

QUALIFICATIONS PACK - OCCUPATIONAL STANDARDS FOR GEMS AND JEWELLERY 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 understandin

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Introduction

Qualifications Pack - Casting Expert - Imitation Jewellery

SECTOR: GEMS & JEWELLERY

SUB-SECTOR: Imitation Jewellery

OCCUPATION: Casting

REFERENCE ID: G&J/Q1301

ALIGNED TO: NCO - 2015/NIL

Brief Job Description: The individual at work converts wax models into different imitation jewellery and accessory pieces through metal (Lead, zinc etc.) casting process. The individual melts the metal (Lead, zinc etc.) and then operates semi to fully-automated machines to pour and regulate the flow of molten metal into cavities created by melted wax, to produce cast jewellery pieces on mass scale. A casting expert is also known as 'Metal Caster' in the Imitation jewellery making industry.

Personal Attributes: The job requires the individual to have: integrity; attention to details; hand-eye coordination; ability to multi-task in a process driven team and work in a high temperature environment for long hours. The individual must work in small groups in an enclosed area with minimum hazards when dealing with molten metal (Lead, zinc etc.).

Job Details

Qualifications Pack Code	G&J/Q1301		
Job Role	Casting Expert – Imitation Jewellery		
Credits (NSQF)	TBD	Version number	1.0
Sector	Gems & Jewellery	Drafted on	28/08/2016
Sub-sector	Imitation Jewellery	Last reviewed on	10/11/2017
Occupation	Casting	Next review date	31/07/2021
NSQC Clearance on*	DD/MM/YYYY		

*only after clearance from NSQC

Job Role	Casting Expert – Imitation Jewellery
Role Description	This unit is about operating casting machine in Imitation jewellery and to produce cast jewellery pieces
NSQF level	3
Minimum Educational Qualifications*	Basic Literacy Skill
Maximum Educational Qualifications*	Not applicable
Training (Suggested but not mandatory)	Not applicable
Minimum job entry age	16 years
Experience	Not applicable
Applicable National Occupational Standards (NOS)	<p>Compulsory:</p> <ol style="list-style-type: none"> G&J/N1301 Operate casting machine G&J/N9904 Coordinate with co-workers G&J/N9905 Maintain safe work environment
Performance Criteria	As described in the relevant OS units

