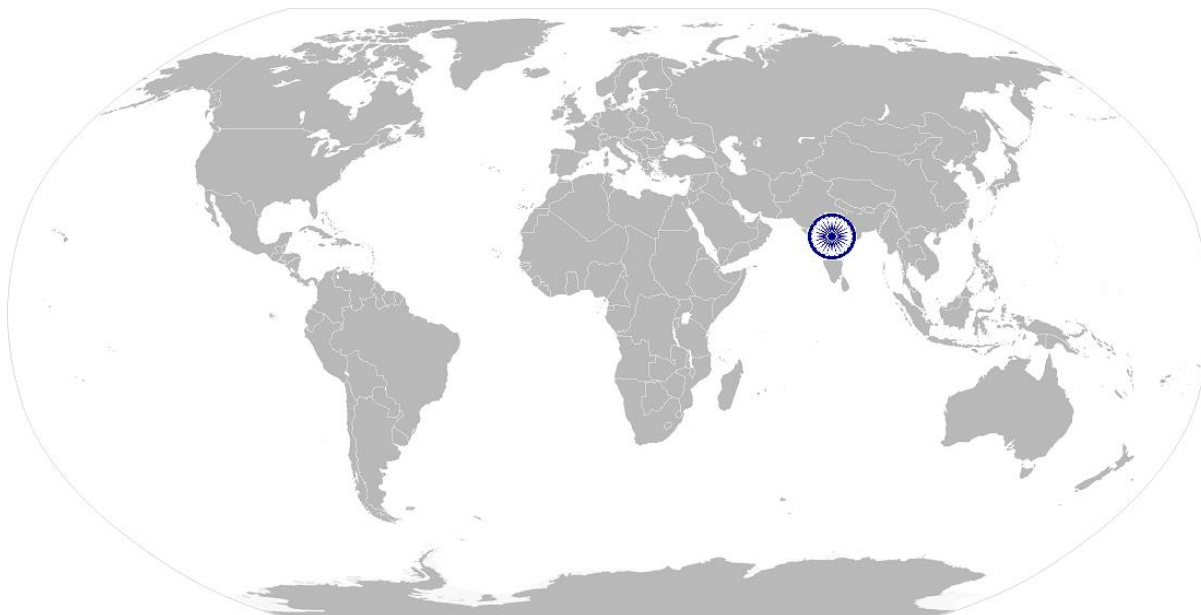
	SB9. analyses the complexity of work to determine how it can be successfully carried out
	SB10. anticipate and analyses a given situation from all aspects
	<b>Critical Thinking</b>
	The user/individual on the job should be able to :
	SB11. apply own judgement to identify solutions in different situations



**ASC/N3106 Remove the finished goods and store them in the designated place**

### NOS Version Control

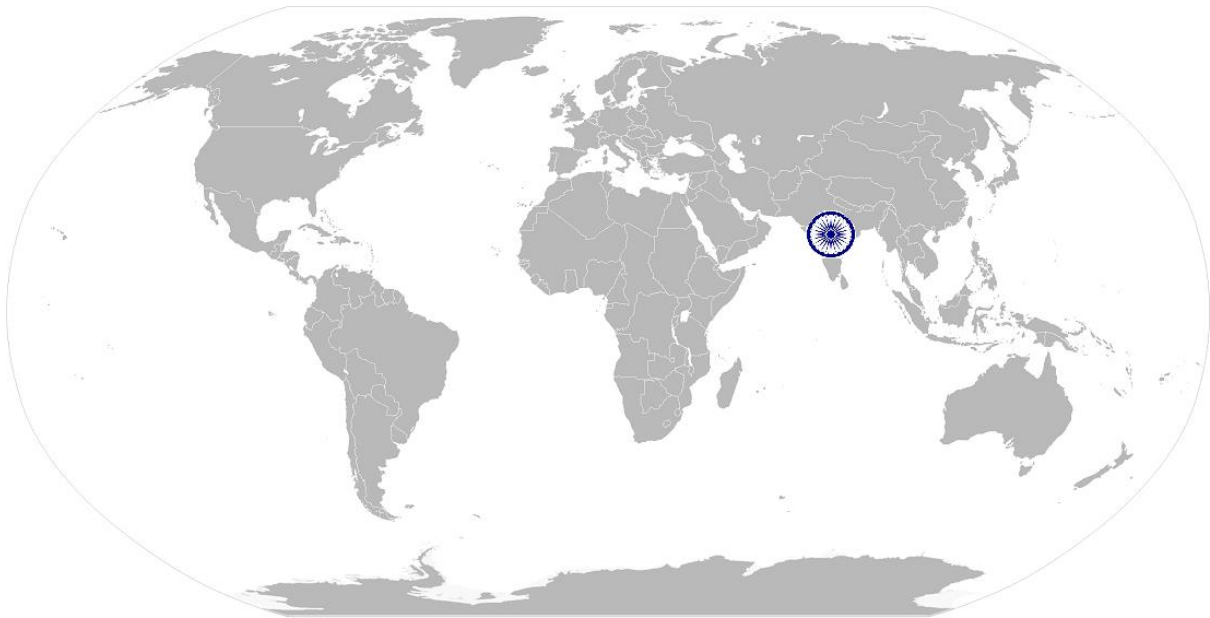
NOS Code	ASC/N3106		
Credits	TBD	Version number	1.0
Industry	Automotive	Drafted on	18/10/16
Industry Sub-sector	Manufacturing	Last reviewed on	18/10/16
Occupation	Welding	Next review date	20/10/18



ASC/N6301 Inspect and maintain the product quality

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# National Occupational Standard



## Overview

This unit is about inspection and maintenance of the quality standards for the products at various stages of Product Life.

# ASC/N6301

## Inspect and maintain the product quality

### National Occupational Standard

<b>Unit Code</b>	<b>ASC/N6301</b>
<b>Unit Title (Task)</b>	<b>Inspect and maintain the product quality</b>
<b>Description</b>	This OS unit is about the skills relating to preliminary inspection/ quality control /audit of products/processes.
<b>Scope</b>	<p>This unit/ task covers the following:</p> <ul style="list-style-type: none"> <li>Receipt, In- Process and Final Inspection:</li> <li>– pre- delivery inspection of the product</li> <li>– dock audit/ Development batch of product</li> <li>– coordinate with R&amp;D QA for failures, CAPA &amp; CI issues</li> </ul>
<b>Performance Criteria(PC) w.r.t. the Scope</b>	
<b>Element</b>	<b>Performance Criteria</b>
<b>Inspection of final product</b>	<p>To be competent, the user/individual on the job must be able to:</p> <p>PC1. as per instructions/under supervision , carry out process of Inspection at various stages of manufacturing process: complete dimensional/ Layout Inspection at development stage &amp; later as per the periodicity such as annual for re- validation; in the Production phase, as per the CP/ Quality plan/ sampling plan/ stage inspection plans/ First off IR</p> <p>PC2. as per instructions/under supervision handle Inspection equipment and Instruments: vernier, micrometers, height Gauge &amp; surface plate; acceptance/ Combination Gauges, simple gauges - bore, air, profile for safe storage, calibration at pre-decided frequency and have an acceptable level of R &amp; R as per SOP of the organization</p> <p>PC3. as per instructions/under supervision conduct an inspection of the product covering the following checkpoints:visual Inspection of the part for scratches, dents, damages, packing as per the norms etc. for special inspection co-ordinate with other agencies e.g.: Material Lab, Standards Room, assembly/ performance trials etc. put identification sticker/ number/label on the product for ok, rework and rejected material.</p> <p>PC4. coordinate with the respective process owners / seniors in QA and implement CAPA for discrepancies in the parameters identified in the report on immediate basis</p> <p>PC5. participate in checking the effectiveness of implementation and repeat the process till the discrepancies are resolved</p> <p>PC6. document the observations of the inspection and maintain records</p> <p>PC7. where applicable maintain ERP-System records and special process capability index calculation/ charting as per the SOP. Raise a scrap note and dispose off</p>

## ASC/N6301

## Inspect and maintain the product quality

	<p>the scrapped product in the scrap yard as per the defined procedure maintaining the HSE compliance</p> <p>PC8. As is the case i.e. New product/ process development/ Production phase, the reports and Part Submission Warrant, PPAP are to be prepared.</p> <p>PC9. based on the implementation of information flow system in organization like ERP/ SAP, upload the reports</p>
<b>Dock audit of the sample batch</b>	<p>To be competent, the user/individual on the job must be able to:</p> <p>PC10. as per instructions/under supervision carry out dock audit of a sample batch from the production lot of the ready to dispatch final products covering the following checkpoints: Product to be in good shape with no visible damage, no presence of sharp edges in the product, part to be with specification as the drawing, packaging of product according to specification, packaging boxes as per the requirement for preservation and customer PO Number on the shipping labels.</p> <p>PC11. label the boxes correctly with packer name, count on the Bill of Lading match the count on the pallet, boxes stacked neatly in case of pallet arrangement. No damages of the pallet like nails sticking out, broken boards, etc should be there.</p> <p>PC12. coordinate with the respective process owners/Stores and implement CAPA for discrepancies identified in the dock audit on immediate basis</p> <p>PC13. under instruction/in discussion with superiors to review the effectiveness of implementation and repeat the process till the discrepancies are resolved</p> <p>PC14. document the observations of dock audit and maintain records</p> <p>PC15. where applicable, upload data in systems like ERP/ SAP.</p>
<b>Coordination with R&amp;D/ Quality Manager CAPA, CI</b>	<p>To be competent, the user/individual on the job must be able to:</p> <p>PC16. work as a Cross Functional Team member for solving a problem pertaining to the products handled. Collect data regarding the problem as decided in the team discussions</p> <p>PC17. participate for preparation of Fault tree, conducting simulation and implementation of actions</p> <p>PC18. participate for updating relevant documentation</p> <p>PC19. assist the concerned department in efficient development of the new product by sharing all the observed problems related to QCD (quality cost and delivery)</p>
<b>Knowledge and Understanding (K)</b>	
<b>A. Organizational Context</b> (Knowledge of the company /	<p>The user/individual on the job needs to know and understand:</p> <p>KA1. product portfolio of organization</p> <p>KA2. the manufacturing processes of organization</p>

