

## 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- Casting or Foundry Assistant/ Helper

**SECTOR:** AUTOMOTIVE

**SUB-SECTOR:** MANUFACTURING

**OCCUPATION:** CASTING

**JOB ROLE:** CASTING or FOUNDRY ASSISTANT/ HELPER

**REFERENCE ID:** ASC/Q3201

**ALIGNED TO:** NCO-2004/8122.77.90

**Casting Helper :** This role is similar for all types of metal castings except pressure die castings and can be performed both manually and through automated processes.

**Brief Job Description:** Casting Helper will be involved in cleaning the slag, supporting in pre casting & post casting operations and storing the output at designated place

#### **Personal Attributes:**

Reading, writing and communication skills, ability to plan and prioritize, quality consciousness, safety orientation, Dexterity, Ability to use fingers, hands and feet with ease to complete the assigned task (Dexterity), high precision and sensitivity to problem solving and sensitivity towards safety for self and equipment.

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Job Details	Qualifications Pack Code	ASC/Q3201		
	Job Role	Casting Helper		
	Credits(NSQF)	TBD	Version number	1.0
	Industry	Automotive	Drafted on	15/7/2013
	Sub-sector	Manufacturing	Last reviewed on	24/7/2013
	Occupation	Casting	Next review date	Under revision expected date of revised version 31-Dec-15
	NSQC Clearance on	20/07/15		

Job Role	Casting Helper
Role Description	Responsible for cleaning the slag, supporting the Operator in various types of pre & post casting operations, storing output at designated place & process documentation
NSQF level	2
Minimum Educational Qualifications	Class 8
Maximum Educational Qualifications	Class 10
Training (Suggested but not mandatory)	<ul style="list-style-type: none"> <li>Basic casting and housekeeping skills</li> <li>5S and Safety</li> </ul>
Minimum Job Entry Age	<p>1 ASDC recommends that candidates should seek full employment not before attaining an age of 18 years.</p> <p>2 However, as per Factories Act 1948 :</p> <ul style="list-style-type: none"> <li>- No one can be employed before attaining the age of 15</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> <p>3 Please note that under the Factories Act 1948, different States may have slightly varying provision which need to be adhered to.</p>
Experience	0-2 years

<p><b>Occupational Standards (OS)</b></p>	<ol style="list-style-type: none"> <li>1. <a href="#">ASC/N 0021: Maintain 5S at the work premises</a></li> <li>2. <a href="#">ASC/N 3201: Support in cleaning the slag from the furnace</a></li> <li>3. <a href="#">ASC/N 3202: Clean and lubricating the dies</a></li> <li>4. <a href="#">ASC/N 3203: Support the operator in casting related operations</a></li> <li>5. <a href="#">ASC/N 3204: Store the finished goods in the designated area</a></li> <li>6. <a href="#">ASC/N 0006: Maintain a safe and healthy working environment</a></li> </ol> <p><b>Optional:</b> N.A.</p>
<p><b>Performance Criteria</b></p>	<p>As described in the relevant NOS units</p>

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.
	Description	Description gives a short summary of the unit content. This would be helpful to anyone searching on a database to verify that this is the appropriate NOS they are looking for.
	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.	

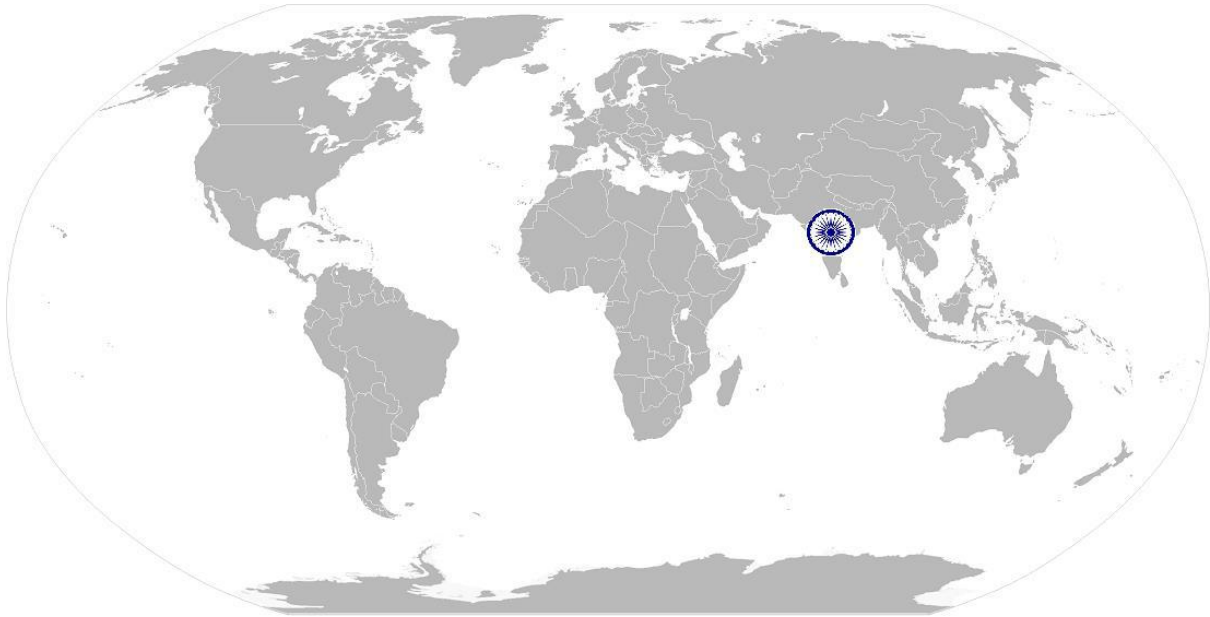
Sub-Sector	Sub-sector is derived from a further breakdown based on the characteristics and interests of its components.
Sub-functions	Sub-functions are sub-activities essential to fulfil the achieving the objectives of the function.
Technical Knowledge	Technical Knowledge is the specific knowledge needed 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.
Vertical	Vertical may exist within a sub-sector representing different domain areas or the client industries served by the industry.
<b>Keywords /Terms</b>	<b>Description</b>
NOS	National Occupational Standard(s)
NSQF	National Skills Qualifications Framework
OEM	Original Equipment Manufacturer
OS	Occupational Standard(s)
QP	Qualifications Pack

ASC/N0021

Maintain 5S at the work premises

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# National Occupational Standards



## Overview

This unit is about cleaning the molten metal to be fed to the cast so as to ensure effective utilization of metal for further processing and removal of impurities