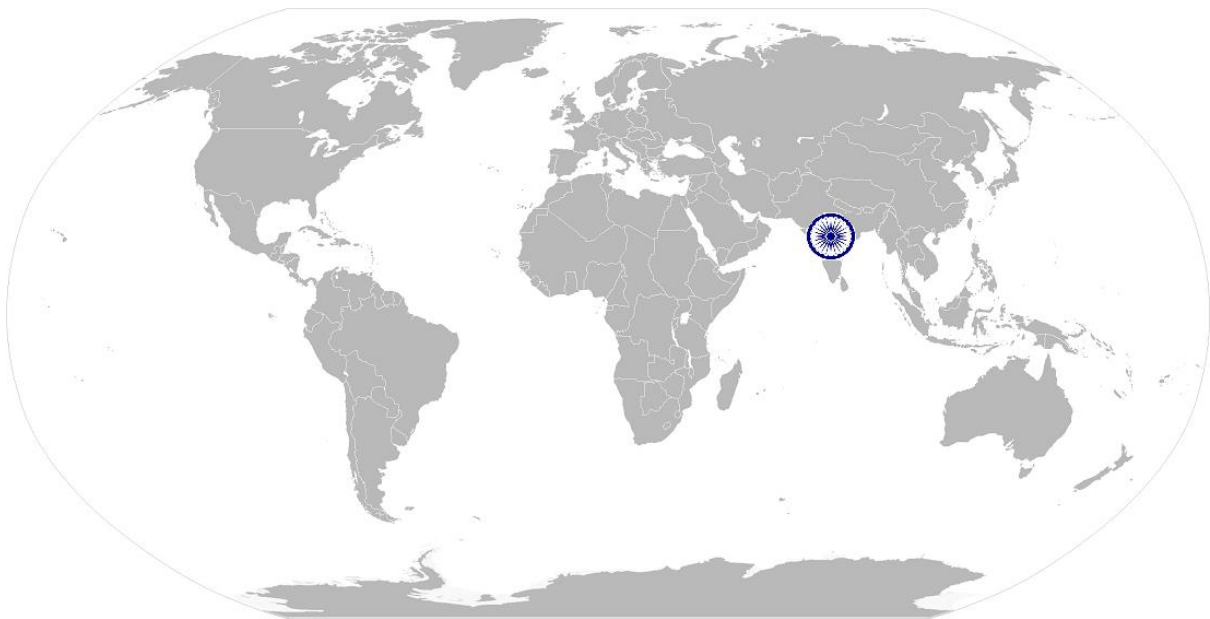
Definitions

Keywords /Terms	Description
Sector	Sector is a conglomeration of different business operations having similar business and interests. It may also be defined as a distinct subset of the economy whose components share similar characteristics and interests.
Sub-sector	Sub-sector is derived from a further breakdown based on the characteristics and interests of its components.
Occupation	Occupation is a set of job roles, which perform similar/ related set of functions in an industry.
Job role	Job role defines a unique set of functions that together form a unique employment opportunity in an organisation.
Occupational Standards (OS)	OS specify the standards of performance an individual must achieve when carrying out a function in the workplace, together with the knowledge and understanding they need to meet that standard consistently. Occupational Standards are applicable both in the Indian and global contexts.
Performance Criteria	Performance criteria are statements that together specify the standard of performance required when carrying out a task.
National Occupational Standards (OS)	NOS are occupational standards which apply uniquely in the Indian context.
Qualifications Pack (QP)	QP comprises the set of OS, together with the educational, training and other criteria required to perform a job role. A QP is assigned a unique qualifications pack code.
Unit Code	Unit code is a unique identifier for an Occupational Standard, which is denoted by an 'N'
Unit Title	Unit title gives a clear overall statement about what the incumbent should be able to do.
Description	Description gives a short summary of the unit content. This would be helpful to anyone searching on a database to verify that this is the appropriate OS they are looking for.
Scope	Scope is a set of statements specifying the range of variables that an individual may have to deal with in carrying out the function which have a critical impact on quality of performance required.
Knowledge and Understanding	Knowledge and understanding are statements which together specify the technical, generic, professional and organisational specific knowledge that an individual needs in order to perform to the required standard.
Organisational Context	Organisational context includes the way the organisation is structured and how it operates, including the extent of operative knowledge managers have of their relevant areas of responsibility.
Technical Knowledge	Technical knowledge is the specific knowledge needed to accomplish specific designated responsibilities.
Core Skills/ Generic Skills	Core skills or generic skills are a group of skills that are the key to learning and working in today's world. These skills are typically needed in any work environment in today's world. In the context of the OS, these include communication related skills that are applicable to most job roles.

Acronyms

Keywords /Terms	Description
NOS	National Occupational Standard(s)
NSQF	National Skills Qualifications Framework
QP	Qualifications Pack

National Occupational Standard



Overview

This unit is about converting wax models to Imitation jewellery/accessory pieces through metal (Lead, zinc etc.) casting process. This process includes precisely controlling machine parameters in order to manufacture jewellery/accessories with minimal rework.

G&J/N1301

Operate casting machine

National Occupational Standard

Unit Code	G&J/N1301
Unit Title (Task)	Operate casting machine
Description	This OS unit is about melting metal (Lead, zinc etc.) and cast it into jewellery / accessory pieces
Scope	<p>This unit/task covers the following:</p> <ul style="list-style-type: none"> • Casting Metal (Lead, zinc etc.) • Maintaining temperatures as required for melting different metals • Achieving productivity • Reporting problems
Performance Criteria(PC) w.r.t. the Scope	
Element	Performance Criteria
Casting Metal (Lead, zinc etc.)	<p>To be competent, the user/individual on the job must be able to:</p> <p>PC1. Calculate metal required for the order</p> <p>PC2. Handle molten metal with less risks</p>
Maintaining temperatures as required for melting different metals	<p>PC3. Understand and implement melting requirements as per different metals</p> <p>PC4. Pour metal at the right temperature</p>
Achieving Productivity	<p>PC5. Plan casting cycles properly for the optimum utilization of machines and work as per plan</p> <p>PC6. Deliver damage free stones of even colour and well secured</p> <p>PC7. Produce number of casted jewellery/accessory pieces as per target deliverable and quality approved by the supervisor</p>
Reporting Problems	<p>PC8. Produce defect-free casted jewellery/ accessory pieces</p> <p>PC9. Do casting process with minimum damage to the set stones</p> <p>PC10. Produce Quality Control okayed cast jewellery piece</p> <p>PC11. Deliver casted jewellery pieces on time by reporting problems faced or anticipated well in advance</p>
Knowledge and Understanding (K)	
A. Organizational Context	<p>The user/individual on the job needs to know and understand:</p> <p>KA1. Company's policies on: quality, delivery timelines, safety and hazards integrity property rights (IPR), and personnel management</p> <p>KA2. Importance of individual's role in the workflow</p> <p>KA3. Reporting Structure</p>
B. Technical Knowledge	<p>KB1. Metal malleability</p> <p>KB2. Methods of calculating required quantities of metal</p> <p>KB3. Production process planning</p> <p>KB4. Uses of different types of tools, consumables and machines in jewellery casting process</p> <p>KB5. Potential work hazards while handling molten metal</p>