**ASC/N6301**

**Inspect and maintain the product quality**

organization and its processes)	<p>KA3. material classification criteria followed by organization</p> <p>KA4. policies and procedures for storage and preservation of materials</p> <p>KA5. policies, compliances and systems followed for HSE</p> <p>KA6. TS-16949/any other QMS system guidelines followed in the organization</p> <p>KA7. new process/ product development protocol and methodology</p>
<b>B. Technical Knowledge</b>	<p>The user/individual on the job needs to know and understand:</p> <p>KB1. manufacturing process being followed for each product</p> <p>KB2. inspection checkpoints for Dock Audit etc.</p> <p>KB3. APQP (Advanced product quality planning) procedures</p> <p>KB4. problem solving &amp; analysis tools like 8Ds, Five Why analysis etc.</p> <p>KB5. RCA (root cause analysis) techniques</p> <p>KB6. requirements for PPAP (Product planning and ) -PFMEA, CP</p> <p>KB7. requirements for TS-16949/QMS system followed</p> <p>KB8. rejection / Inspection reports</p> <p>KB9. testing equipments operational knowledge</p> <p>KB10. resource &amp; information systems like SAP, ERP etc..</p>
<b>Skills (S)</b>	
<b>A. Core Skills/ Generic Skills</b>	<b>Reading Skills</b>
	<p>The user/individual on the job should have the ability to :</p> <p>SA1. read quality related standards, sampling plans, drawing/specification, reports and material/component identification sticker etc.</p>
	<b>Writing Skills</b>
	<p>The user/individual on the job should have the ability to :</p> <p>SA2. document the observations in the inspection format using precise terms for description of the defects, phenomenon etc.</p> <p>SA3. prepare reports/ excel sheet/ MIS for review of quality manager and senior management</p>
	<b>Oral Communication (Listening and Speaking skills)</b>
	<p>The user/individual on the job should have the ability to :</p> <p>SA4. the concerned departments for failures/ any issues</p> <p>SA5. NPD department for new product development</p> <p>SA6. concerned departments for dock audit and resolution of the discrepancies observed</p> <p>SA7. senior management for updating the progress and seeking their support</p> <p>SA8. team members for reviewing the progress of day to day activities</p>
<b>B. Professional Skills</b>	<b>Decision Making</b>
	<p>The user/individual on the job should be able to:</p> <p>SB1. judge when to ask for help from a supervisor</p>

**ASC/N6301**

**Inspect and maintain the product quality**

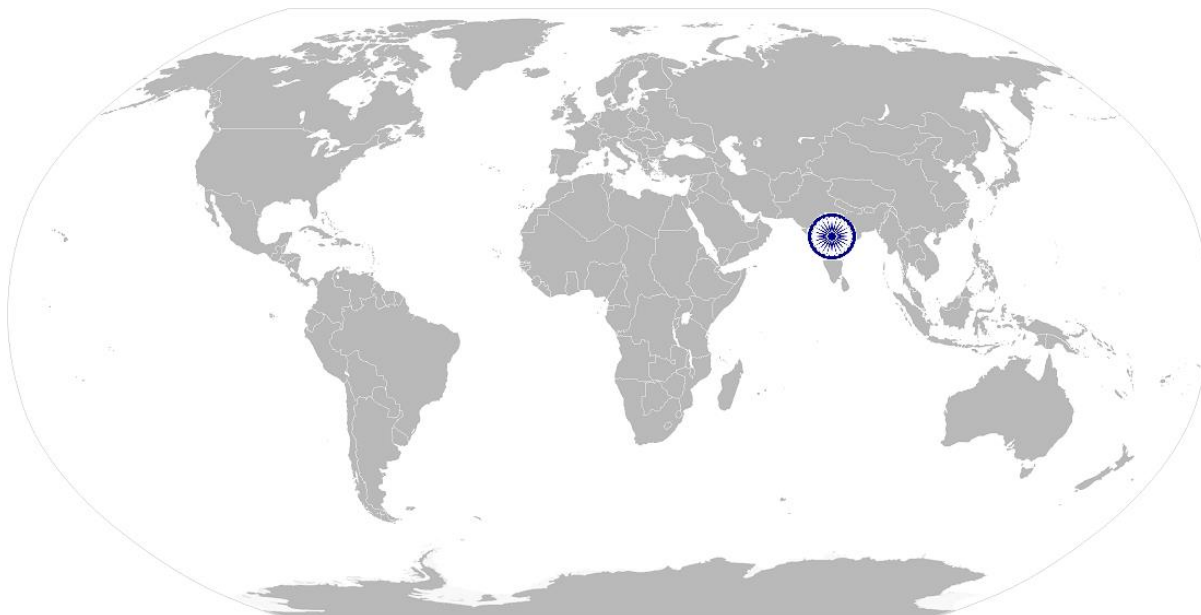
	SB2. suggest options to operators in case any issue is observed during operations
	SB3. use reasoning skills to identify and resolve basic problems
	<b>Plan and Organize</b>
	The user/individual on the job should be able to:
	SB4. plan work assigned on a daily basis and provide estimates of time required for each piece of work
	SB5. prioritize actions to achieve required outcomes
	SB6. follow instructions and work on areas of improvement identified
	SB7. complete the assigned tasks with minimum supervision
	SB8. complete the job defined by the supervisor within the timelines and quality norms
	<b>CustomerCentricity</b>
	The user/individual on the job should be able to:
	SB9. meet or exceed internal/external customer/team expectations
	<b>Problem Solving</b>
	The user/individual on the job should be able to:
	SB10. think through and devise the countermeasure for resolution for any quality related issue observed
	SB11. work on actions to be taken on immediate basis in case of frequent rejections
	SB12. devise and implement interim/permanent countermeasures for the non-conformities observed in the field failures/warranty issues using analysis tools like 4Ds , 8Ds etc.
	<b>Analytical Thinking</b>
	The user/individual on the job should be able to:
	SB13. analyze the interim countermeasures taken for the resolution of non-conformities observed in the production section /audit report and to accordingly devise permanent, preventive measures
	<b>Critical Thinking</b>
	The user/individual on the job should be able to:
	SB14. coordinate with the process owners and devise countermeasures for effective handling of the non-conformities observed in IR and dock audit
	SB15. understand and analyze the inspection report for providing inputs to NPD department for new product development
	SB16. interpret the customer (Internal / external) feedback and translate it into the development of the new product in coordination with NPD department
	SB17. identify problems (technical and non-technical), disruptions and delays

**ASC/N6301**

**Inspect and maintain the product quality**

## **NOS Version Control**

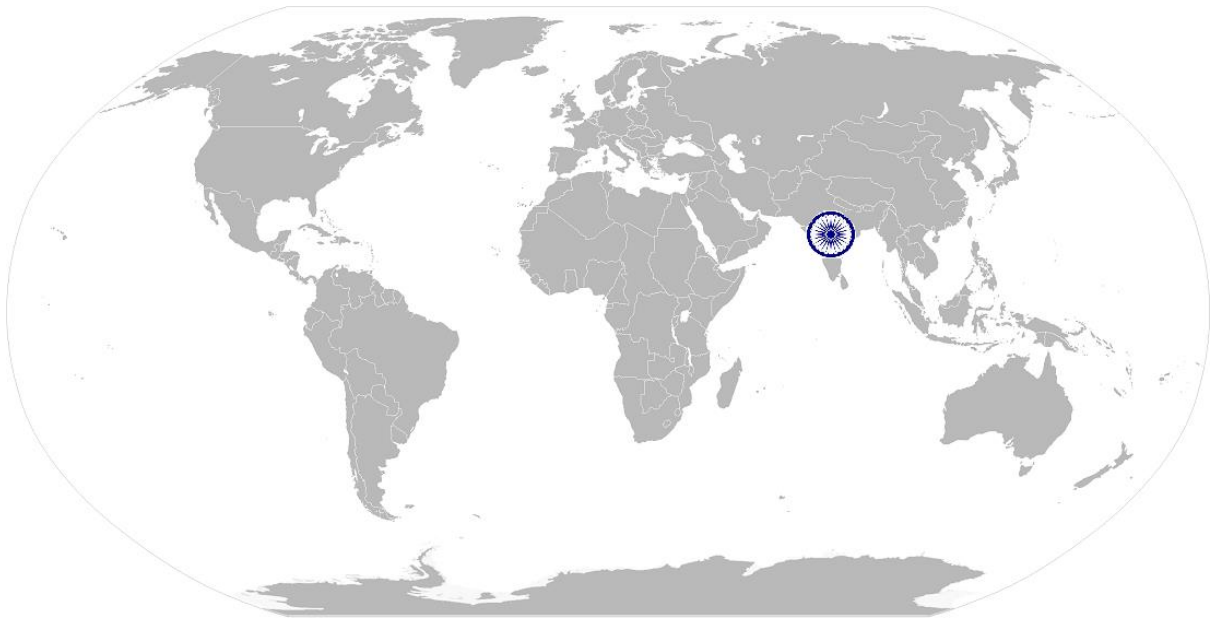
NOS Code	ASC/N6301		
Credits	TBD	Version number	1.0
Industry	Automotive	Drafted on	18/10/16
Industry Sub-sector	Manufacturing	Last reviewed on	18/10/16
Occupation	Welding	Next review date	20/10/18



ASC/N0006 Maintain a safe and healthy working environment

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# National Occupational Standard



## Overview

This unit is about establishing a Safe, Healthy and Environment friendly workplace.