ASC/N0021

Maintain 5S at the work premises

National Occupational Standard	<b>Unit Code</b>	ASC/N 0021
	<b>Unit Title (Task)</b>	Maintain 5S at the work premises
	<b>Description</b>	This NOS is about cleaning the slag deposited on the molten metal surface either manually or through specialized techniques as per the given work order and the standards specified by the organization.
	<b>Scope</b>	The Casting helper will be responsible for <ul style="list-style-type: none"> <li>• Cleaning the slag from the furnace before loading the next batch for melting</li> <li>• Escalations of any queries regarding the job</li> </ul>
	<b>Performance Criteria (PC) w.r.t. the Scope</b>	
	<b>Element</b>	<b>Performance Criteria</b>
	<b>Clean the Slag (Manually)</b>	PC1. Pour the molten metal obtained from the holding furnace into the container PC2. Remove the slag deposition of the metal surface by tilting the container and removing the slag off using tools like spatula etc. PC3. Dispose the slag off or send for further processing and metal recovery
	<b>Clean the Slag (Automated Technique)</b>	PC4. Check for the apparatus to be used for slag removal on the operation settings and placement PC5. Take instructions from operator to operate the apparatus to remove the slag from the molten metal surface
	<b>Knowledge and Understanding (K) w.r.t. the scope</b>	
	<b>Element</b>	<b>Knowledge and Understanding</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: <ul style="list-style-type: none"> <li>KA1. relevant standards and procedures followed in the company</li> <li>KA2. different types of products manufactured by the company</li> <li>KA3. functional processes like Procurement, Store management, inventory management, quality management and key contact points for query resolution</li> <li>KA4. quality norms prescribed by the organization for casting jobs</li> </ul>	
<b>B. Technical Knowledge</b>	The user/individual on the job needs to know and understand: <ul style="list-style-type: none"> <li>KB1. different types of casting processes and techniques to remove the slag</li> <li>KB2. different process parameters pertinent to melting and casting of metal like Temperature, Pressure etc.</li> <li>KB3. properties of various types of metals being used for casting</li> <li>KB4. safety precautions to be taken for all types of casting activities</li> <li>KB5. mechanical/ heat laws and working of casting machines etc</li> </ul>	
<b>Skills (S) w.r.t. the scope</b>		
<b>Element</b>	<b>Skills</b>	
<b>A. Core Skills/ Generic Skills</b>	<b>Writing Skills</b>	
	The user/ individual on the job needs to know and understand how to: <ul style="list-style-type: none"> <li>SA1. make sketches to internal customers on the requirement of slag removal ( e.g. when writing a note on problems ) apparatus</li> </ul>	

ASC/N0021

Maintain 5S at the work premises

	SA2. note measurements and equipment panel readings for various process parameters in the required reporting formats
	<b>Reading Skills</b>
	The user/individual on the job needs to know and understand how to: SA3. read equipment manuals and process documents to understand the equipment and processes better SA4. read instructions ( e.g.safety instructions ) with symbols while using the equipment in the plant area SA5. read internal information drawings sent by internal customers ( other functions within the organization)
	<b>Oral Communication (Listening and Speaking skills)</b>
	The user/individual on the job needs to know and understand how to: SA6. discuss task lists, schedules, and work-loads with co-workers SA7. question internal customers/ Casting shop supervisor appropriately in order to understand the nature of the problem and make a diagnosis
<b>B. Professional Skills</b>	<b>Plan and Organize</b>
	The user/individual on the job needs to know and understand how to: SB1. plan and organize the work order and jobs received from the internal customers SB2. plan and organize the design documents received from internal customers SB3. organize all process/ equipment manuals so that sorting out information is without much wastage of time. SB4. organize apparatus etc. in an orderly manner at designated areas
	<b>Analytical Thinking</b>
	The user/individual on the job needs to know and understand how to: SB5. analyse the temperature, fluidity and viscosity related considerations SB6. analyse the amount of slag that could be left out in the molten metal and its impact on the output SB7. finalize the optimum levels of physical parameters so that the output meets the prescribed job standards
	<b>Problem solving</b>
	The user/individual on the job needs to know and understand how to: SB8. think through the problem, evaluate the possible solution and suggest the best possible solution to the problem SB9. identify immediate or temporary solutions to resolve delays



ASC/N0021

Maintain 5S at the work premises

## NOS Version Control

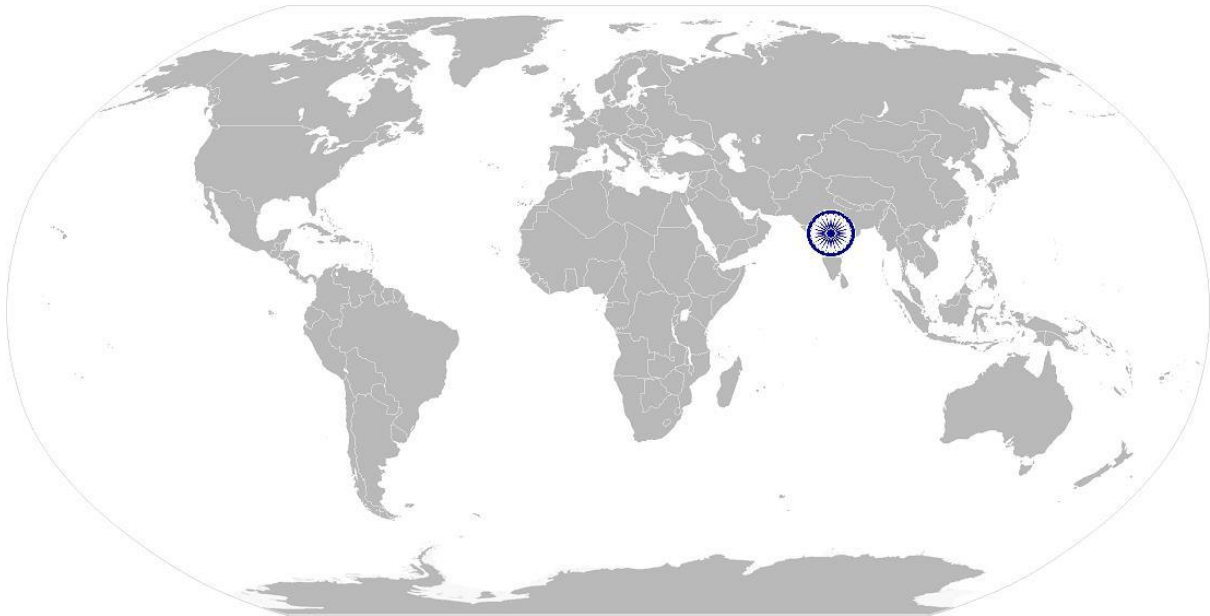
<b>NOS Code</b>	ASC/N3201		
<b>Credits(NSQF)</b>	TBD	<b>Version number</b>	1.0
<b>Industry</b>	Automotive	<b>Drafted on</b>	15/7/2013
<b>Industry Sub-sector</b>	Manufacturing	<b>Last reviewed on</b>	24/7/2013
<b>Occupation</b>	Casting	<b>Next review date</b>	Under revision expected date of revised version 31-Dec-15



ASC/ N3201Support in cleaning the slag from the furnace

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# National Occupational Standards



## Overview

This unit is about cleaning and lubricating the dies being used for casting operations as per the specifications and the standards specified by the organization

### ASC/ N3201 Support in cleaning the slag from the furnace

National Occupational Standard	<b>Unit Code</b>	ASC/N 3201
	<b>Unit Title (Task)</b>	Support in cleaning the slag from the furnace
	<b>Description</b>	This NOS is about cleaning and lubricating the dies being used for casting operations as per the standards specified by the organization
	<b>Scope</b>	The Casting helper will be responsible for <ul style="list-style-type: none"> <li>• Cleaning and lubricating the die</li> <li>• Escalations of any queries regarding the job</li> </ul>
	<b>Performance Criteria(PC) w.r.t. the Scope</b>	
	<b>Element</b>	<b>Performance Criteria</b>
	<b>Clean and Lubricate the Die</b>	<p>PC1. Inspect the die after casting operations for left over metal or other impurities</p> <p>PC2. Load the die into cleaning tank with chemicals or manually spray the cleaning agents like caustic solution etc; Use chippers or spatulas to remove spatters etc. from die (if required)</p> <p>PC3. Lubricate the dies with oil/ grease in order to prepare it for the next cycle of casting operations</p> <p>PC4. In case of automatic cleaning, adjustable cleaning times are preset and dies are left to be cleaned and lubricated automatically</p> <p>PC5. Examine dies to ensure they are clean, smooth, and coated as per the specification/ visual sample to be used for next set of operations</p>
	<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: <ul style="list-style-type: none"> <li>KA1. relevant standards and procedures followed in the company</li> <li>KA2. different types of products manufactured by the company</li> <li>KA3. functional processes like Procurement, Store management, inventory management, quality management and key contact points for query resolution</li> <li>KA4. quality norms prescribed by the organization for casting jobs</li> </ul>
	<b>B. Technical Knowledge</b>	The user/individual on the job needs to know and understand: <ul style="list-style-type: none"> <li>KB1. latest cleaning and lubricating agents and chemicals</li> <li>KB2. different types of casting processes and associated equipment</li> <li>KB3. different parameters pertinent to casting process like Temperature etc.</li> <li>KB4. measuring instruments like verniercaliper, micrometer</li> <li>KB5. geometry and dimensions</li> <li>KB6. sketches and engineering drawings</li> <li>KB7. safety precautions to be taken for all types of casting activities especially while handling hot , caustic solutions etc.</li> <li>KB8. mechanical/ heat laws and working of casting machines etc.</li> </ul>
<b>Skills (S) [Optional]</b>		
<b>A. Core Skills/</b>	<b>Writing Skills</b>	