G&J/N1301

Operate casting machine

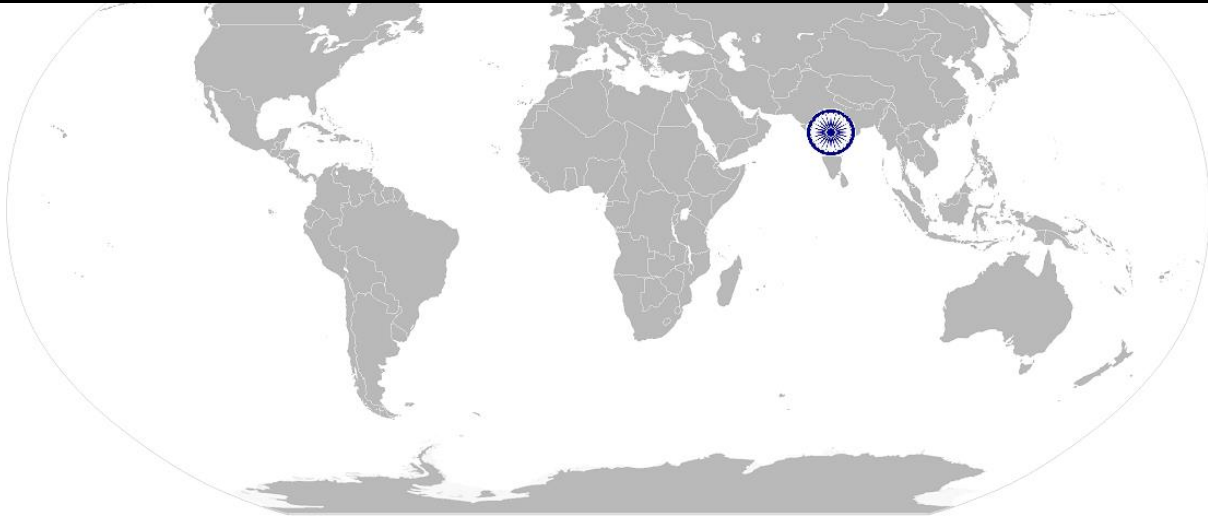
Skills (S) [Optional]	
A. Core Skills/ Generic Skills	Writing Skills
	The user/ individual on the job needs to know and understand how to: SA1. Prepare notes, task lists and schedule with co-workers SA2. Prepare progress reports
	Reading Skills
	SA3. Read notes and put notes on design SA4. Read company rules and compliance documents required to complete the work
	Oral Communication (Listening and Speaking skills)
	SA5. Discuss task lists, schedules and work-loads with co-workers SA6. Question co-workers appropriately in order to understand the nature of problem and to make a diagnosis SA7. Keep seniors informed about the progress of work
	B. Professional Skills
Decision Making	
SB1. Make decisions pertaining to the concerned area of work to implement them on personal or organizational level	
Plan and Organize	
SB2. Plan and organize the work according to the requirement by doing time management so the work goal can be achieved	
Customer Centricity	
SB3. Use customer centric approach that provides a positive customer experience before and after the sale in order to drive repeat business, customer loyalty and profits	
Problem Solving	
SB4. Think through the problem, evaluate the possible solution (s) and suggest an optimum/ best possible solution (s) SB5. Identify immediate or temporary solutions to resolve delays	
Analytical Thinking	
SB6. Analyze activities by breaking them down into single and manageable components SB7. Pass on relevant information to others	
Critical Thinking	
SB8. Anticipate process disruption and reasons for delay	

