



Wax Piece Maker

QP Code: G&J/Q2602

Version: 2.0

NSQF Level: 3

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G&J/Q2602: Wax Piece Maker

Brief Job Description

The individual works with different types of waxes, injection moulding machine and consumables in order to produce the wax replica of jewellery piece.

Personal Attributes

The job requires the individual to have: attention to details; good eyesight; and ability to work in a process driven team and for long hours in sitting position. The individual must also be able to use problem solving skills in order to avert machine failures, errors and hazards.

Applicable National Occupational Standards (NOS)

Compulsory NOS:

1. [G&J/N2602: Make the wax pieces](#)
2. [G&J/N9901: Respect and maintain IPR](#)
3. [G&J/N9902: Interact with colleagues and seniors](#)
4. [G&J/N9905: Maintain occupational health and safety](#)

Qualification Pack (QP) Parameters

Sector	Gem & Jewellery
Sub-Sector	Cast and diamonds-set jewellery
Occupation	Wax Model Making
Country	India
NSQF Level	3
Credits	NA
Aligned to NCO/ISCO/ISIC Code	NCO-2004/7313.35
Minimum Educational Qualification & Experience	8th Class with 2 Years of experience or 10th Standard with 6 months of relevant experience or I.T.I (After 10th)

Minimum Level of Education for Training in School	
Pre-Requisite License or Training	Computer operations
Minimum Job Entry Age	18 Years
Last Reviewed On	NA
Next Review Date	NA
NSQC Approval Date	
Version	2.0

G&J/N2602: Make the wax pieces

Description

This OS unit is about producing wax replica of jewellery piece by injection moulding process, in order to use it for mass production of jewellery piece through casting process

Scope

This unit/task covers the following: Receive the rubber mould, consumables and instructions from supervisor

- inspect all rubber mould for imperfect cutting, air lining, bottom lining and sprue linings
- read the instructions for number of wax pieces required
- select the type of wax as per design specified by the product development manager or job sheet
Make the wax pieces as per job sheet
- feed the wax granules in the hopper located at the top of the injection moulding machine
- maintain the temperature and pressure parameters of the machine as specified
- apply powder on the rubber mould
- hold rubber mould under the injector
- turn on the motor of the machine so that wax granules moves down, turning solid granules to liquid form and injection of wax automatically into the rubber mould
- keep the rubber mould for cooling liquid wax until it solidifies or about 2-3 minutes to produce the wax replica as per the rubber mould shape
- repeat the process for producing required number of wax pieces
- clean the wax piece and inspect for any mismatch with the design Return prepared wax piece and rubber mould to supervisor
- check each wax piece for surface defects and deformities
- ensure timely delivery of the required number of quality okayed pieces Report problems related to:
 - imperfect rubber mould and higher shrinkage of wax than specified
 - wax and tools shortage
 - reasons for anticipated delays that may adversely affect delivery Interact with superior or master model maker to:
- receive instructions and materials from reporting supervisor

Elements and Performance Criteria

Wax piece making

To be competent, the user/individual on the job must be able to:

- PC1.** feed the wax in injection moulding machine as per batch size and specifications of the machine
- PC2.** select appropriate wax type for making wax pieces
- PC3.** follow operating procedure of the wax injection moulding machine

Productivity

To be competent, the user/individual on the job must be able to:

- PC4.** timely deliver wax pieces to next process
- PC5.** produce number of wax pieces per day as per target given

PC6. ensure damage free output with minimal hazards

Quality of output

To be competent, the user/individual on the job must be able to:

PC7. inspect all rubber mould for imperfect cutting, air lining, bottom lining and sprue linings

PC8. remove wax piece without damaging wax pieces and rubber mould

PC9. rubber mould quality okayed and zero defects at the wax pulling stage

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. companys policies on: quality, incentives, delivery standards, safety and hazards, integrity and IPR, and personnel management

KU2. importance of the individuals role in the workflow

KU3. reporting structure

KU4. different types of rubber and their properties, particularly, with respect to heat and pressure sensitivity

KU5. uses of different qualities of wax and its properties in terms of shrinkage

KU6. potential work hazards, particularly, when using vulcaniser, hot plates and sharp tools

Generic Skills (GS)

User/individual on the job needs to know how to:

GS1. read notes, designs and instructions on job sheet

GS2. read company rules and compliance documents required to complete the work

GS3. count the number of wax pieces required for a particular design

GS4. assess accuracy of alignment and measure symmetry

GS5. share work load when multiple deliverables are required

GS6. deliver the wax piece to next work process on time

GS7. wax types and its properties

GS8. prescribed temperature and pressure

GS9. use the injection moulding machine

GS10. work in a safe environment, i.e., without injuries

GS11. improve work processes or greater productivity

GS12. inspect all rubber mould for imperfect cutting, air lining, bottom lining and sprue linings