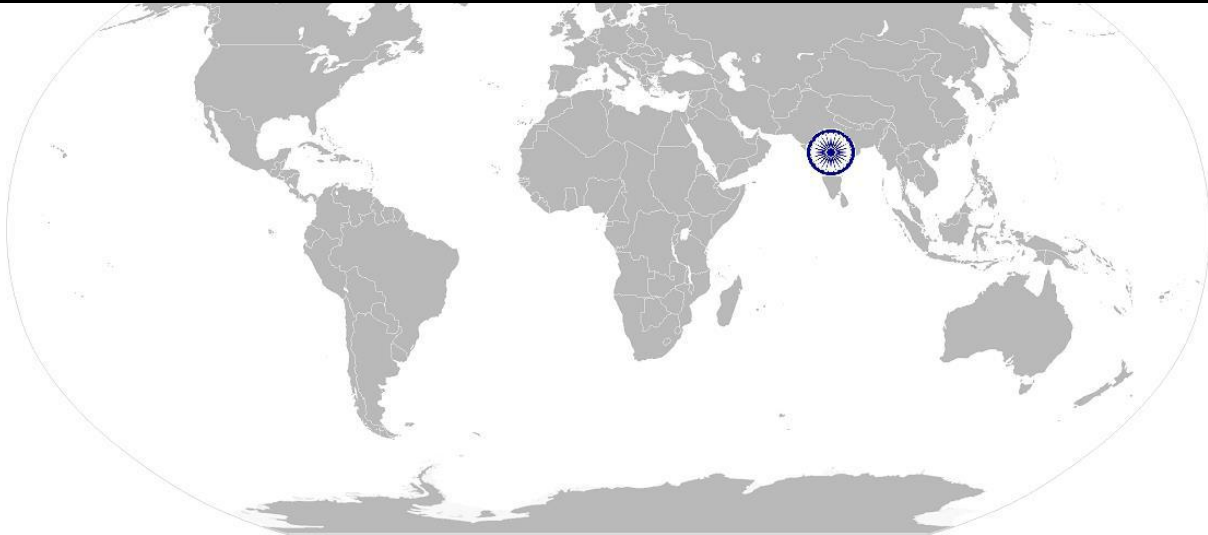
**ASC/ N3201Support in cleaning the slag from the furnace**

<b>GenericSkills</b>	The user/ individual on the job needs to know and understand how to: SA1. document information from the sketches and engineering drawings SA2. write drawings to internal customers on the requirement of cleaning and lubricating agents, etc. SA3. note measurements, equipment panel readings for various process parameters in the required reporting formats
	<b>Reading Skills</b>
	The user/individual on the job needs to know and understand how to: SA4. read and interpret engineering drawing and sketches SA5. read equipment manuals and process documents to understand the equipment and processes better SA6. read instructions (e.g. safety instructions) with symbols while using the equipment in the plant area SA7. read internal drawings sent by internal customers ( other functions within the organization)
	<b>Oral Communication (Listening and Speaking skills)</b>
	The user/individual on the job needs to know and understand how to: SA8. discuss task lists, schedules, and work-loads with co-workers SA9. question internal customers/ Casting shop supervisor appropriately in order to understand the nature of the problem and make a diagnosis
<b>B. Professional Skills</b>	<b>Plan and Organize</b>
	The user/individual on the job needs to know and understand how to: SB1. plan and organize the work order and jobs received from the internal customers SB2. plan and organize the design documents received from internal customers SB3. organize all process/ equipment manuals so that sorting out information is without much time delay. SB4. organize apparatus etc. in an orderly manner at designated areas
	<b>Analytical Thinking</b>
	The user/individual on the job needs to know and understand how to: SB5. understand the requirement of different types of cleaning and lubricating agents for different types of dies SB6. finalize the optimum levels of physical parameters so that the job output meets the prescribed job standards, visual samples
	<b>Problem solving</b>
The user/individual on the job needs to know and understand how to: SB7. think through the problem, evaluate the possible solution and suggest the best possible solution to the problem SB8. identify immediate or temporary solutions to resolve delays	

ASC/ N3201 Support in cleaning the slag from the furnace

## NOS Version Control

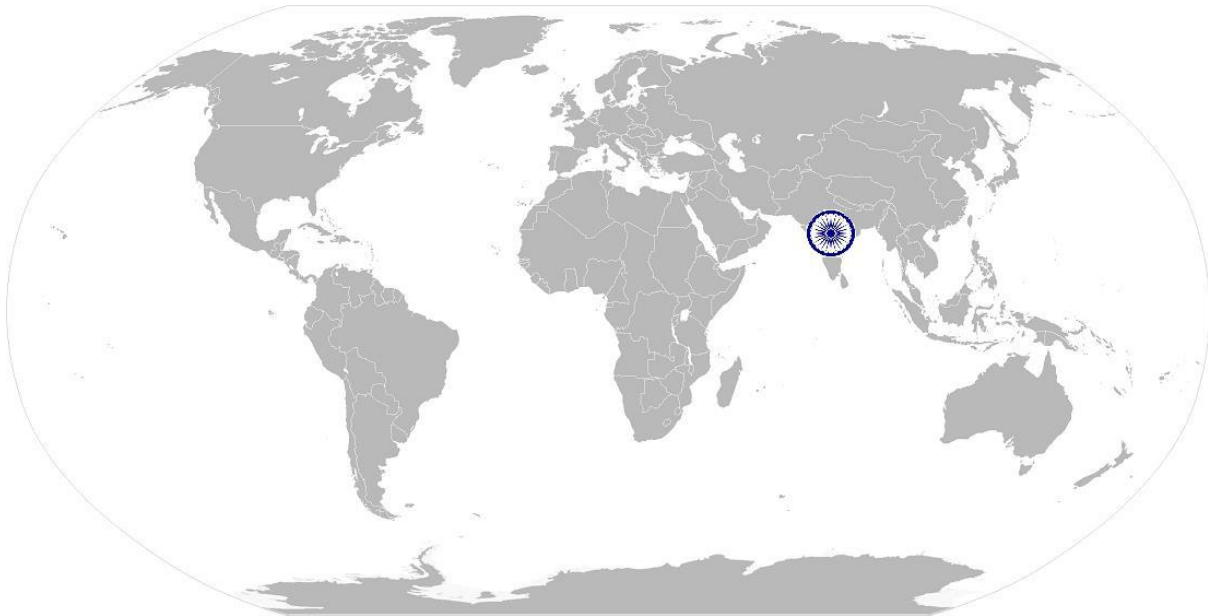
<b>NOS Code</b>	ASC/N3201		
<b>Credits(NSQF)</b>	TBD	<b>Version number</b>	1.0
<b>Industry</b>	Automotive	<b>Drafted on</b>	15/7/2013
<b>Industry Sub-sector</b>	Manufacturing	<b>Last reviewed on</b>	24/7/2013
<b>Occupation</b>	Casting	<b>Next review date</b>	Under revision expected date of revised version 31-Dec-15