G&J/N1301

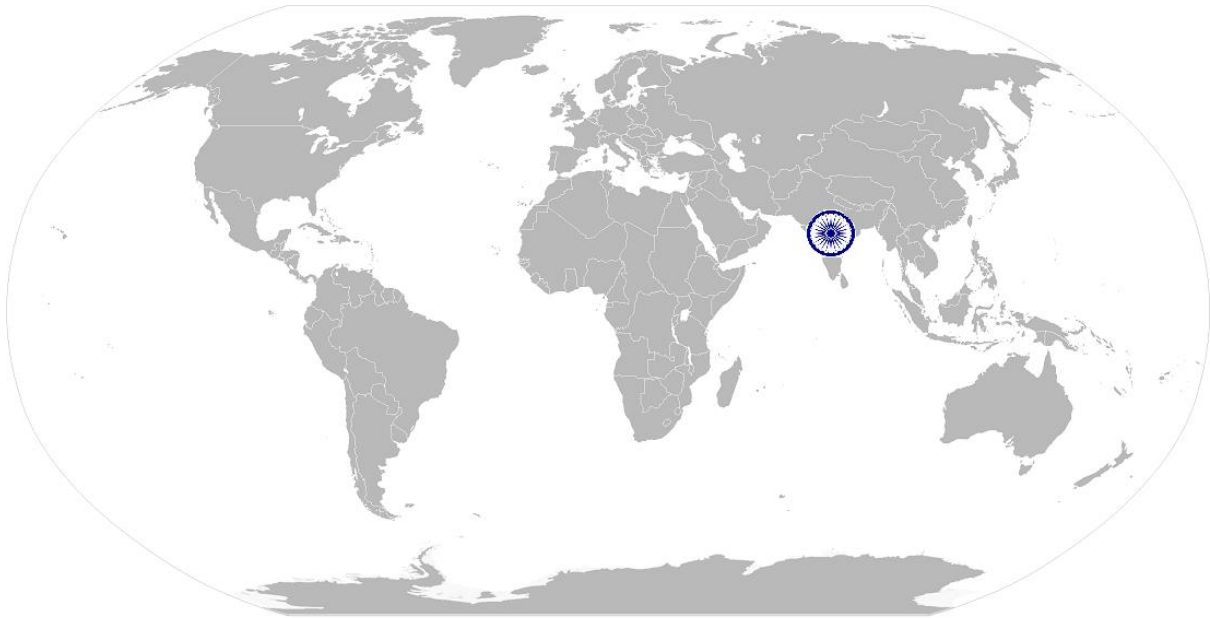
Operate casting machine

NOS Version Control

NOS Code	G&J/N1301		
Credits (NSQF)	TBD	Version number	1.0
Industry	Gems & Jewellery	Drafted on	28/08/2016
Industry Sub-sector	Imitation Jewellery	Last reviewed on	10/11/2017
Occupation	Casting	Next review date	31/07/2021



National Occupational Standard



Overview

This unit is about team work and communicating with colleagues and clients. It determines the ability to work as a team member, share work and multi-task in order to achieve the required deliverables on schedule.

G&J/N9904

Coordinate with co-workers

National Occupational Standard

Unit Code	G&J/N9904
Unit Title (Task)	Coordinate with co-workers
Description	This OS unit is about communicating with colleagues and seniors in order to maintain smooth work flow
Scope	This unit/task covers the following: <ul style="list-style-type: none"> • Interacting with supervisor • Interacting with colleagues and other departments
Performance Criteria(PC) w.r.t. the Scope	
Element	Performance Criteria
Interacting with supervisor	To be competent, the user/individual on the job must be able to: <ul style="list-style-type: none"> PC1. Understand the work output requirements and work accordingly PC2. Communicate to reporting supervisor about process-flow improvements, product defects received from previous process, repairs and maintenance of tools and machinery as required PC3. Handover completed work to supervisor PC4. Deliver quality work on time as required by reporting any anticipated reasons PC5. Comply with company policy and rules and work accordingly
Interacting with colleagues and other departments	<ul style="list-style-type: none"> PC6. Put team over individual goals and work with team PC7. Resolve conflicts PC8. Learn how to multi-task relevant activities and apply that in various situations PC9. Work with colleagues of other departments
Knowledge and Understanding (K)	
A. Organizational Context	The user/individual on the job needs to know and understand: <ul style="list-style-type: none"> KA1. Company's policies on personnel management KA2. Work flow involved in company's jewellery manufacturing process KA3. Importance of the individual's role in the workflow KA4. Reporting structure
B. Technical Knowledge	<ul style="list-style-type: none"> KB1. Various categories of people that one is required to communicate and coordinate within the organization KB2. Various components of effective communication KB3. Key elements of active listening KB4. Expressing and addressing grievances appropriately and effectively
Skills (S) [Optional]	
A. Core Skills/ Generic Skills	Writing Skills
	The user/ individual on the job needs to know and understand how to: <ul style="list-style-type: none"> SA1. Write instructions, remarks, job sheets, basic information, technical details etc. in preferred local language of communication and English
	Reading Skills