ASC/N0006

## Maintain a safe and healthy working environment

National Occupational Standard	Unit Code	ASC/N0006
	Unit Title (Task)	Maintain a safe and healthy working environment
	Description	This NOS is about creating a Safe and Healthy work place, adhering to the safety guidelines in the working area, following practices which are not impacting the environment in a negative manner.
	Scope	<p>This unit/ task covers the following:</p> <ul style="list-style-type: none"> <li>role holder will be responsible for: <ul style="list-style-type: none"> <li>identifying , reporting of risks</li> <li>creating and sustaining a safe, clean and environment friendly work place</li> </ul> </li> </ul> <p>This NOS will be applicable to all Automotive sector manufacturing job roles.</p>
	Performance Criteria(PC) w.r.t. the Scope	
	Element	Performance Criteria
	identifying , reporting of risks	<p>To be competent, the user/individual on the job must be able to:</p> <p>PC1. identify activities which can cause potential injury through sharp objects, burns, fall, electricity, gas leakages, radiation, poisonous fumes, chemicals, loud noise</p> <p>PC2. inform the concerned authorities about the potential risks identified in the processes, workplace area/ layout, materials used etc.</p> <p>PC3. inform the concerned authorities about machine breakdowns, damages which can potentially harm man/ machine during operations</p> <p>PC4. create awareness amongst other by sharing information on the identified risks</p>
	Create and sustain a Safe, clean and environment friendly work place	<p>To be competent, the user/individual on the job must be able to:</p> <p>PC5. follow the instructions given on the equipment manual describing the operating process of the equipment</p> <p>PC6. follow the Safety, Health and Environment related practices developed by the organization</p> <p>PC7. operate the machine using the recommended personal protective equipment (PPE)</p> <p>PC8. maintain a clean and safe working environment near the work place and ensure there is no spillage of chemicals, production Waste, oil, solvents etc.</p> <p>PC9. maintain high standards of personal hygiene at the work place</p> <p>PC10. ensure that the waste disposal is done in the designated area and manner as per organization SOP</p> <p>PC11. inform appropriately the medical officer/ HR in case of self or an employee's illness of contagious nature so that preventive actions can be</p>

**ASC/N0006 Maintain a safe and healthy working environment**

	planned for others
<b>Knowledge and Understanding (K)</b>	
<b>A. Organizational Context</b> (Knowledge of the company / organization and its processes)	<p>The user/individual on the job should have the ability to understand:</p> <p>KA1. relevant standards, procedures and policies related to health, safety and environment followed in the company</p> <p>KA2. emergency handling procedures &amp; hierarchy for escalation</p>
<b>B. Technical Knowledge</b>	<p>The user/individual on the job should have the ability to understand:</p> <p>KB1. basic knowledge of Safety procedures( firefighting, first aid) within the organization</p> <p>KB2. basic knowledge of various types of PPEs and their usage</p> <p>KB3. basic knowledge of risks/hazards associated with each occupation in the organization</p> <p>KB4. knowledge of personal hygiene and how an individual can contribute towards creating a highly safe and clean working environment</p>
<b>Skills (S)</b>	
<b>A. Core Skills/ Generic Skills</b>	<b>Reading Skills</b>
	<p>The user/ individual on the job should have the ability to:</p> <p>SA1. read safety instructions put up across the plant premises</p> <p>SA2. read safety precautions mentioned in equipment manuals and panels to understand the potential risks associated</p>
	<b>Writing Skills</b>
	<p>The user/ individual on the job should have the ability to:</p> <p>SA3. write basic level notes and observations</p>
	<b>Oral Communication (Listening and Speaking skills)</b>
	<p>The user/ individual on the job should have the ability to:</p> <p>SA4. effectively communicate information to team members</p> <p>SA5. inform employees in the plant and concerned functions about events, incidents &amp; potential risks observed related to safety, health and environment</p> <p>SA6. question operator/ supervisor in order to understand the safety related issues</p> <p>SA7. attentively listen with full attention and comprehend the information given by the speaker during safety drills and training programs</p>
<b>B. Professional Skills</b>	<b>Decision Making</b>
	The user/individual on the job should be able to

**ASC/N0006**

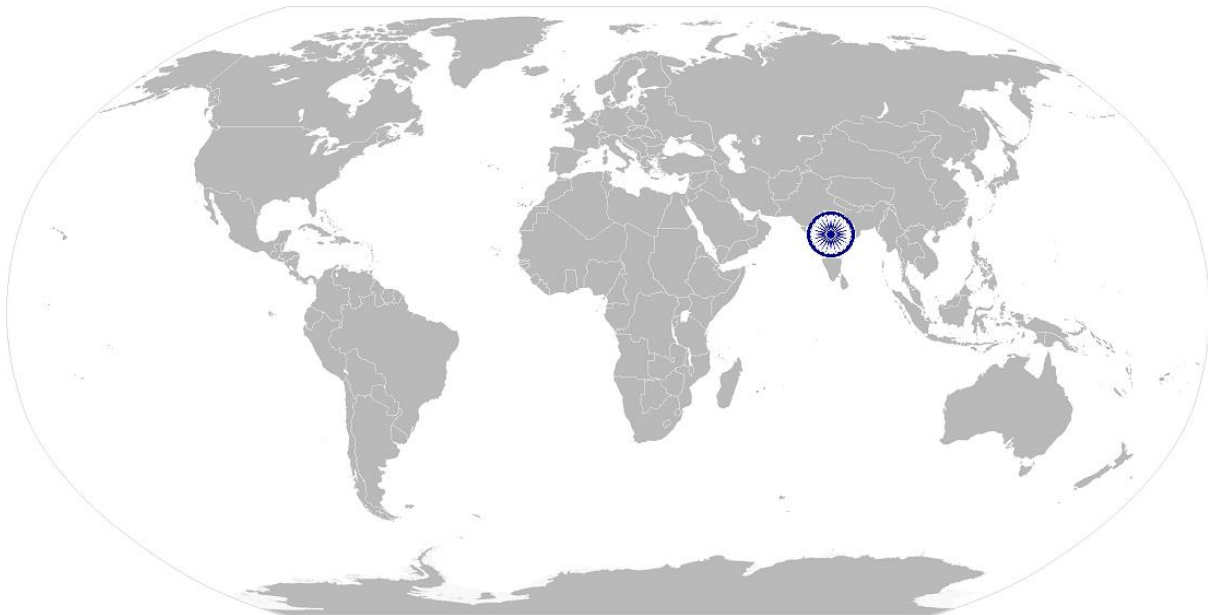
**Maintain a safe and healthy working environment**

	SB1. use reasoning skills to identify and resolve basic problems using 5S
	<b>Plan and Organize</b>
	The user/individual on the job needs to know and understand how to:
	SB2. ensure that the core team members understand and follow the importance of using 5 S tool
	SB3. follow shop floor rules & regulations and avoid deviations; make 5S an integral way of life
	SB4. maintain self-hygiene and work place cleanliness on a daily basis
	<b>CustomerCentricity</b>
	The user/individual on the job should be able to
	SB5. conform to organizational rules & regulations and also use innovative skills to ensure output and work place environment meets or exceeds expectations of colleagues
	<b>Problem Solving</b>
	The user/individual on the job should be able to :
	SB6. analyses a problem and attempt to find an acceptable solution and take help of concerned people if required
	<b>Analytical Thinking</b>
	The user/individual on the job should be able to
	SB7. exhibit inquisitive behavior to seek feedback and question on the existing set patterns of work
	<b>Critical Thinking</b>
	The user/individual on the job should be able to
	SB8. use reasoning skills to identify and resolve basic problems using 5S

**ASC/N0006      Maintain a safe and healthy working environment**

### NOS Version Control

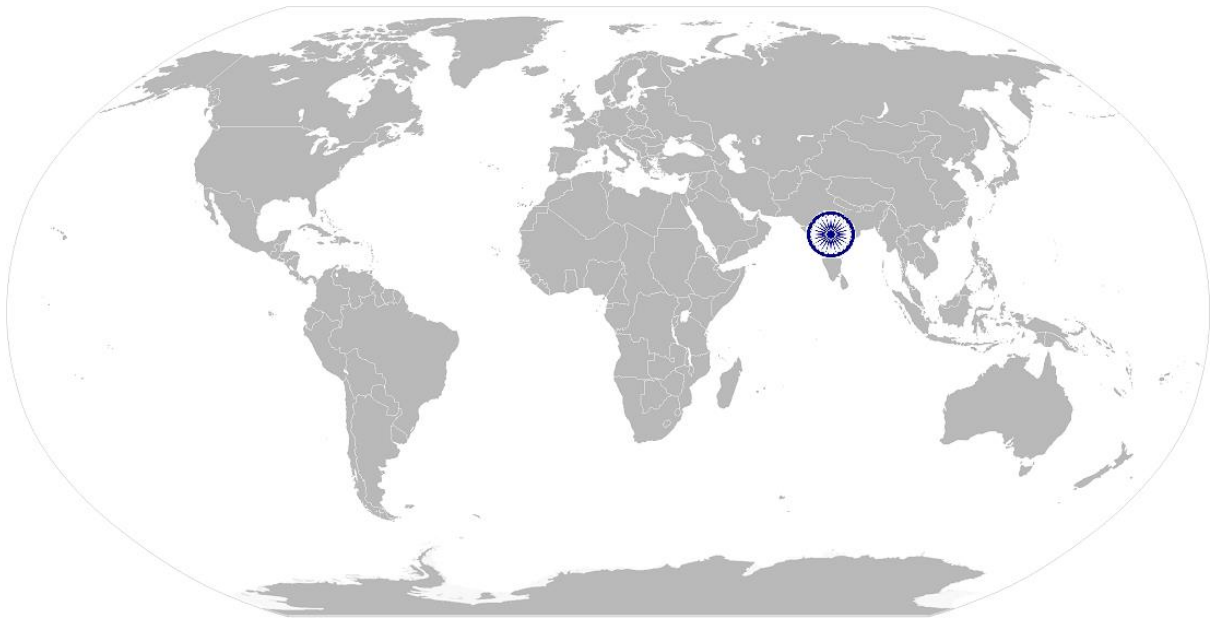
NOS Code	ASC/N0006		
Credits	TBD	Version number	1.0
Industry	Automotive	Drafted on	18/10/16
Industry Sub-sector	Manufacturing	Last reviewed on	18/10/16
Occupation	Welding	Next review date	20/10/18



ASC/N0007 Conduct quality checks and inspection of the finished metal cast products

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# National Occupational Standard



## Overview

This unit is about conducting Quality Checks and inspection of the finished products produced and repair the bad quality items produced in the manufacturing process.