ASC/N3202 Clean and lubricating the dies

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# National Occupational Standard



## Overview

This unit is about pouring the metal from holding furnace to the cast, unloading the cast and stamping the identified parameters as per the final output specifications and the standards specified by the organization

ASC/N3202 Clean and lubricating the dies

<b>Unit Code</b>	ASC/N 3202
<b>Unit Title (Task)</b>	Clean and lubricating the dies
<b>Description</b>	This NOS is about pouring the metal from holding furnace to the cast and supporting the operator in various casting operations as per the final output specifications and the standards specified by the organization
<b>Scope</b>	The Casting helper will be responsible for <ul style="list-style-type: none"> <li>• Pouring the metal in the prescribed quantity and supporting the operator in conducting actual casting process</li> <li>• Escalations of any queries regarding the job</li> </ul>
<b>Performance Criteria(PC) w.r.t. the Scope</b>	
<b>Element</b>	<b>Performance Criteria</b>
<b>Pour the metal</b>	<p>PC1. Pull the molten metal from holding furnace with the use of tools like spatulas etc.</p> <p>PC2. Pour the metal into casting while adhering to the standards pertinent to various parameters like speed, angle, temperature etc</p> <p>PC3. Hand over the cast to the operator for performing casting operations</p>
<b>Conduct the actual casting process</b>	<p>PC4. Unload the cast from die</p> <p>PC5. Stamp the cast with the identifying information (wherever required) and send the same for further processing</p> <p>PC6. Clearly understanding the does and don'ts of the manufacturing process as defined in SOPs/ Work Instructions or defined by supervisors</p>
<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: <ul style="list-style-type: none"> <li>KA1. relevant standards and procedures followed in the company</li> <li>KA2. different types of products manufactured by the company</li> <li>KA3. functional processes like Procurement, Store management, inventory management, quality management and key contact points for query resolution</li> <li>KA4. quality norms prescribed by the organization for casting jobs</li> </ul>
<b>B. Technical Knowledge</b>	The user/individual on the job needs to know and understand: <ul style="list-style-type: none"> <li>KB1. different types of casting processes and associated equipment</li> <li>KB2. different parameters pertinent to casting process like Temperature, etc.</li> <li>KB3. measuring instruments like verniercalipers, micrometer and other measurement systems</li> <li>KB4. geometry and dimensions</li> <li>KB5. sketches and engineering drawings</li> <li>KB6. safety precautions to be taken for all types of casting activities</li> <li>KB7. mechanical, heat laws and working of casting machines etc.</li> </ul>
<b>Skills (S) [Optional]</b>	
<b>A. Core Skills/</b>	<b>Writing Skills</b>

**ASC/N3202 Clean and lubricating the dies**

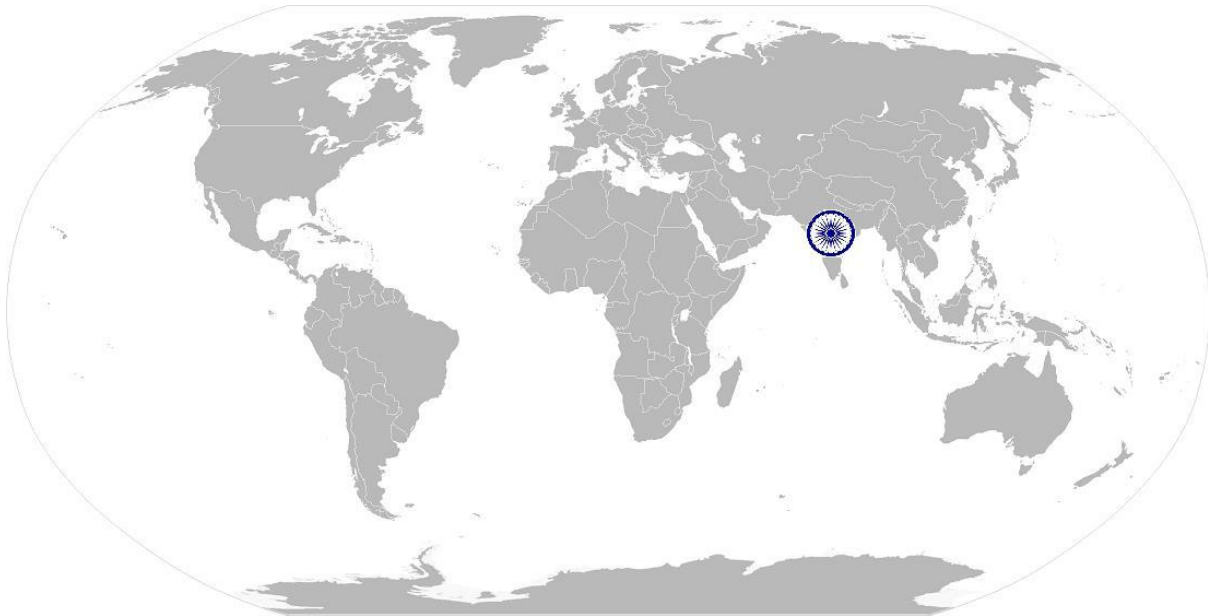
<b>Generic Skills</b>	The user/ individual on the job needs to know and understand how to: SA1. document, interpret information from the sketches and engineering drawings SA2. note measurements, equipment panel readings for various process parameters in the required reporting formats
	<b>Reading Skills</b>
	The user/individual on the job needs to know and understand how to: SA3. read and interpret engineering drawing and sketches SA4. read equipment manuals and process documents to understand the equipment and processes better SA5. read safety instructions especially symbols while using the equipment in the plant area
	<b>Oral Communication (Listening and Speaking skills)</b>
	The user/individual on the job needs to know and understand how to: SA6. discuss task lists, schedules, and work-loads with co-workers SA7. question internal customers/ Casting shop supervisor in order to understand the nature of the problem and make a diagnosis
<b>B. Professional Skills</b>	<b>Plan and Organize</b>
	The user/individual on the job needs to know and understand how to: SB1. organize all process/ equipment manuals so that sorting out information is fast SB2. organize apparatus etc in an orderly manner at proper designated areas
	<b>Analytical Thinking</b>
	The user/individual on the job needs to know and understand how to: SB3. visualize the final job product after understanding the given drawing/ sketches
	<b>Problem solving</b>
The user/individual on the job needs to know and understand how to: SB4. think through the problem, evaluate the possible solution and suggest the best possible solution to the problem	