G&J/N9904

Coordinate with co-workers

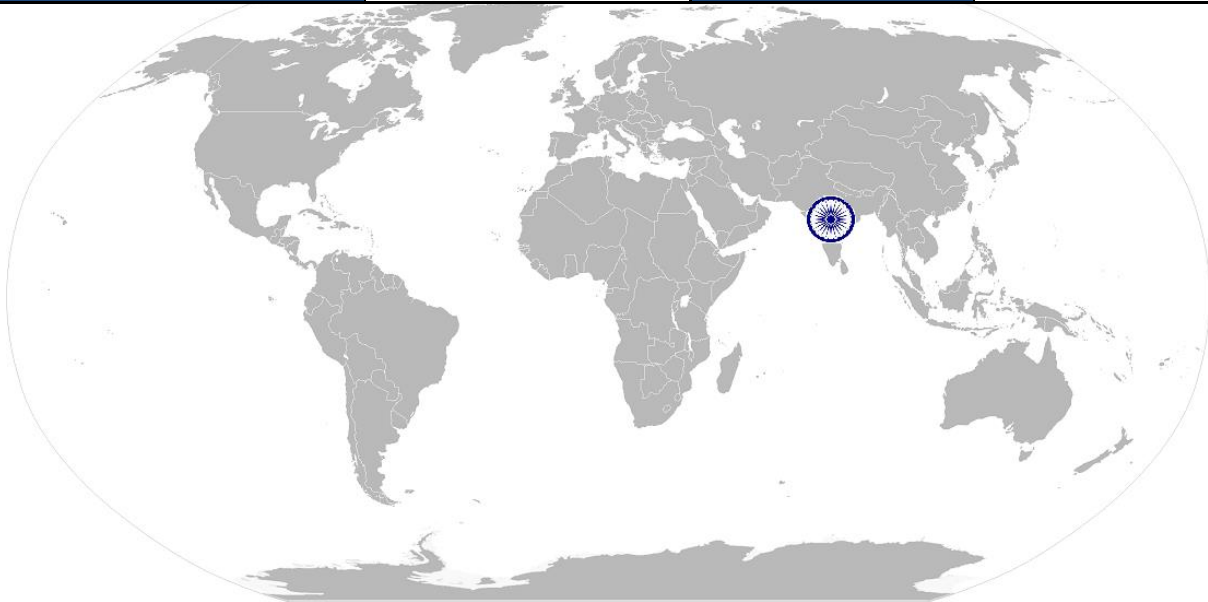
	SA2. Read company rules and compliance documents required to complete the work
	Oral Communication (Listening and Speaking skills)
	SA3. Discuss task lists, schedules and work-loads with co-workers SA4. Question co-workers appropriately in order to understand the nature of problem and to make a diagnosis SA5. Keep seniors informed about the progress of work
B. Professional Skills	Decision Making
	SB1. Make decisions pertaining to the concerned area of work to implement them on personal or organizational level
	Plan and Organize
	SB2. Plan and organize the work according to the requirement by doing time management so the work goal can be achieved
	Customer Centricity
	SB3. Check that your own work meets customer requirements so convey accurate information to all
	Problem Solving
	SB4. Think through the problem, evaluate the possible solution (s) and suggest an optimum/ best possible solutiouon (s) SB5. Identify immediate or temporary solutions to resolve delays
	Analytical Thinking
	SB6. Analyze needs, requirements and dependencies in order to meet your work requirements SB7. Use prior experience to observe and reflect for development of ideas
	Critical Thinking
SB8. Anticipate process disruption and reasons for delay	