## ASC/N0007 Conduct quality checks and inspection of the finished metal cast products

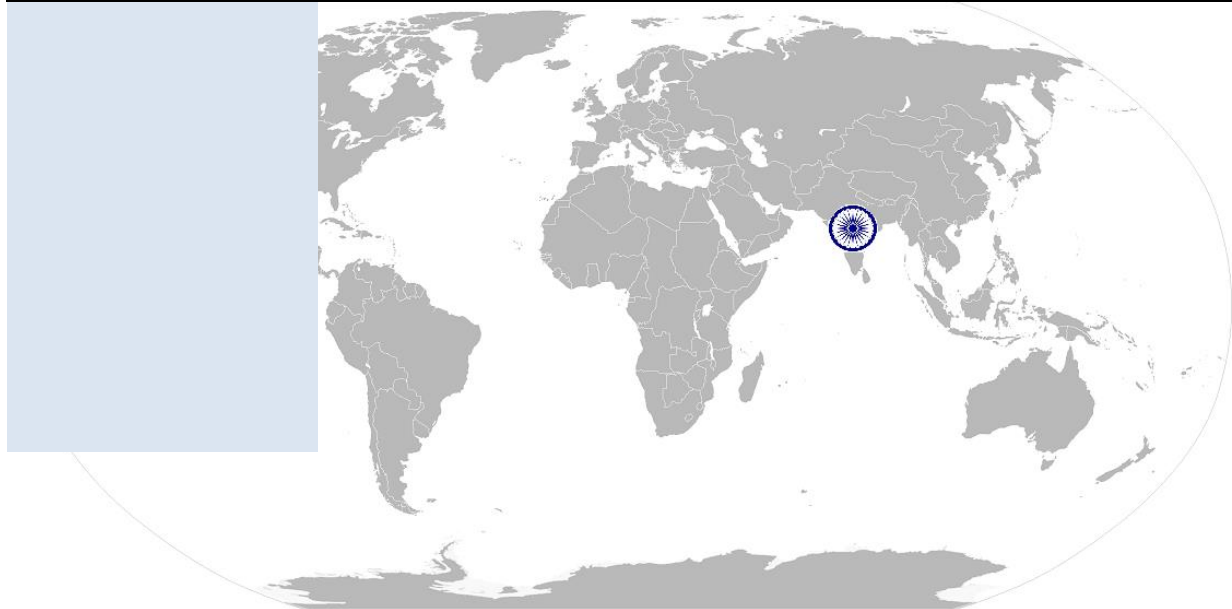
National Occupational Standard	Unit Code	ASC/N0007
	Unit Title (Task)	Conduct quality checks and inspection of the finished metal cast products
	Description	This NOS is about inspecting the finished goods produced for any damages, deformities and further repairing the parts produced so that the damaged/ defective pieces can be corrected and right quality components are supplied to the customer/ end user, internal manufacturing team.
	Scope	<p>This unit/ task covers the following:</p> <ul style="list-style-type: none"> <li>Assistant Welder will be responsible for: <ul style="list-style-type: none"> <li>inspection of finished goods</li> <li>recording log of defective pieces and repairing minor defects</li> </ul> </li> </ul>
	Performance Criteria(PC) w.r.t. the Scope	
	Element	Performance Criteria
	Inspection of finished goods to detect any deviations from the product design	<p>To be competent, the user/individual on the job must be able to:</p> <p>PC1. measure the specifications of the finished product using devices like micrometers, vernier calipers, gauges, rulers, weighing scales and any other inspection equipment and compare with the parameters given in the work order</p> <p>PC2. compare texture, color, surface properties, hardness and strength with the given product specifications</p>
	Record log of defective products and discard defective pieces	<p>To be competent, the user/individual on the job must be able to:</p> <p>PC3. note down the observations of the basic inspection process and identify pieces which are OK and also not meeting the specified standards</p> <p>PC4. separate the defective pieces into two categories – pieces which can be repaired/ modified and pieces which are beyond repair</p> <p>PC5. discard the pieces which are beyond repair and repair the ones which need minor modifications/ rework</p> <p>PC6. maintain records of each category of work outputs</p>
	Knowledge and Understanding (K)	
	A. Organizational Context (Knowledge of the company / organization and its processes)	<p>The user/individual on the job needs to know and understand:</p> <p>KA1. relevant standards specified for the manufacturing process</p> <p>KA2. basic process followed for inspection of the pieces</p> <p>KA3. basic knowledge about the Quality Management policy and manual of the organization</p>
	B. Technical Knowledge	<p>The user/individual on the job needs to know and understand:</p> <p>KB1. techniques of using measurement instruments like rulers, Vernier calipers,</p>

### ASC/N0007 Conduct quality checks and inspection of the finished metal cast products

	<p>micrometer, weighing scale, gauges and other inspection equipment</p> <p>KB2. guidelines to identify quality defects in work pieces</p> <p>KB3. methods used for cutting, shearing, hammering, drilling which can repair pieces with minor defects</p>
<b>Skills (S)</b>	
<b>A. Core Skills/ Generic Skills</b>	<b>Reading Skills</b>
	<p>The user/individual on the job should be able to :</p> <p>SA1. read process and equipment manuals to understand the working of the equipment</p> <p>SA2. read measuring instruments reading to identify any deviations from the dimensions given in the product engineering drawing</p>
	<b>Writing Skills</b>
	<p>The user/individual on the job should be able to :</p> <p>SA3. note the number of pieces with defects which can be repaired to number of pieces which will be discarded</p>
	<b>Oral Communication (Listening and Speaking skills)</b>
	<p>The user/ individual on the job should have ability to:</p> <p>SA4. discuss task lists and job requirements with team members</p> <p>SA5. discuss with operator/ supervisor in order to understand the nature of the problem</p> <p>SA6. attentively listen and comprehend the information given by the technician/team members</p>
<b>B. Professional Skills</b>	<b>Decision Making</b>
	<p>The user/individual on the job should be able to :</p> <p>SB1. analyses a given situation and decide on an appropriate action for completing the task within resources</p>
	<b>Plan and Organize</b>
	<p>The user/individual on the job should be able to :</p> <p>SB2. plan work assigned on a daily basis and provide estimates of time required for each piece of work</p> <p>SB3. prioritize actions to achieve required outcomes</p> <p>SB4. follow instructions and work on areas of improvement identified</p> <p>SB5. complete the assigned tasks with minimum supervision</p> <p>SB6. complete the job defined by the supervisor within the timelines and quality norms</p>
	<b>CustomerCentricity</b>
	<p>The user/individual on the job should be able to :</p> <p>SB7. meet or exceed internal and external customer/team expectations</p>

### ASC/N0007 Conduct quality checks and inspection of the finished metal cast products

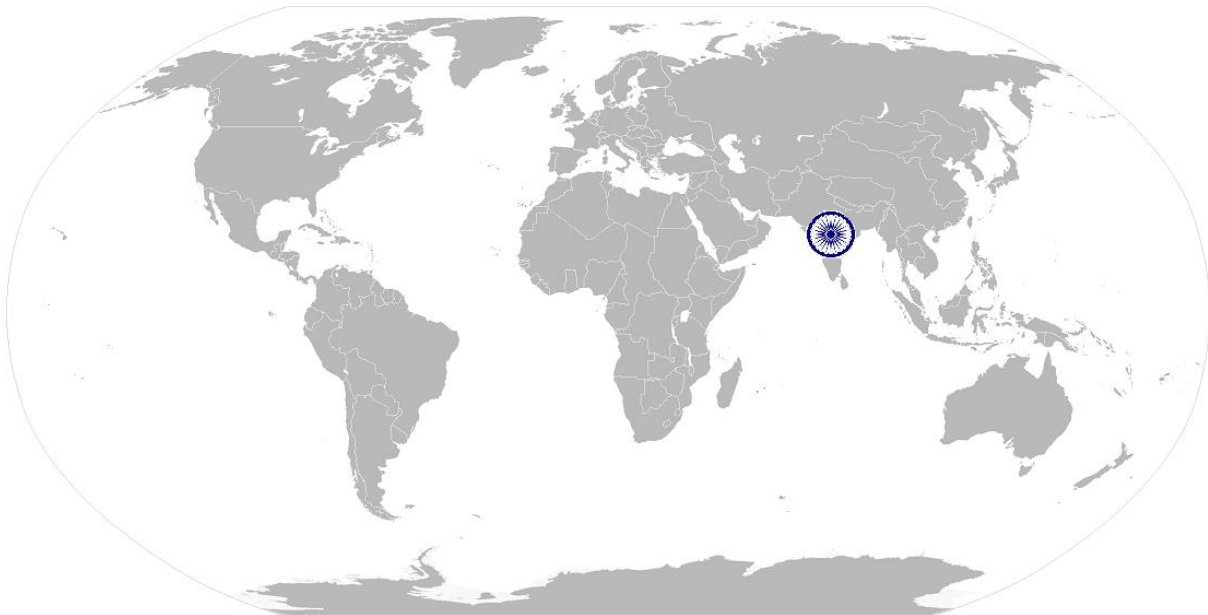
	<b>Problem Solving</b>
	The user/individual on the job should be able to : SB8. analyses a problem and attempt to find an acceptable solution and take help of concerned people if required
	<b>Analytical Thinking</b>
	The user/individual on the job should be able to : SB9. analyses the complexity of work to determine how it can be successfully carried out SB10. anticipate and analyses a given situation from all aspects
	<b>Critical Thinking</b>
	The user/individual on the job should be able to : SB11. apply own judgement to identify solutions in different situations