ASC/N3202 Clean and lubricating the dies

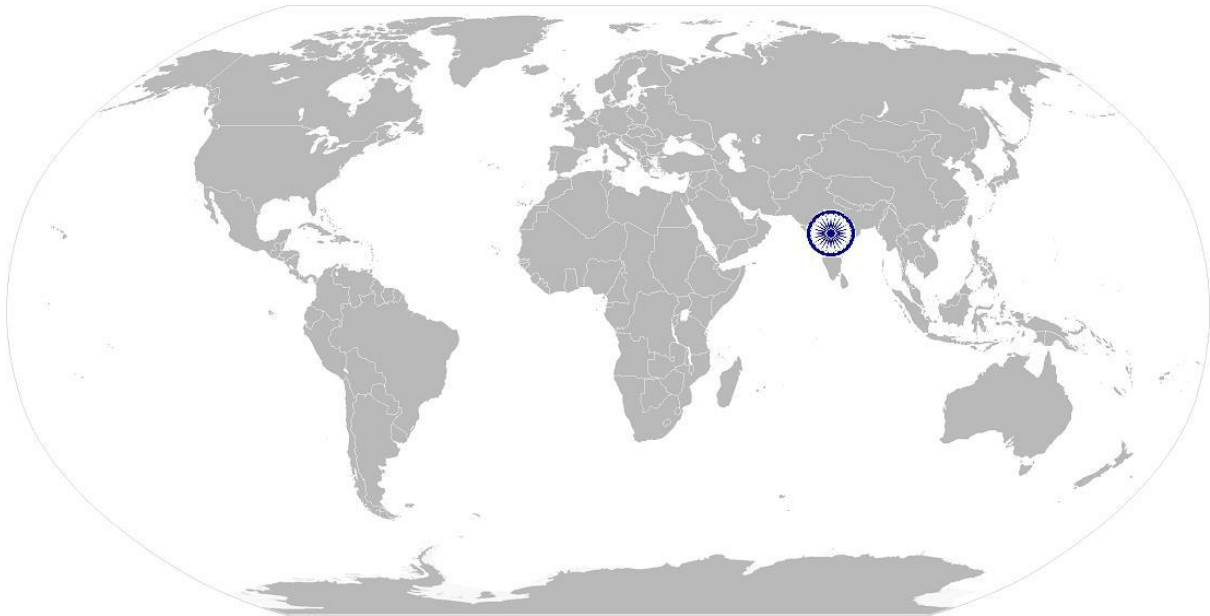
## NOS Version Control

<b>NOS Code</b>	ASC/N3202		
<b>Credits(NSQF)</b>	TBD	<b>Version number</b>	1.0
<b>Industry</b>	Automotive	<b>Drafted on</b>	15/7/2013
<b>Industry Sub-sector</b>	Manufacturing	<b>Last reviewed on</b>	24/7/2013
<b>occupation</b>	Casting	<b>Next review date</b>	Under revision expected date of revised version 31-Dec-15



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# National Occupational Standard



## Overview

This unit is about storing the finished goods in the designated area of the manufacturing unit as per the processes laid by the organization.

ASC/N3203

Support the operator in casting related operations

National Occupational Standard

<b>Unit Code</b>	ASC/N 3203
<b>Unit Title (Task)</b>	<b>Support the operator in casting related operations</b>
<b>Description</b>	This NOS is about removing the finished goods from the assembly line and storing the finished goods in the designated area in the plant/ forwarding the finished pieces to the next process in the assembly process
<b>Scope</b>	The Casting helper will be responsible for <ul style="list-style-type: none"> <li>• Removing the finished goods from the casting block</li> <li>• Storing the finished goods in the designated area</li> <li>• Escalations of any queries regarding the job</li> </ul>
<b>Performance Criteria(PC) w.r.t. the Scope</b>	
<b>Element</b>	<b>Performance Criteria</b>
<b>Removing the finished goods from the casting block</b>	<p>PC1. Hold the finished Goods with necessary equipment like clamps, cranes, hoist etc. for unloading from the casting block</p> <p>PC2. Safely lift the Finished Goods and move them to a designated area to prevent any damage to the finished goods</p> <p>PC3. In case the metal castings are to be moved forward in the assembly line, ensure that the right hangers are used for transportation of finished goods in a safe manner</p>
<b>Storing the finished goods in the designated area</b>	<p>PC4. Tag the finished Goods with Job number, piece number and other markings for identification</p> <p>PC5. Arrange the goods as per the batch number, piece number etc into designated packing boxes</p> <p>PC6. In case of assembly line, transport the finished goods to the next assembly line process</p>
<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: <p>KA1. relevant standards and procedures followed in the company for Finished Goods storage</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>	The user/individual on the job needs to know and understand: <p>KB1. usage of clamps, cranes, hoists for lifting work pieces</p> <p>KB2. tagging of the finished goods as per batch codes, material/ part codes, piece numbers etc.</p> <p>KB3. arranging of the tagged goods in the finished goods storage area</p> <p>KB4. safety precautions to be taken for material movement</p>
<b>Skills (S) [Optional]</b>	
<b>A. Core Skills/</b>	<b>Writing Skills</b>

ASC/N3203

Support the operator in casting related operations

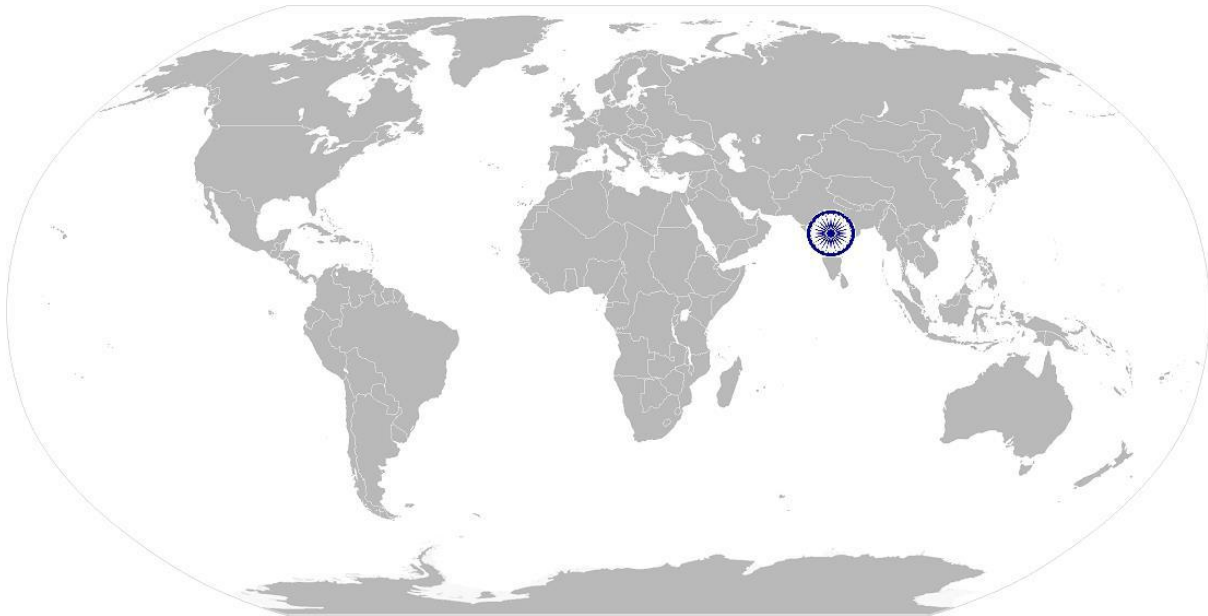
<b>Generic Skills</b>	The user/ individual on the job needs to know and understand how to: SA1. write drawings to internal customers on the requirement of casting apparatus etc. SA2. note batch codes, material codes, piece number in the prescribed formats and records for the same
	<b>Reading Skills</b>
	The user/individual on the job needs to know and understand how to: SA3. read equipment manuals and process documents to understand the equipment and processes better SA4. read instructions especially safety instructions especially for using material handling equipment SA5. read internal information drawings sent by internal customers ( other functions within the organization)
	<b>Oral Communication (Listening and Speaking skills)</b>
	The user/individual on the job needs to know and understand how to: SA6. discuss task lists, schedules, and work-loads with co-workers SA7. question internal customers/ Casting shop supervisor appropriately in order to understand the nature of the problem and make a diagnosis
<b>B. Professional Skills</b>	<b>Plan and Organize</b>
	The user/individual on the job needs to know and understand how to: SB1. plan and organize the work order and jobs received from the internal customers SB2. plan and organize the finished Goods as per the batch/ product number in the designated area