G&J/N9904

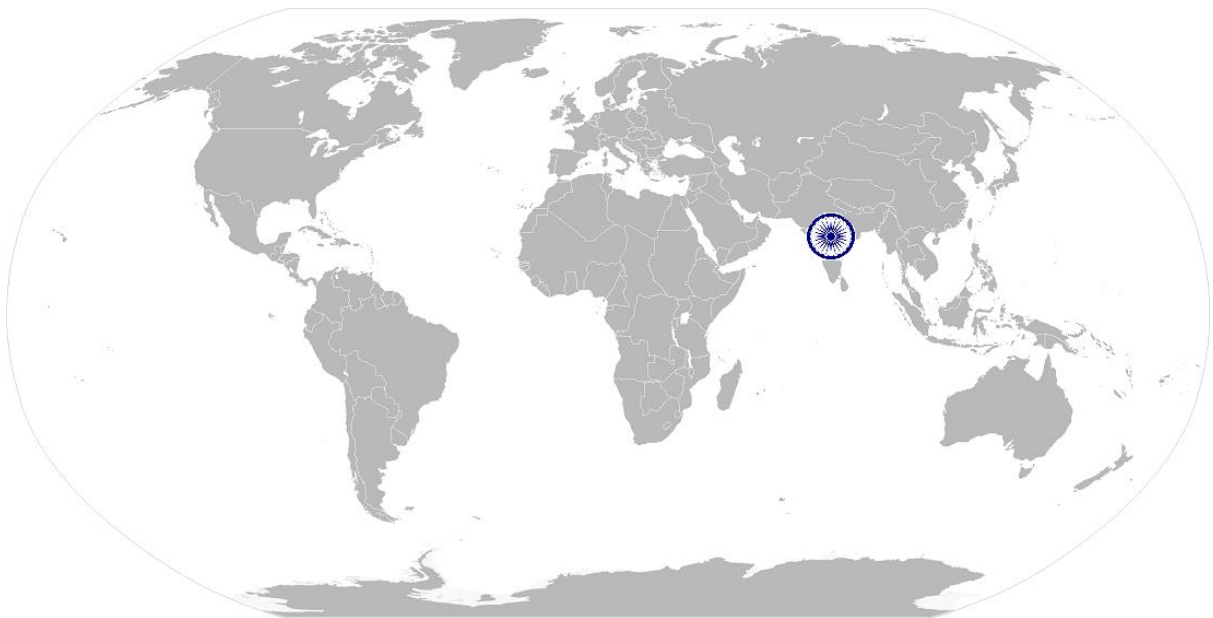
Coordinate with co-workers

NOS Version Control

NOS Code	G&J/N9904		
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Industry	Gems & Jewellery	Drafted on	28/08/2016
Industry Sub-sector	Imitation Jewellery	Last reviewed on	10/11/2017
Occupation	Casting	Next review date	31/07/2021



National Occupational Standard



Overview

This unit is about the individual's commitment towards reporting potential hazards and avoid accidents in order to make the work environment safe for self and colleagues.

G&J/N9905

Maintain safe work environment

National Occupational Standard

Unit Code	G&J/N9905
Unit Title (Task)	Maintain safe work environment
Description	This OS unit is about being aware of, communicating and taking steps towards minimizing potential hazards and dangers of accidents on the job and maintaining health and safety.
Scope	This unit/task covers the following: <ul style="list-style-type: none"> • Understanding and communicating potential sources of accidents • Using safety gear to avoid accidents
Performance Criteria(PC) w.r.t. the Scope	
Element	Performance Criteria
Understanding and communicating potential sources of accidents	To be competent, the user/individual on the job must be able to: <ul style="list-style-type: none"> PC1. Spot and report potential hazards on time PC2. Follow company policy and rules regarding use of hazardous materials PC3. Attend and actively participate in the health and safety campaigns organised by the company PC4. Work according to process flow improvements that can reduce anticipated or repetitive hazards PC5. Stay away from electric equipments that could result in accident
Using safety gear to avoid accidents	<ul style="list-style-type: none"> PC6. Understand which safety gear must be used for a particular task and use that accordingly PC7. Attend fire drills organised by the company or industrial zone PC8. Learn first aid procedure and make the use of it when needed PC9. Be alert about designated assembly area in the event of an emergency and use it if required PC10. Understand and follow the evacuation procedure properly during a fire
Knowledge and Understanding (K)	
A. Organizational Context	The user/individual on the job needs to know and understand: <ul style="list-style-type: none"> KA1. Company's policies on handling: harmful chemicals and sharp tools, safety and hazards of machines, fire safety and, disposal of harmful chemicals and materials KA2. Work flow involved in company's jewellery manufacturing process KA3. Importance of the individual's role in the workflow KA4. Reporting structure
B. Technical Knowledge	<ul style="list-style-type: none"> KB1. How different chemicals react and what could be the danger from them KB2. How to use machines and tools without causing bodily harm KB3. Fire safety education KB4. First aid execution KB5. Disposal of hazardous chemicals, tools and materials by following prescribed environmental norms or as per company policy