## ASC/N0007 Conduct quality checks and inspection of the finished metal cast products

### NOS Version Control

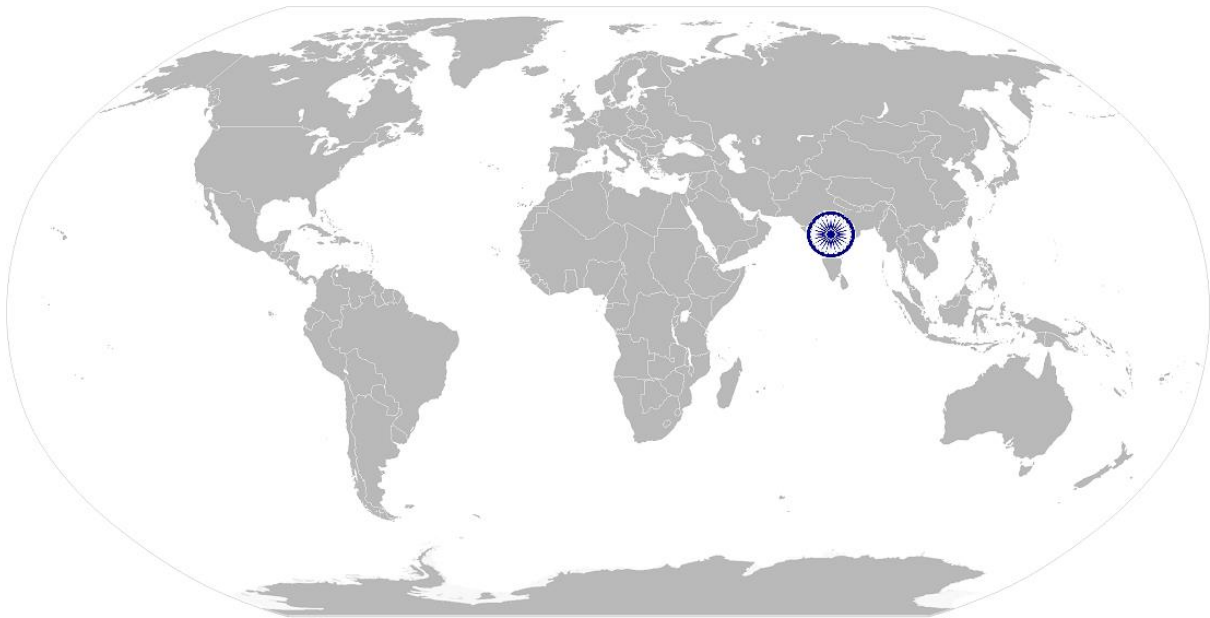
NOS Code	ASC/N0007		
Credits	TBD	Version number	1.0
Industry	Automotive	Drafted on	18/10/16
Industry Sub-sector	Manufacturing	Last reviewed on	18/10/16
Occupation	Welding	Next review date	20/10/18



ASC/N0008 Conduct regular cleaning and maintenance of the equipment

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# National Occupational Standard



## Overview

This unit is about cleaning and maintaining the equipment on a regular basis to prevent any breakdown or improper quality of work output.

## ASC/N0008 Conduct regular cleaning and maintenance of the equipment

National Occupational Standard	Unit Code	ASC/N0008
	Unit Title (Task)	Conduct regular cleaning and maintenance of the equipment
	Description	This NOS is about systematically arranging the equipment in proper area, cleaning the process equipment & auxiliaries on a regular basis and doing basic level maintenance of the equipment, recording any problems related to equipment working.
	Scope	<p>This unit/ task covers the following:</p> <ul style="list-style-type: none"> <li>Assistant Welder will be responsible for: <ul style="list-style-type: none"> <li>storing of equipment in the proper location and cleaning and maintaining the same</li> <li>recording logs and MIS</li> </ul> </li> </ul>
	Performance Criteria(PC) w.r.t. the Scope	
	Element	Performance Criteria
	Storing equipment in proper condition	<p>To be competent, the user/individual on the job must be able to:</p> <p>PC1. arrange all equipment in a proper order as indicated in the equipment manual</p> <p>PC2. store equipment auxiliaries and spare parts in proper designated areas</p> <p>PC3. clearly tag process related equipment parts/ spare parts as per part number or serial number so that sorting of equipment becomes easy</p> <p>PC4. cover equipment so that there is limited dust collection and moisture contact</p>
	Regular cleaning of the equipment and work area	<p>To be competent, the user/individual on the job must be able to:</p> <p>PC5. regularly clean the equipment and process auxiliaries to remove any dust, moisture, waste material which would have got collected on the equipment</p> <p>PC6. regularly open the equipment and clean the internal parts of the equipment</p> <p>PC7. regularly clean the working area under the process and create a healthy, clean and safe working environment</p>
	Conduct regular preventive maintenance of equipment	<p>To be competent, the user/individual on the job must be able to:</p> <p>PC8. check the working of all bearing, rollers, shafts etc. and oil all moving parts of the equipment on a periodic basis</p> <p>PC9. check the working of non-moving parts and periodically conduct preventive maintenance to prevent machine failure</p> <p>PC10. periodically check the equipment calibration and report any errors to the maintenance teams for rectification</p>

### ASC/N0008 Conduct regular cleaning and maintenance of the equipment

<b>Recording observations and preparing MIS</b>	To be competent, the user/individual on the job must be able to: PC11. prepare periodic log sheets of equipment maintenance dates, maintenance schedules and maintenance activity conducted on the equipment
<b>Knowledge and Understanding (K)</b>	
<b>A. Organizational Context</b> (Knowledge of the company / organization and its processes)	The user/individual on the job needs to know and understand: KA1. relevant standards and procedures followed in the company for the process of maintenance and equipment storage KA2. functional processes like Procurement, Store management, inventory management, quality management and key contact points for query resolution
<b>B. Technical Knowledge</b>	The user/individual on the job needs to know and understand: KB1. basic level maintenance and cleaning techniques KB2. various solvents, chemicals, lubricants etc. used during the maintenance processes KB3. procedure for arranging the equipment and spare parts in the prescribed manner including tagging and numbering of machine parts & spares KB4. safety precautions to be taken during cleaning and maintenance activities
<b>Skills (S)</b>	
<b>A. Core Skills/ Generic Skills</b>	<b>Reading Skills</b>
	The user/individual on the job should be able to : SA1. read equipment manuals and process documents to understand the equipment and processes better SA2. read instructions especially safety instructions related to equipment cleaning and maintenance
	<b>Writing Skills</b>
	The user/individual on the job should be able to : SA3. note equipment part codes, name tags etc. in the prescribed formats and records for the same SA4. note observations related to equipment performance, breakdown, cleaning and maintenance schedules etc. in the prescribed MIS format
	<b>Oral Communication (Listening and Speaking skills)</b>
	The user/ individual on the job should have ability to: SA5. discuss task lists and job requirements with team members SA6. discuss with operator/ supervisor in order to understand the nature of the problem SA7. attentively listen and comprehend the information given by the technician/team members
	<b>Decision Making</b>

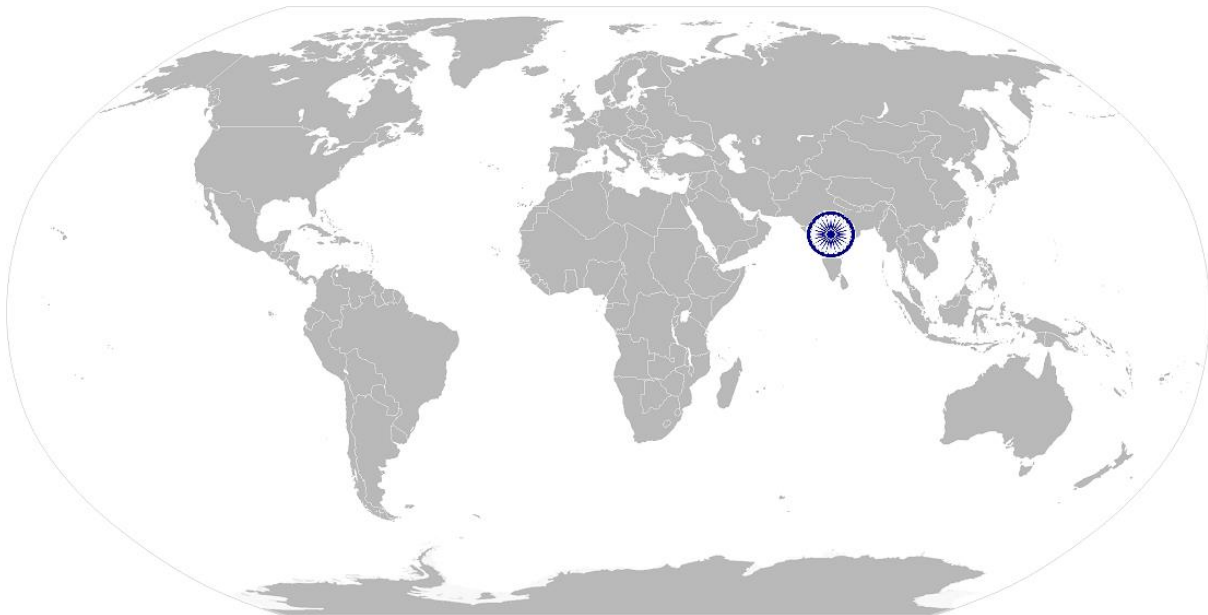
## ASC/N0008 Conduct regular cleaning and maintenance of the equipment

<b>B. Professional Skills</b>	The user/individual on the job should be able to : SB1. analyses a given situation and decide on an appropriate action for completing the task within resources
	<b>Plan and Organize</b>
	The user/individual on the job should be able to : SB2. plan work assigned on a daily basis and provide estimates of time required for each piece of work SB3. prioritize actions to achieve required outcomes SB4. follow instructions and work on areas of improvement identified SB5. complete the assigned tasks with minimum supervision SB6. complete the job defined by the supervisor within the timelines and quality norms
	<b>CustomerCentricity</b>
	The user/individual on the job should be able to : SB7. meet or exceed internal and external customer/team expectations
	<b>Problem Solving</b>
	The user/individual on the job should be able to : SB8. analyses a problem and attempt to find an acceptable solution and take help of concerned people if required
	<b>Analytical Thinking</b>
	The user/individual on the job should be able to : SB9. analyses the complexity of work to determine how it can be successfully carried out SB10. anticipate and analyses a given situation from all aspects
	<b>Critical Thinking</b>
	The user/individual on the job should be able to : SB11. apply own judgement to identify solutions in different situations