ASC/N3203

Support the operator in casting related operations

## NOS Version Control

<b>NOS Code</b>	ASC/N3203		
<b>Credits(NSQF)</b>	TBD	<b>Version number</b>	1.0
<b>Industry</b>	Automotive	<b>Drafted on</b>	15/7/2013
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<b>occupation</b>	Casting	<b>Next review date</b>	Under revision expected date of revised version 31-Dec-15

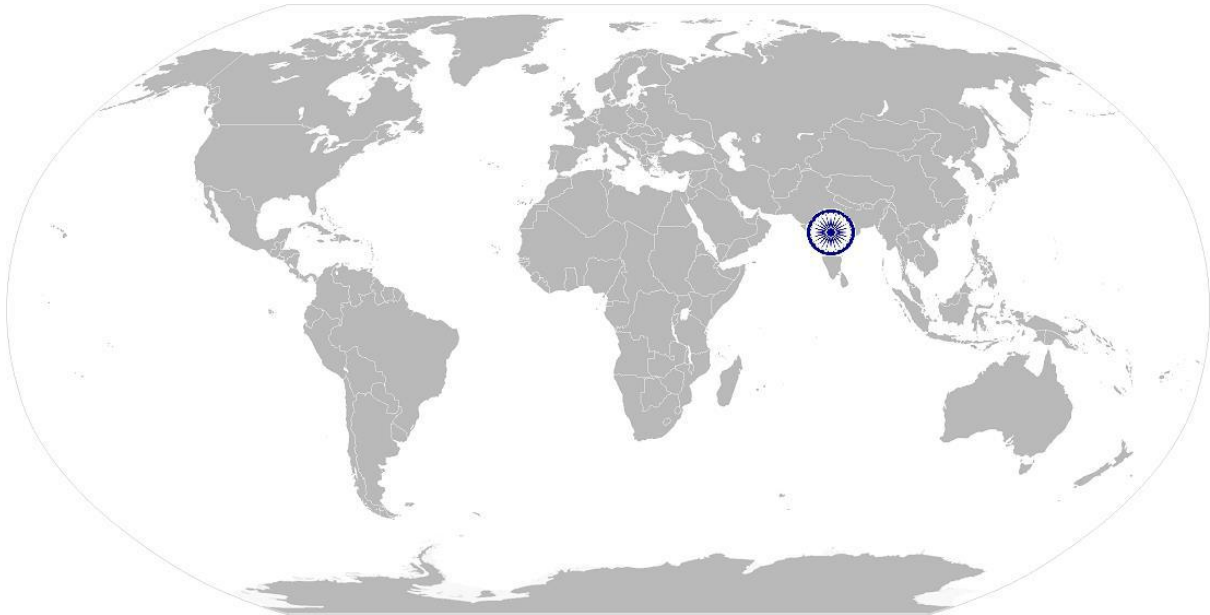


ASC/N3204

Store the finished goods in the designated area

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# National Occupational Standards



## Overview

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

ASC/N3204

Store the finished goods in the designated area

National Occupational Standard	<b>Unit Code</b>	ASC/N 3204
	<b>Unit Title (Task)</b>	<b>Store the finished goods in the designated area</b>
	<b>Description</b>	This OS unit 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
	<b>Scope</b>	The role holder will be responsible for <ul style="list-style-type: none"> <li>identifying and reporting of risks</li> <li>creating and sustaining a safe, clean and environment friendly work place</li> </ul> This NOS will be applicable to all Automotive sector manufacturing job roles
	<b>Performance Criteria (PC) w.r.t. the Scope</b>	
	<b>Element</b>	<b>Performance Criteria</b>
	<b>Identify and report the risks identified</b>	<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>
	<b>Create and sustain a Safe, clean and environment friendly work place</b>	<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 planned for others</p>
	<b>Knowledge and Understanding (K)w.r.t. the scope</b>	
	<b>Element</b>	<b>Knowledge and Understanding</b>

ASC/N3204

Store the finished goods in the designated area

<b>B. 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, procedures and policies related to Health, Safety and Environment followed in the company KA2. emergency handling procedures & hierarchy for escalation
<b>A. Technical Knowledge</b>	The user/individual on the job needs to know and understand: KB1. basic knowledge of Safety procedures( fire fighting, first aid) within the organization KB2. basic knowledge of various types of PPEs and their usage KB3. basic knowledge of risks/hazards associated with each occupation in the organization KB4. knowledge of personal hygiene and how an individual can contribute towards creating a highly safe and clean working environment
<b>Skills (S)w.r.t. the scope</b>	
<b>Element</b>	<b>Skills</b>
<b>A. Core Skills/ Generic Skills</b>	<b>Writing Skills</b> The user/ individual on the job needs to know and understand how to: SA1. write basic level notes and observations <b>Reading Skills</b> The user/individual on the job needs to know and understand how to: SA2. read safety instructions put up across the plant premises SA3. read safety precautions mentioned in equipment manuals and panels to understand the potential risks associated <b>Oral Communication (Listening and Speaking skills)</b> The user/individual on the job needs to know and understand how to: SA4. effectively communicate information to team members SA5. Inform employees in the plant and concerned functions about events, incidents & potential risks observed related to Safety, Health and Environment. SA6. question operator/ supervisor in order to understand the safety related issues SA7. attentively listen with full attention and comprehend the information given by the speaker during safety drills and training programs
<b>B. Professional Skills</b>	<b>Judgmental Thinking</b> The user/individual on the job needs to know and understand how to: SB1. use common sense and make judgments during day to day basis SB2. use reasoning skills to identify and resolve basic problems

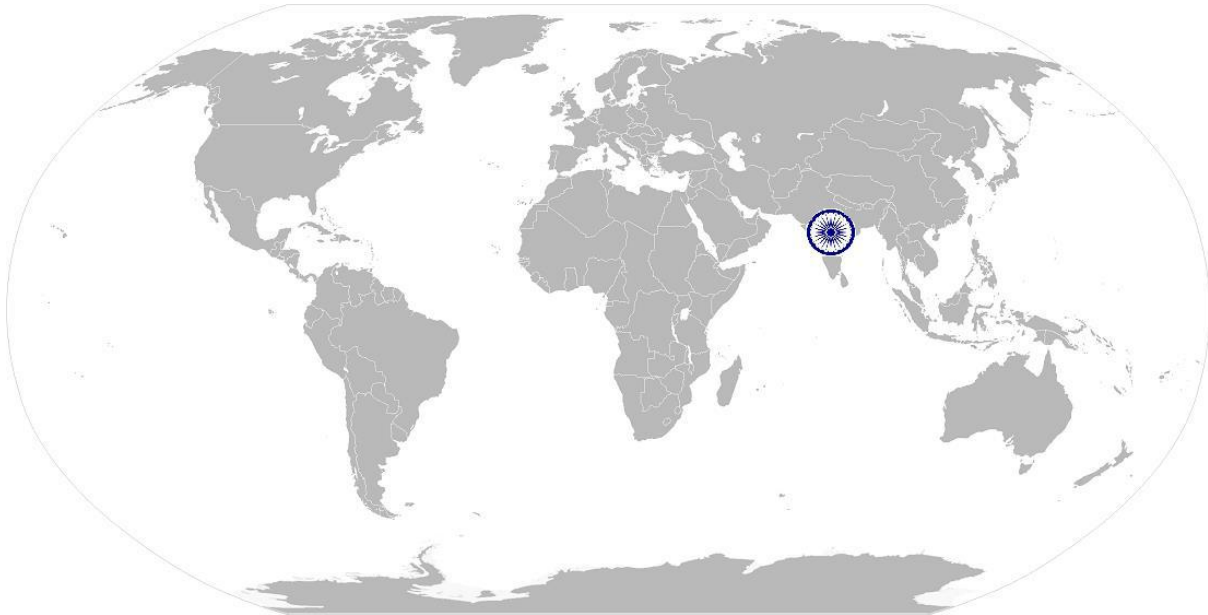


ASC/N3204

Store the finished goods in the designated area

## NOS Version Control

NOS Code	ASC/N3204		
Credits(NSQF)	TBD	Version number	1.0
Industry	Automotive	Drafted on	15/7/2013
Industry Sub-sector	Manufacturing	Last reviewed on	24/7/2013
Occupation	Casting	Next review date	Under revision expected date of revised version 31-Dec-15