G&J/N9905

Maintain safe work environment

Skills (S) [Optional]	
A. Core Skills/ Generic Skills	Writing Skills
	The user/ individual on the job needs to know and understand how to: SA1. Prepare notes, task lists and schedule with co-workers SA2. Prepare progress reports
	Reading Skills
	SA3. Read notes and put notes on design SA4. Read company rules and compliance documents required to complete the work
	Oral Communication (Listening and Speaking skills)
	SA5. Discuss task lists, schedules and work-loads with co-workers SA6. Question co-workers appropriately in order to understand the nature of problem and to make a diagnosis SA7. Keep seniors informed about the progress of work
	B. Professional Skills
SB1. Make decisions pertaining to the concerned area of work to implement them on personal or organizational level	
Plan and Organize	
SB2. Plan and organize the work to meet health, safety and security requirements	
Customer Centricity	
SB3. Use customer centric approach that provides a positive customer experience before and after the sale in order to drive repeat business, customer loyalty and profits	
Problem Solving	
SB4. Think through the problem, evaluate the possible solution (s) and suggest an optimum/ best possible solution (s) SB5. Identify immediate or temporary solutions to resolve delays	
Analytical Thinking	
SB6. Analyze activities by breaking them down into single and manageable components	
Critical Thinking	
SB7. Anticipate process disruption and reasons for delay	

G&J/N9905

Maintain safe work environment

NOS Version Control

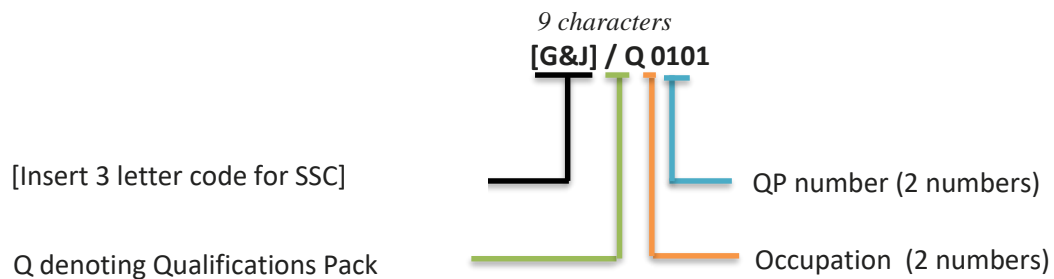
NOS Code	G&J/N9905		
Credits (NSQF)	TBD	Version number	1.0
Industry	Gems & Jewellery	Drafted on	28/08/2016
Industry Sub-sector	Imitation Jewellery	Last reviewed on	10/11/2017
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Annexure

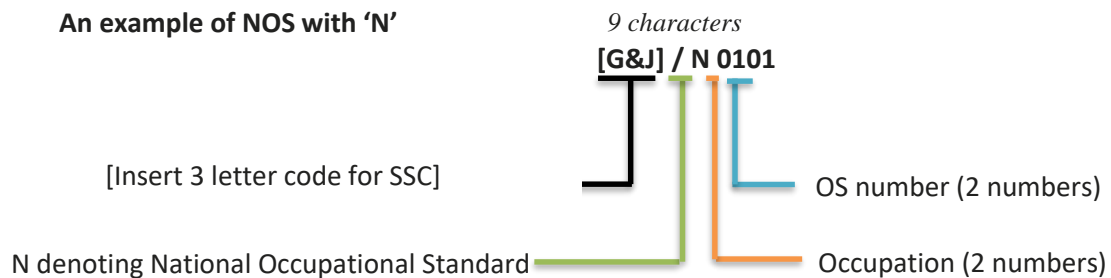
Nomenclature for QP and NOS

Qualifications Pack



Occupational Standard

An example of NOS with 'N'



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

Sub-sector	Range of Occupation numbers
Handmade gold and gems-set jewellery	01-11
Imitation Jewellery	12-20
Cast and diamond-set jewellery	21-40
Diamond processing	41-60
Gemstone processing	61-80
Jewellery retailing	81-90
Silver Smithing	91-98
Common	99

Sequence	Description	Example
Three letters	Industry name	G&J
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 Casting Expert – Imitation Jewellery