## ASC/N0008 Conduct regular cleaning and maintenance of the equipment

### NOS Version Control

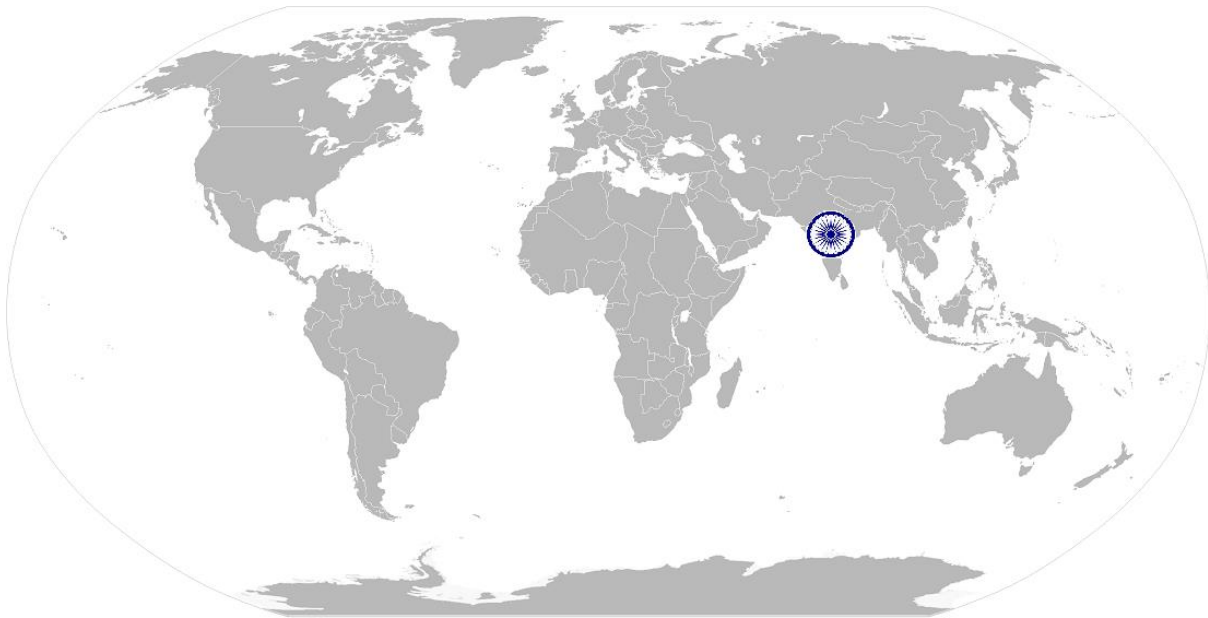
NOS Code	ASC/N0008		
Credits	TBD	Version number	1.0
Industry	Automotive	Drafted on	18/10/16
Industry Sub-sector	Manufacturing	Last reviewed on	18/10/16
Occupation	Welding	Next review date	20/10/18



ASC/N0021 Maintain 5S at the work premises

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# National Occupational Standard



## Overview

This unit is about the understanding all principles of 5S and follow the given guidelines to ensure a clean and efficient working environment in the organization.

## ASC/N0021

## Maintain 5S at the work premises

National Occupational Standard	Unit Code	ASC/N0021
	Unit Title (Task)	Maintain 5S at the work premises
	Description	This NOS is about ensuring all 5 S activities both at the shop floor and the office area to facilitate increase in work productivity.
	Scope	<p>This unit/ task covers the following:</p> <ul style="list-style-type: none"> <li>Individual needs to <ul style="list-style-type: none"> <li>ensure sorting, streamlining &amp; organizing; storage and documentation; cleaning, standardization and sustenance across the plant and office premises of the organization</li> </ul> </li> </ul>
	Performance Criteria(PC) w.r.t. the Scope	
	Element	Performance Criteria
Ensure sorting		<p>To be competent, the user/individual on the job must be able to:</p> <p>PC1. follow the sorting process and check that the tools, fixtures &amp; jigs that are lying on workstations are the ones in use and un-necessary items are not cluttering the workbenches or work surfaces</p> <p>PC2. ensure segregation of waste in hazardous/ non-Hazardous waste as per the sorting work instructions</p> <p>PC3. follow the technique of waste disposal and waste storage in the proper bins as per SOP</p> <p>PC4. segregate the items which are labelled as red tag items for the process area and keep them in the correct places</p> <p>PC5. sort the tools/ equipment/ fasteners/ spare parts as per specifications/ utility into proper trays, cabinets, lockers as mentioned in the 5S guidelines/ work instructions</p> <p>PC6. ensure that areas of material storage areas are not overflowing</p> <p>PC7. properly stack the various types of boxes and containers as per the size/ utility to avoid any fall of items/ breakage and also enable easy sorting when required</p> <p>PC8. return the extra material and tools to the designated sections and make sure that no additional material/ tool is lying near the work area</p> <p>PC9. follow the floor markings/ area markings used for demarcating the various sections in the plant as per the prescribed instructions and standards</p>
Ensure proper documentation and storage (organizing, streamlining)		<p>To be competent, the user/individual on the job must be able to:</p> <p>PC10. follow the proper labeling mechanism of instruments/ boxes/ containers and maintaining reference files/ documents with the codes and the lists</p> <p>PC11. check that the items in the respective areas have been identified as broken</p>

**ASC/N0021**

**Maintain 5S at the work premises**

	<p>or damaged</p> <p>PC12. follow the given instructions and check for labeling of fluids, oils, lubricants, solvents, chemicals etc. and proper storage of the same to avoid spillage, leakage, fire etc.</p> <p>PC13. make sure that all material and tools are stored in the designated places and in the manner indicated in the 5S instructions</p>
<b>Ensure cleaning of self and the work place</b>	<p>To be competent, the user/individual on the job must be able to:</p> <p>PC14. check whether safety glasses are clean and in good condition</p> <p>PC15. keep all outside surfaces of recycling containers are clean</p> <p>PC16. ensure that the area has floors swept, machinery clean and generally clean. in case of cleaning, ensure that proper displays are maintained on the floor which indicate potential safety hazards</p> <p>PC17. check whether all hoses, cabling &amp; wires are clean, in good condition and clamped to avoid any mishap or mix up</p> <p>PC18. ensure workbenches and work surfaces are clean and in good condition</p> <p>PC19. follow the cleaning schedule for the lighting system to ensure proper illumination</p> <p>PC20. store the cleaning material and equipment in the correct location and in good condition</p> <p>PC21. ensure self-cleanliness - clean uniform, clean shoes, clean gloves, clean helmets, personal hygiene</p>
<b>Ensure sustenance</b>	<p>To be competent, the user/individual on the job must be able to:</p> <p>PC22. follow the daily cleaning standards and schedules to create a clean working environment</p> <p>PC23. attend all training programs for employees on 5 S</p> <p>PC24. support the team during the audit of 5 S</p> <p>PC25. participate actively in employee work groups on 5S and encourage team members for active participation</p> <p>PC26. follow the guidelines for What to do and What not to do to build sustainability in 5S as mentioned in the 5S check lists/ work instructions</p>
<b>Knowledge and Understanding (K)</b>	
<b>A. Organizational Context</b> (Knowledge of the company/ organization and its processes)	<p>The user/individual on the job needs to know and understand:</p> <p>KA1. relevant standards, procedures and policies related to 5S followed in the company</p>
<b>B. Technical Knowledge</b>	<p>The user/individual on the job needs to know and understand:</p> <p>KB1. have basic knowledge of 5S procedures</p> <p>KB2. know various types 5s practices followed in various areas</p>

**ASC/N0021**

**Maintain 5S at the work premises**

	<p>KB3. understand the 5S checklists provided in the department/ team</p> <p>KB4. have skills to identify useful &amp; non useful items</p> <p>KB5. have knowledge of labels , signs &amp; colors used as indicators</p> <p>KB6. have knowledge on how to sort and store various types of tools, equipment, material etc.</p> <p>KB7. know, how to identify various types of waste products</p> <p>KB8. understand the impact of waste/ dirt/ dust/ unwanted substances on the process/ environment/ machinery/ human body</p> <p>KB9. have knowledge of best ways of cleaning &amp; waste disposal</p> <p>KB10. understand the importance of standardization in processes</p> <p>KB11. understand the importance of sustainability in 5S</p> <p>KB12. have knowledge of TQM process</p> <p>KB13. have knowledge of various materials and storage norms</p> <p>KB14. understand visual controls, symbols, graphs etc.</p>
<b>Skills (S)</b>	
<b>A. Core Skills/ Generic Skills</b>	<b>Reading Skills</b>
	The user/ individual on the job should have ability to :
	SA1. read 5S instructions put up across the plant premises
	<b>Writing Skills</b>
	The user/ individual on the job should have ability to :
	SA2. write simple sentences in local language and also preferably in Hindi/ English
<b>B. Professional Skills</b>	<b>Oral Communication (Listening and Speaking skills)</b>
	The user/ individual on the job should have ability to :
	SA3. effectively communicate information to team members inform employees in the plant and concerned functions about 5S
	SA4. listen effectively and orally communicate information
	SA5. attentively listen with full attention and comprehend the information given by the speaker during 5S training programs
	<b>Decision Making</b>
<b>B. Professional Skills</b>	The user/individual on the job should be able to :
	SB1. use reasoning skills to identify and resolve basic problems using 5S tools
	<b>Plan and Organize</b>
	The user/individual on the job should be able to :
	SB2. do what is right, not what is a popular practices
	SB3. follow shop floor rules & regulations and avoid deviations
<b>B. Professional Skills</b>	SB4. make 5S an integral way of life
	SB5. maintain self-hygiene and work place cleanliness on a continuous basis