*Qualification Pack for Foundry or Casting Assistant/Helper*

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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

**Qualification Pack for Foundry or Casting Assistant/Helper**

National Occupational Standard	<b>Unit Code</b>	ASC/N 0006
	<b>Unit Title (Task)</b>	<b>Maintain a safe and healthy working environment</b>
	<b>Description</b>	This NOS is about ensuring all 5 S activities both at the shop floor and the office area to facilitate increase in work productivity
	<b>Scope</b>	The 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>
	<b>Performance Criteria (PC) w.r.t. the Scope</b>	
	<b>Element</b>	<b>Performance Criteria</b>
	<b>Ensure sorting</b>	<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 unnecessary 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 labeled 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>
	<b>Ensure proper documentation and storage (organizing, streamlining)</b>	<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 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</p>

### Qualification Pack for Foundry or Casting Assistant/Helper

	places and in the manner indicated in the 5S instructions
<b>Ensure cleaning of self and the work place</b>	<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>PC1. Follow the daily cleaning standards and schedules to create a clean working environment</p> <p>PC2. Attend all training programs for employees on 5 S</p> <p>PC3. Support the team during the audit of 5 S</p> <p>PC4. Participate actively in employee work groups on 5S and encourage team members for active participation</p> <p>PC5. 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) w.r.t. the scope</b>	
<b>Element</b>	<b>Knowledge and Understanding</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 :</p> <p>KB5. have basic knowledge of 5S procedures</p> <p>KB6. know various types 5s practices followed in various areas</p> <p>KB7. understand the 5S checklists provided in the department/ team</p> <p>KB8. have skills to identify useful &amp; non useful items</p> <p>KB9. have knowledge of labels , signs &amp; colours used as indicators</p> <p>KB10. Have knowledge on how to sort and store various types of tools, equipment, material etc.</p> <p>KB11. know , how to identify various types of waste products</p> <p>KB12. understand the impact of waste/ dirt/ dust/unwanted substances on the process/ environment/ machinery/ human</p>

**Qualification Pack for Foundry or Casting Assistant/Helper**

	<p>body</p> <p>KB13. have knowledge of best ways of cleaning &amp; waste disposal</p> <p>KB14. understand the importance of standardization in processes</p> <p>KB15. understand the importance of sustainability in 5S</p> <p>KB16. have knowledge of TQM process</p> <p>KB17. have knowledge of various materials and storage norms</p> <p>KB18. understand visual controls, symbols, graphs etc.</p>
<b>Skills (S)w.r.t. the scope</b>	
<b>Element</b>	<b>Skills</b>
<b>A. Core Skills/ Generic Skills</b>	<b>Writing Skills</b>
	The user/ individual on the job needs to know and understand how to: SA8. write basic level notes and observations SA9. note down observations (if any) related to the process SA10. write information documents to internal departments/ internal teams
	<b>Reading Skills</b>
	The user/individual on the job needs to know and understand how to: SA11. read 5S instructions put up across the plant premises
	<b>Oral Communication (Listening and Speaking skills)</b>
	The user/individual on the job needs to know and understand how to: SA12. effectively communicate information to team members inform employees in the plant and concerned functions about 5S SA13. question the process head in order to understand the 5S related issues SA14. attentively listen with full attention and comprehend the information given by the speaker during 5S training programs
<b>B. Professional Skills</b>	<b>Judgmental Thinking</b>
	The user/individual on the job needs to know and understand how to: SB3. use common sense and make judgments during day to day basis SB4. use reasoning skills to identify and resolve basic problems using 5S
	<b>Persuasion</b>
	The user/ individual on the jobs needs to know and understand how to: SB5. persuade co team members to follow 5 S SB6. ensure that the co team members understand the importance of using 5 S tool
	<b>Creativity</b>

**Qualification Pack for Foundry or Casting Assistant/Helper**

	<p>The user/individual on the job needs to know and understand how to :</p> <p>SB7. use innovative skills to perform and manage 5 S activities at the work desk and the shop floor</p> <p>SB8. exhibit inquisitive behaviour to seek feedback and question on the existing set patterns of work</p>
	<p><b>Self –Discipline</b></p>
	<p>The user/individual on the job needs to know and understand how to:</p> <p>SB9. do what is right, not what is a popular practices</p> <p>SB10. follow shop floor rules&amp; regulations and avoid deviations; make 5S an integral way of life</p> <p>SB11. ensure self-cleanliness on a daily basis</p> <p>SB12. demonstrate the will to keep the work area in a clean and orderly manner</p>

*Qualification Pack for Foundry or Casting Assistant/Helper*

**NOS Version Control**

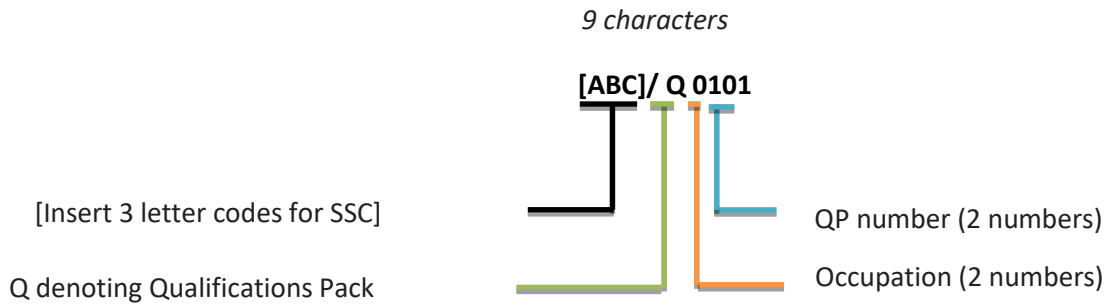
<b>NOS Code</b>	ASC/N0006		
<b>Credits(NSQF)</b>	TBD	<b>Version number</b>	1.0
<b>Industry</b>	Automotive	<b>Drafted on</b>	1/03/2014
<b>Industry Sub-sector</b>	Manufacturing/ R&D	<b>Last reviewed on</b>	15/03/2014
<b>Occupation</b>	Casting	<b>Next review date</b>	Under revision expected date of revised version 31-Dec-15