Qualification Pack G&J/Q1301

Sector Skill Council Gem & Jewellery

Guidelines for Assessment

1. Criteria for assessment for each Qualification Pack will be created by the Sector Skill Council. Each Performance Criteria (PC) will be assigned marks proportional to its importance in NOS. SSC will also lay down proportion of marks for Theory and Skills Practical for each PC.
2. The assessment for the theory part will be based on knowledge bank of questions created by the SSC.
3. Assessment will be conducted for all compulsory NOS, and where applicable, on the selected elective/option NOS/set of NOS.
4. Individual assessment agencies will create unique question papers for theory part for each candidate at each examination/training center (as per assessment criteria below).
5. Individual assessment agencies will create unique evaluations for skill practical for every student at each examination/training center based on this criterion.
6. To pass the Qualification Pack, every trainee should score a minimum of 50% of aggregate marks to successfully clear the assessment.
7. In case of *unsuccessful completion*, the trainee may seek reassessment on the Qualification Pack.

Compulsory NOS				Marks Allocation	
Total Marks: 100					
Assessment outcomes	Assessment Criteria for outcomes	Total Marks	Out Of	Theory	Skills Practical
1. G&J/N1301 Operate casting machine	PC1. Calculate metal required for the order	60	5	0	5
	PC2. Handle molten metal with less risks		5	0	5
	PC3. Understand and implement melting requirements as per different metals		5	2	3
	PC4. Pour metal at the right temperature		10	3	7
	PC5. Plan properly casting cycles for the optimum utilization of machines and work as per plan		5	0	5
	PC6. Timely deliver casted jewellery pieces to next process		4	0	4
	PC7. Produce number of casted jewellery/accessory pieces as per target deliverable and quality approved by the supervisor		10	5	5

Compulsory NOS				Marks Allocation	
Total Marks: 100					
Assessment outcomes	Assessment Criteria for outcomes	Total Marks	Out Of	Theory	Skills Practical
	PC8. Produce defect-free casted jewellery/ accessory pieces		3	0	3
	PC9. Do casting process with minimum damage to the set stones		5	0	5
	PC10. Produce Quality Control okayed cast jewellery piece		5	0	5
	PC11. Deliver casted jewellery pieces on time by reporting problems faced or anticipated well in advance		3	0	3
	Total		60	10	50

Compulsory NOS				Marks Allocation	
Total Marks: 100					
Assessment outcomes	Assessment Criteria for outcomes	Total Marks	Out Of	Theory	Skills Practical
2. G&J/N9904 Coordinate with co-workers	PC1. Understand the work output requirements and work accordingly	20	3	1	2
	PC2. Communicate to reporting supervisor about process-flow improvements, product defects received from previous process, repairs and maintenance of tools and machinery as required		1	0	1
	PC3. Handover completed work to supervisor		1	0	1
	PC4. Deliver quality work on time as required by reporting any anticipated reasons		2	1	1
	PC5. Comply with company policy and rules and work accordingly		3	1	2
	PC6. Put team over individual goals and work with team		3	1	2
	PC7. Resolve conflicts		3	0	3
	PC8. Learn how to multi-task relevant activities and apply that in various situations		1	0	1

Compulsory NOS				Marks Allocation	
Total Marks: 100					
Assessment outcomes	Assessment Criteria for outcomes	Total Marks	Out Of	Theory	Skills Practical
	PC9. Work with colleagues of other departments		3	1	2
	Total		20	5	15

Compulsory NOS				Marks Allocation	
Total Marks: 100					
Assessment outcomes	Assessment Criteria for outcomes	Total Marks	Out Of	Theory	Skills Practical
3. G&J/N9905 Maintain safe work environment	PC1. Spot and report potential hazards on time	20	2	1	1
	PC2. Follow company policy and rules regarding use of hazardous materials		2	1	1
	PC3. Attend and actively participate in the health and safety campaigns organised by the company		2	0	2
	PC4. Work according to process flow improvements that can reduce anticipated or repetitive hazards		2	0	2
	PC5. Stay away from electric problems that could result in accident		2	0	2
	PC6. Understand which safety gear must be used for a particular task and use that accordingly		2	1	1
	PC7. Attend fire drills organised by the company or industrial zone		2	0	2
	PC8. Learn first aid procedure and make the use of it when needed		2	1	1
	PC9. Be alert about designated assembly area in the event of an emergency and use it if required		2	1	1
	PC10. Understand and follow the evacuation procedure properly during a fire		2	0	2
	Total		20	5	15