## ASC/N0021

## Maintain 5S at the work premises

	SB6. persuade other colleagues also to follow 5 S
	<b>CustomerCentricity</b>
	The user/individual on the job should be able to : SB7. conform to organizational rules & regulations and also use innovative skills to ensure output and work place environment meets or exceeds expectations of colleagues
	<b>Problem Solving</b>
	The user/individual on the job should be able to : SB8. analyses a problem and attempt to find an acceptable solution and take help of concerned people if required
	<b>Analytical Thinking</b>
	The user/individual on the job needs to know and understand how to: SB9. exhibit inquisitive behavior to seek feedback and question on the existing set patterns of work
	<b>Critical Thinking</b>
	The user/individual on the job needs to know and understand how to: SB10. use reasoning skills to identify and resolve basic problems using 5S

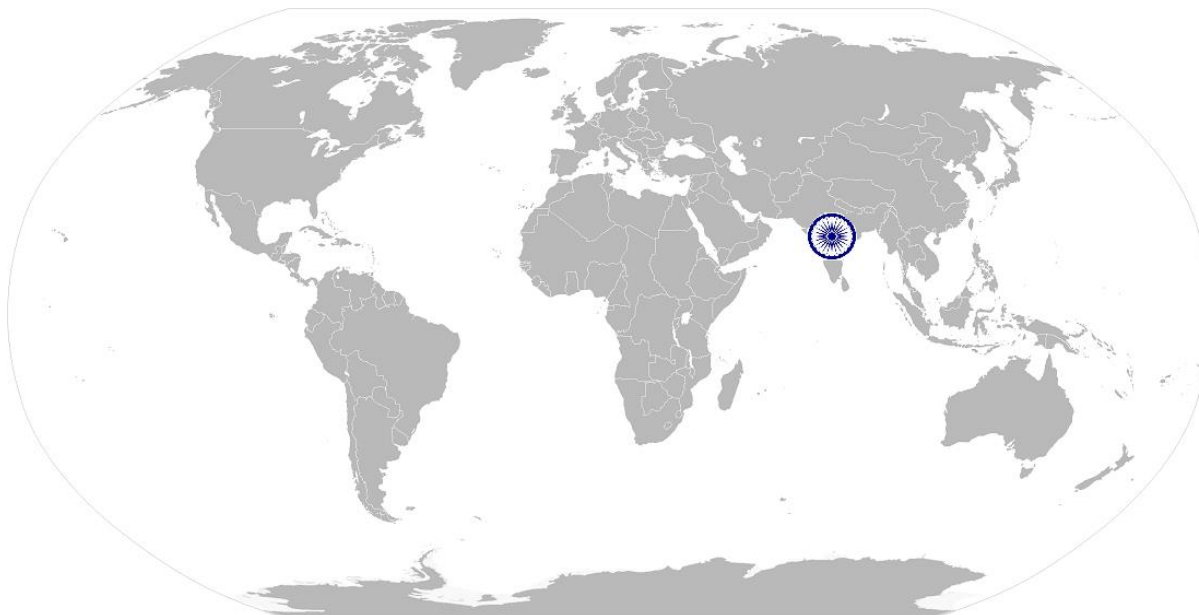


**ASC/N0021**

**Maintain 5S at the work premises**

## **NOS Version Control**

NOS Code	ASC/N0021		
Credits	TBD	Version number	1.0
Industry	Automotive	Drafted on	18/10/16
Industry Sub-sector	Manufacturing	Last reviewed on	18/10/16
Occupation	Welding	Next review date	20/10/18



## 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)

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

Sub-sector	Range of Occupation numbers
Manufacturing	31 - 45 & 61 - 68
Research & Development	81 - 84
Sales & Service	01 - 21
Road Transportation	96 - 97

Sequence	Description	Example
Three letters	Automotive	ASC
Slash	/	/
Next letter	Whether QP or NOS	N
Next two numbers	Occupation code	01
Next two numbers	OS number	01

**CRITERIA FOR ASSESSMENT OF TRAINEES**

**Job Role:** Welding and Quality Technician

**Qualification Pack:** ASC/Q3109

**Sector Skill Council:** Automotive Skills Development 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. Individual assessment agencies will create unique question papers for theory part for each candidate at each examination/training center (as per assessment criteria below).
4. Individual assessment agencies will create unique evaluations for skill practical for every student at each examination/training center based on this criteria.
5. To pass the Qualification Pack, every trainee should score a minimum of 70% in every NOS.
6. In case of successfully passing only certain number of NOS's, the trainee is eligible to take subsequent assessment on the balance NOS's to pass the Qualification Pack.

Assessable Outcome	Assessment Criteria	Marks Allocation			
		Total Marks	Out of	Theory	Practical Skills
1. ASC/N3103 Understand welding job requirements and related processes	PC1. Understand the work order (work output) required from the process and discuss the same with the operator	100	17	4	13
	PC2. refer all engineering drawings and sketches related to the work output to understand the measurement and shape of the required work output		17	4	13
	PC3. clearly understanding the does and don'ts of the manufacturing process as defined in SOPs/ Work Instructions or defined by supervisors		16	4	12
	PC4. refer the queries to the Operator/ Welder if they cannot be resolved by the Assistant Welder on own		16	4	12
	PC5. obtain help or advice from specialist if the problem is outside his/her area of competence or experience		17	4	13
	PC6. confirm self - understanding to the Operator once the query is		17	5	12

	resolved so that all doubts & queries can be resolved before the actual process execution				
		<b>Total</b>	<b>100</b>	<b>25</b>	<b>75</b>
<b>2. ASC/N3104 Prepare the welding machine for the welding process</b>	PC1. understand the right welding methodology and process to be adopted for completing the work order from the supervisor	<b>100</b>	8	2	6
	PC2. understand the various welding parameters like temperature, pressure, electrode type, electrode distance (gap), Welding current, voltage, process time etc. before starting the welding process		8	2	6
	PC3. understand the material required and the equipment availability for executing the activity		7	2	5
	PC4. correctly understand the type of electrode in terms of electrode material and thickness, filler material and flux which will be required for the selected welding process before the initiation of the welding process		8	2	6
	PC5. ensure that the required material is procured from the store before starting the welding process		6	1	5
	PC6. long with the helper, clean the surface of the electrodes and the welding gun to remove dust and any other impurities		6	1	5
	PC7. clean other welding machine auxiliaries(Welding Transformer, Gas Discharge unit, Flux wire) before the initiation of the welding process		7	2	5
	PC8. setup the welding apparatus as per the selected welding process and the internal Operating procedures and the setting standards for the machine		8	2	6
	PC9. clean the surface to the metal parts (work pieces) which need to be joint		6	1	5
	PC10. remove any extra material, sharp edges etc. which might impact the final welded product		7	2	5
	PC11. correctly compare the dimensions of the work pieces available on the welding line with		8	2	6

	the product drawing/ sketches available with the operator				
	PC12. in case the parts are not as per the given measurements, remove extra material by using chippers, grinders etc.		7	2	5
	PC13. immediately refer the queries to a operator and the supervisor		7	2	5
	PC14. confirm self-understanding to the operator once the query is resolved so that all doubts & queries can be resolved before the actual process execution		7	2	5
	<b>Total</b>		<b>100</b>	<b>25</b>	<b>75</b>
<b>3. ASC/N3105 Support the welder in the welding process</b>	PC1. hold the parts which need to be welded together using a clamp and align them with the electrodes as per the job requirement so that the work pieces do not fall down/ turn	100	11	2	9
	PC2. Install the work pieces on the Welding apparatus keeping in mind the electrodes distance, contact area, pressure, temperature application etc. as specified in the Welding SOP/ Control plan Documents/Work Instructions and instructed by the operator/ welder and the supervisor		11	3	8
	PC3. check for operation of core welding equipment like welding gun, welding transformer, gas cylinders, gas discharge units as per setup documentation		9	2	7
	PC4. Support the operator in conducting destructive and non-destructive test activity		9	2	7
	PC5. support the operator in the Gas Discharge welding by holding the Welding Gun and the Filler material/ Gas discharge		9	2	7
	PC6. help the welder in monitoring the welding process (Pressure, Temperature, gas discharge flow, electrode force, electrode distance etc.) by observing and communicating the readings on various panels/ meters at the right time to prevent any harm to the work pieces due to		10	2	8

	overheating, burning, over melting				
	PC7. measure the final welded piece and compare the dimensions as prescribed in the work order engineering drawing		11	3	8
	PC8. in case the parts are not as per the given measurements, remove extra material by using chippers, grinders etc.		10	3	7
	PC9. if there are any bulges, then hammer the bulges and give the work pieces the desired shape		10	3	7
	PC10. keep the operator informed of any inconsistency in the welding process, quality issues etc. so that the same can be dealt immediately		10	3	7
	<b>Total</b>		<b>100</b>	<b>25</b>	<b>75</b>
<b>4. ASC/N3106 Remove the finished goods and store them in the designated place</b>	PC1. understand the output product shape and decide the mechanism to lift the output	100	15	4	11
	PC2. clamp the product and lift the output object using suitable equipment like hoist, lifts, crane etc.		14	4	10
	PC3. ensure that there is no damage to the lifted work pieces		14	3	11
	PC4. carry the output product to the designated area using hangars, conveyor belts, cranes, forklifts etc.		14	3	11
	PC5. post inspection process, tag the right quality pieces for future identification		14	4	10
	PC6. carry the tagged pieces to the storage areas using manual/ automatic means		15	4	11
	PC7. keep a record of the finished goods along with the storage identification numbers for easy sorting		14	3	11
	<b>Total</b>		<b>100</b>	<b>25</b>	<b>75</b>
<b>5. ASC/N6301 Inspect and maintain the product quality</b>	PC1. conduct the process of Inspection at the stages: <ul style="list-style-type: none"> <li>complete dimensional /Layout Inspection at development stage &amp; later as per the periodicity such as annual for re- validation</li> </ul>	100	6	2	4