**Qualification Pack for Foundry or Casting Assistant/Helper**

Annexure

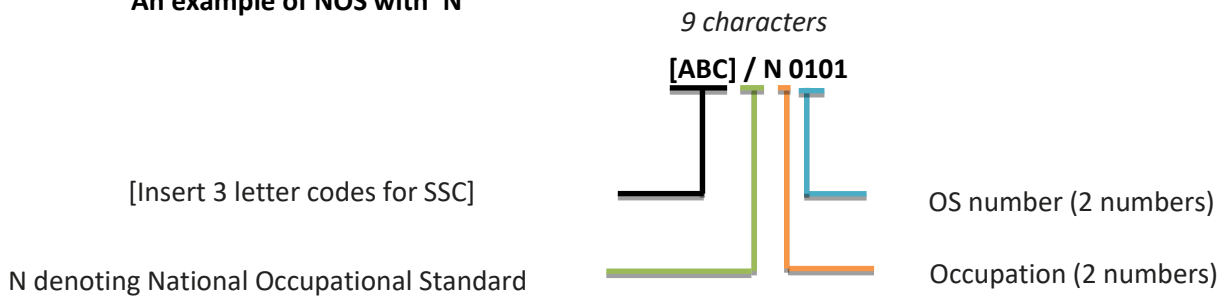
**Nomenclature for QP and NOS**

**Qualifications Pack**



**Occupational Standard**

**An example of NOS with 'N'**





### Qualification Pack for Foundry or Casting Assistant/Helper

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

### Qualification Pack for Foundry or Casting Assistant/Helper

#### CRITERIA FOR ASSESSMENT OF TRAINEES

**Job Role:** Foundry or Casting Assistant/Helper

**Qualification Pack:** ASC/Q3201

**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. Assessment will be conducted for all compulsory NOS, and where applicable, on the selected elective/option NOS/set of NOS.
4. Individual assessment agencies will create unique question papers for theory part for each candidate at each examination/training center (as per assessment criteria below).
4. Individual assessment agencies will create unique evaluations for skill practical for every student at each examination/training center based on this criterion.
5. To pass the Qualification Pack, every trainee should score a minimum of 70% of aggregate marks to successfully clear the assessment.
6. In case of *unsuccessful completion*, the trainee may seek reassessment on the Qualification Pack.

NOS Title/ NOS Elements	NOS & Performance Criterion Description	Marks allocation		
		Theory	Viva	Practical
<b>ASC/N 0021</b>	<b>Maintain 5S at the work premises</b>			
<b>Clean the Slag (Manually)</b>	PC1. Pour the molten metal obtained from the holding furnace into the container PC2. Remove the slag deposition of the metal surface by tilting the container and removing the slag off using tools like spatula etc. PC3. Dispose the slag off or send for further processing and metal recovery		20	50
<b>Clean the Slag (Automated Technique)</b>	PC4. Check for the apparatus to be used for slag removal on the operation settings and placement PC5. Take instructions from operator to operate the apparatus to remove the slag from the molten metal surface		10	10
			<b>30</b>	<b>60</b>
<b>ASC/N 3201</b>	<b>Support in cleaning the slag from the furnace</b>	<b>Theory</b>	<b>Viva</b>	<b>Practical</b>
<b>Clean and Lubricate the Die</b>	PC1. Inspect the die after casting operations for left over metal or other impurities PC2. Load the die into cleaning tank with chemicals or manually spray the cleaning agents like			

**Qualification Pack for Foundry or Casting Assistant/Helper**

	<p>caustic solution etc; Use chippers or spatulas to remove spatters etc. from die (if required)</p> <p>PC3. Lubricate the dies with oil/ grease in order to prepare it for the next cycle of casting operations</p> <p>PC4. In case of automatic cleaning, adjustable cleaning times are preset and dies are left to be cleaned and lubricated automatically</p> <p>PC5. Examine dies to ensure they are clean, smooth, and coated as per the specification/ visual sample to be used for next set of operations</p>		10	40
			<b>10</b>	<b>40</b>
<b>ASC/N 3202</b>	<b>Clean and lubricating the dies</b>	<b>Theory</b>	<b>Viva</b>	<b>Practical</b>
<b>Pour the metal</b>	<p>PC1. Pull the molten metal from holding furnace with the use of tools like spatulas etc.</p> <p>PC2. Pour the metal into casting while adhering to the standards pertinent to various parameters like speed, angle, temperature etc</p> <p>PC3. Hand over the cast to the operator for performing casting operations</p>		20 10	40 10
<b>Conduct the actual casting process</b>	<p>PC4. Unload the cast from die</p> <p>PC5. Stamp the cast with the identifying information (wherever required) and send the same for further processing</p> <p>PC6. Clearly understanding the does and don'ts of the manufacturing process as defined in SOPs/ Work Instructions or defined by supervisors</p>		10	20
			<b>40</b>	<b>70</b>
<b>ASC/N 3203</b>	<b>Support the operator in casting related operations</b>	<b>Theory</b>	<b>Viva</b>	<b>Practical</b>
<b>Removing the finished goods from the casting block</b>	<p>PC1. Hold the finished Goods with necessary equipment like clamps, cranes, hoist etc. for unloading from the casting block</p> <p>PC2. Safely lift the Finished Goods and move them to a designated area to prevent any damage to the finished goods</p> <p>PC3. In case the metal castings are to be moved forward in the assembly line, ensure that the right hangers are used for transportation of finished goods in a safe manner</p>		10	20
<b>Storing the finished goods in the designated area</b>	<p>PC4. Tag the finished Goods with Job number, piece number and other markings for identification</p> <p>PC5. Arrange the goods as per the batch number,</p>		20	30

**Qualification Pack for Foundry or Casting Assistant/Helper**

	piece number etc. into designated packing boxes PC6. In case of assembly line, transport the finished goods to the next assembly line process			
	<b>Sub total</b>		<b>30</b>	<b>50</b>
<b>ASC/N 3204</b>	<b>Store the finished goods in the designated area</b>		<b>Viva</b>	<b>Practical</b>
<b>Identify and report the risks identified</b>	PC1. Identify activities which can cause potential injury through sharp objects, burns, fall, electricity, gas leakages, radiation, poisonous fumes, chemicals ,loud noise PC2. Identify areas in the plant which are potentially hazardous/ unhygienic in nature PC3. Conduct regular checks on machine health to identify potential hazards due to wear and tear of machine PC4. Inform the concerned authorities about the potential risks identified in the processes, workplace area/ layout, materials used etc. PC5. Inform the concerned authorities about machine breakdowns, damages which can potentially harm man/ machine during operations <b>PC6.</b> Create awareness amongst other by sharing information on the identified risks		<b>40</b>	-
<b>Create and sustain a Safe, clean and environment friendly work place</b>	PC7. Support the Safety team and the supervisor in creating the risk mitigation plan PC8. Follow the instructions given on the equipment manual describing the operating process of the equipment PC9. Follow the Safety, Health and Environment related practices developed by the organization PC10. Operate the machine using the recommended Personal Protective Equipment (PPE) and ensure team members also use the related PPEs at the workplace PC11. Maintain a clean and safe working environment near the work place and ensure there is no spillage of chemicals, production waste, oil, solvents etc PC12. Attend all safety and fire drills to be self aware of safety hazards and preventive techniques <b>PC13.</b> Maintain high standards of personal hygiene at the work place		<b>30</b>	<b>80</b>

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	<p>PC14. Ensure that the waste disposal is done in the designated area and manner as per organization SOP.</p> <p>PC15. Inform 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</p>			
	<b>Sub total</b>		<b>70</b>	<b>80</b>
<b>ASC/N 0006</b>	<b>Maintain a safe and healthy working environment</b>		<b>Viva</b>	<b>practical</b>
<b>Ensure sorting</b>	<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 labeled 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>		10	20
<b>Ensure proper documentation and storage (organizing, streamlining)</b>	<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</p>		10	20

**Qualification Pack for Foundry or Casting Assistant/Helper**

	<p>been identified as broken 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>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>		10	40
<b>Ensure sustenance</b>	<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>		10	20
	<b>Sub total</b>		<b>50</b>	<b>120</b>
	<b>Total</b>		<b>105</b>	<b>420</b>