	<ul style="list-style-type: none"> <li>in the Production phase as per the CP/ Quality plan/ sampling Plan/ stage inspection plans/ First off IR</li> </ul>				
	<p>PC2. handle Inspection equipment and Instruments such as</p> <ul style="list-style-type: none"> <li>vernier, micrometers</li> <li>height Gauge &amp; surface plate</li> <li>acceptance/ Combination Gauges</li> <li>simple gauges – bore, air , profile for safe storage, calibration at pre-decided frequency and have an acceptable level of R &amp; R as per SOP of the organization</li> </ul>		6	2	4
	<p>PC3. conduct inspection of the product covering the following checkpoints:</p> <ul style="list-style-type: none"> <li>visual Inspection of the part for scratches, dents , damages, packing as per the norms etc.</li> <li>special inspection co-ordinate with other agencies e.g. Lab :Material, Lab: Standards Room, assembly / performance trials etc.</li> <li>identification sticker/number/label placed on the product</li> <li>functioning of the product and its components</li> <li>documentation pertaining to the Quality</li> </ul>		6	2	4
	<p>PC4. coordinate with the respective process owners / seniors in QA and implement CAPA for discrepancies in the parameters identified in the report on immediate basis</p>		6	2	4
	<p>PC5. participate in checking the effectiveness of implementation and repeat the process till the discrepancies are resolved</p>		5	1	4
	<p>PC6. document the observations of the inspection and maintain records of</p>		5	1	4
	<p>PC7. IR, ERP-System record and special process capability index calculation/charting as per the SOP raise a scrap note and dispose off the scrapped product in the scrap yard as per the defined procedure maintaining the HSE compliance</p>		6	1	5

	PC8. As is the case i.e. New product/process development / Production phase, the reports and Part Submission Warrant, PPAP are to be prepared.		5	1	4
	PC9. based on the implementation of information flow system in organization like ERP/SAP , upload the reports		6	1	5
	PC10. conduct a dock audit of a sample batch from the production lot of the ready to dispatch final products covering the following checkpoints: <ul style="list-style-type: none"> <li>• product in good shape with no visible damage</li> <li>• presence of sharp edges in the product</li> <li>• wear and tear of the product</li> <li>• presence of any physical defects</li> <li>• packaging of product according to customer specification</li> <li>• packaging boxes as per the requirement for preservation</li> <li>• customer PO Number on the shipping labels</li> <li>• boxes labeled correctly with packer name</li> <li>• count on the Bill of Lading match the count on the pallet</li> <li>• boxes stacked neatly in case of pallet arrangement</li> <li>• Damages of the pallet like nails sticking out, broken boards, etc.</li> </ul>		6	2	4
	PC11. coordinate with the respective process owners/Stores and implement CAPA for discrepancies identified in the dock audit on immediate basis		5	1	4
	PC12. review the effectiveness of implementation and repeat the process till the discrepancies are resolved		5	1	4
	PC13. document the observations of dock audit and maintain records		5	1	4
	PC14. based on the implementation of information flow system in organization like ERP/SAP , upload the reports		6	2	4

	PC15. work as a CFT member of the team formed for solving a problem pertaining to the products handled . Collect data regarding the problem as decided in the team discussions		6	1	5
	PC16. participate for preparation of Fault tree, conducting simulation and implementation of actions		5	1	4
	PC17. participate for updating relevant documentation		5	1	4
	PC18. assist the NPD department in efficient development of the new product by sharing all the problems related to QCD observed in the existing products		6	2	4
	<b>Total</b>		<b>100</b>	<b>25</b>	<b>75</b>
<b>6. ASC/N0006 Maintain a safe and healthy working environment</b>	PC1. follow the sorting process and check that the tools, fixtures & jigs that are lying on workstations are the ones in use and unnecessary items are not cluttering the workbenches or work surfaces	100	4	1	3
	PC2. ensure segregation of waste in hazardous/ non Hazardous waste as per the sorting work instructions		4	1	3
	PC3. follow the technique of waste disposal and waste storage in the proper bins as per SOP		4	1	3
	PC4. segregate the items which are labeled as red tag items for the process area and keep them in the correct places		4	1	3
	PC5. sort the tools/ equipment/ fasteners/ spare parts as per specifications/ utility into proper trays, cabinets, lockers as mentioned in the 5S guidelines/ work instructions		4	1	3
	PC6. ensure that areas of material storage areas are not overflowing		3	1	2
	PC7. properly stack the various types of boxes and containers as per the size/ utility to avoid any fall of items/ breakage and also enable easy sorting when required		4	1	3
	PC8. return the extra material and tools to the designated sections and make sure that no additional		4	1	3

	material/ tool is lying near the work area				
	PC9. follow the floor markings/ area markings used for demarcating the various sections in the plant as per the prescribed instructions and standards		4	1	3
	PC10. follow the proper labeling mechanism of instruments/ boxes/ containers and maintaining reference files/ documents with the codes and the lists		4	1	3
	PC11. check that the items in the respective areas have been identified as broken or damaged		3	0	3
	PC12. follow the given instructions and check for labeling of fluids, oils. lubricants, solvents, chemicals etc. and proper storage of the same to avoid spillage, leakage, fire etc.		4	1	3
	PC13. make sure that all material and tools are stored in the designated places and in the manner indicated in the 5S instructions		4	1	3
	PC14. check whether safety glasses are clean and in good condition		3	1	2
	PC15. keep all outside surfaces of recycling containers are clean		3	1	2
	PC16. ensure that the area has floors swept, machinery clean and generally clean. In case of cleaning, ensure that proper displays are maintained on the floor which indicate potential safety hazards		4	1	3
	PC17. check whether all hoses, cabling & wires are clean, in good condition and clamped to avoid any mishap or mix up		4	1	3
	PC18. ensure workbenches and work surfaces are clean and in good condition		3	1	2
	PC19. follow the cleaning schedule for the lighting system to ensure proper illumination		4	1	3
	PC20. store the cleaning material and equipment in the correct location and in good condition		4	1	3

	PC21. ensure self-cleanliness - clean uniform, clean shoes, clean gloves, clean helmets, personal hygiene		4	1	3
	PC22. follow the daily cleaning standards and schedules to create a clean working environment		4	1	3
	PC23. attend all training programs for employees on 5 S		4	1	3
	PC24. support the team during the audit of 5S		4	1	3
	PC25. participate actively in employee work groups on 5S and encourage team members for active participation		5	1	4
	PC26. follow the guidelines for What to do and What not to do to build sustainability in 5S as mentioned in the 5S check lists/ work instructions		4	1	3
		<b>Total</b>	<b>100</b>	<b>25</b>	<b>75</b>
<b>7. ASC/N0007 Conduct quality checks and inspection of the finished metal cast products</b>	PC1. measure the specifications of the finished product using devices like micrometers, vernier calipers, gauges, rulers, weighing scales and any other inspection equipment and compare with the parameters given in the work order	100	17	4	13
	PC2. compare texture, color, surface properties, hardness and strength with the given product specifications		17	4	13
	PC3. note down the observations of the basic inspection process and identify pieces which are OK and also not meeting the specified standards		17	4	13
	PC4. separate the defective pieces into two categories – pieces which can be repaired/ modified and pieces which are beyond repair		16	4	12
	PC5. discard the pieces which are beyond repair and repair the ones which need minor modifications/ rework		17	5	12
	PC6. maintain records of each category of work outputs		16	4	12
		<b>Total</b>	<b>100</b>	<b>25</b>	<b>75</b>
<b>8. ASC/N0008 Conduct regular</b>	PC1. arrange all equipment in a proper order as indicated in the equipment manual	100	9	2	7

cleaning and maintenance of the equipment	PC2. store equipment auxiliaries and spare parts in proper designated Areas		9	2	7
	PC3. clearly tag process related equipment parts/ spare parts as per part number or serial number so that sorting of equipment becomes easy		9	2	7
	PC4. cover equipment so that there is limited dust collection and moisture contact		9	2	7
	PC5. regularly clean the equipment and process auxiliaries to remove any dust, moisture, waste material which would have got collected on the equipment		9	3	6
	PC6. regularly open the equipment and clean the internal parts of the Equipment		9	3	6
	PC7. regularly clean the working area under the process and create a healthy, clean and safe working environment		9	3	6
	PC8. check the working of all bearing, rollers, shafts etc. and oil all moving parts of the equipment on a periodic basis		9	2	7
	PC9. check the working of non-moving parts and periodically conduct preventive maintenance to prevent machine failure		9	2	7
	PC10. periodically check the equipment calibration and report any errors to the maintenance teams for rectification		9	2	7
	PC11. prepare periodic log sheets of equipment maintenance dates, maintenance schedules and maintenance activity conducted on the equipment		10	2	8
	<b>Total</b>		<b>100</b>	<b>25</b>	<b>75</b>
9. ASC/N0021 Maintain 5S at the work premises	PC1. identify activities which can cause potential injury through sharp objects, burns, fall, electricity, gas leakages, radiation, poisonous fumes, chemicals ,loud noise	100	9	2	7
	PC2. inform the concerned authorities about the potential risks identified in the processes, workplace area/ layout, materials used etc		9	2	7

	PC3. inform the concerned authorities about damages which can potentially harm man/ machine during operations		9	2	7
	PC4. create awareness amongst other by sharing information on the identified risks		9	2	7
	PC5. follow the instructions given on the equipment manual describing the operating process of the equipments		9	3	6
	PC6. follow the Safety, Health and Environment related practices developed by the organization		9	3	6
	PC7. operate the machine using the recommended Personal Protective Equipments (PPE)		10	3	7
	PC8. maintain a clean and safe working environment near the workplace and ensure there is no spillage of chemicals, production waste, oil, solvents etc		9	2	7
	PC9. maintain high standards of personal hygiene at the work place		9	2	7
	PC10. ensure that the waste disposal takes place in the designated area as per organization SOP		9	2	7
	PC11. inform appropriately the medical officer/ HR in case of self or an employee's illness of contagious nature so that preventive actions can be planned for others		9	2	7
		<b>Total</b>	<b>100</b>	<b>25</b>	<b>75</b>
	<b>Grand Total</b>	<b>900</b>	<b>900</b>	<b>225</b>	<b>675</b>
	<b>Percentage Weightage (%)</b>			<b>25</b>	<b>75</b>