GS13. self-check each wax piece for surface defects and deformed pieces

GS14. anticipate process disruption and reasons for delay

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Wax piece making</i>	7	25	-	-
PC1. feed the wax in injection moulding machine as per batch size and specifications of the machine	1	10	-	-
PC2. select appropriate wax type for making wax pieces	3	10	-	-
PC3. follow operating procedure of the wax injection moulding machine	3	5	-	-
<i>Productivity</i>	-	15	-	-
PC4. timely deliver wax pieces to next process	-	5	-	-
PC5. produce number of wax pieces per day as per target given	-	5	-	-
PC6. ensure damage free output with minimal hazards	-	5	-	-
<i>Quality of output</i>	3	25	-	-
PC7. inspect all rubber mould for imperfect cutting, air lining, bottom lining and sprue linings	1	10	-	-
PC8. remove wax piece without damaging wax pieces and rubber mould	2	10	-	-
PC9. rubber mould quality okayed and zero defects at the wax pulling stage	-	5	-	-
NOS Total	10	65	-	-

National Occupational Standards (NOS) Parameters

NOS Code	G&J/N2602
NOS Name	Make the wax pieces
Sector	Gem & Jewellery
Sub-Sector	Cast and diamonds-set jewellery
Occupation	Wax model making
NSQF Level	4
Credits	TBD
Version	1.0
Last Reviewed Date	15/06/2015
Next Review Date	31/03/2022
NSQC Clearance Date	NA

G&J/N9901: Respect and maintain IPR

Description

This OS unit is about protecting companys IPR and avoiding infringement to IPR of other companies

Elements and Performance Criteria

Respecting and maintaining IPR

To be competent, the user/individual on the job must be able to:

- PC1.** be able to spot plagiarism and report
- PC2.** be aware of patents and ipr
- PC3.** not be involved in ipr violations

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** companys policies on ipr and plagiarism
- KU2.** reporting structure
- KU3.** companys unique product range
- KU4.** patents and ipr laws
- KU5.** how ipr protection is important for competitiveness of a company

Generic Skills (GS)

User/individual on the job needs to know how to:

- GS1.** effectively communicate any observed ipr violations or order leaks
- GS2.** report potential sources of violations
- GS3.** learn from past mistakes and report ipr violations on time
- GS4.** learn from past mistakes and report ipr violations on time

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Respecting and maintaining IPR</i>	4	5	-	-
PC1. be able to spot plagiarism and report	2	1	-	-
PC2. be aware of patents and ipr	1	3	-	-
PC3. not be involved in ipr violations	1	1	-	-
NOS Total	4	5	-	-

National Occupational Standards (NOS) Parameters

NOS Code	G&J/N9901
NOS Name	Respect and maintain IPR
Sector	Gem & Jewellery
Sub-Sector	Jewellery Retail, Cast and diamonds-set jewellery
Occupation	Designing and Product Development
NSQF Level	4
Credits	TBD
Version	1.0
Last Reviewed Date	15/06/2015
Next Review Date	24/02/2025
NSQ Clearance Date	24/02/2022

G&J/N9902: Interact with colleagues and seniors

Description

This OS unit is about communicating with colleagues and seniors in order to achieve smooth and hazard-free work flow

Elements and Performance Criteria

Interaction with supervisor

To be competent, the user/individual on the job must be able to:

- PC1.** understand the work output requirements
- PC2.** comply with company policy and rule
- PC3.** deliver quality work on time as required by reporting any anticipated reasons for delays

Interactions with colleagues and other departments

To be competent, the user/individual on the job must be able to:

- PC4.** put team over individual goals
- PC5.** be able to resolve conflicts
- PC6.** learn how to multi-task relevant activities

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** companys policies on: preferred language of communication, reporting and escalation policy, quality delivery standards, and personnel management
- KU2.** reporting structure
- KU3.** communicate effectively
- KU4.** build team coordination

Generic Skills (GS)

User/individual on the job needs to know how to:

- GS1.** read and write preferred language of communication as prescribed by the company
- GS2.** read job sheets and interpret technical details mentioned in the job sheet
- GS3.** how to spot and communicate potential areas of disruptions to work process and report the same
- GS4.** when to report to supervisor and when to deal with a colleague individually, depending on the type of concern
- GS5.** improve work processes by interacting with others and adopting best practices
- GS6.** spot process disruptions and delays and report and communicate with solutions

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Interaction with supervisor</i>	1	3	-	-
PC1. understand the work output requirements	1	1	-	-
PC2. comply with company policy and rule	-	1	-	-
PC3. deliver quality work on time as required by reporting any anticipated reasons for delays	-	1	-	-
<i>Interactions with colleagues and other departments</i>	2	2	-	-
PC4. put team over individual goals	1	-	-	-
PC5. be able to resolve conflicts	-	1	-	-
PC6. learn how to multi-task relevant activities	1	1	-	-
NOS Total	3	5	-	-

National Occupational Standards (NOS) Parameters

NOS Code	G&J/N9902
NOS Name	Interact with colleagues and seniors
Sector	Gem & Jewellery
Sub-Sector	Jewellery Retail, Cast and diamonds-set jewellery
Occupation	Designing and Product Development
NSQF Level	4
Credits	TBD
Version	1.0
Last Reviewed Date	15/07/2015
Next Review Date	24/02/2025
NSQ Clearance Date	24/02/2022

G&J/N9905: Maintain occupational health and safety

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 occupational health and safety

Elements and Performance Criteria

Communicating potential accident points

To be competent, the user/individual on the job must be able to:

- 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

Using safety gear

To be competent, the user/individual on the job must be able to:

- PC4.** use or wear safety gear as per the rules of the company

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** companys policies on handling: harmful chemicals and sharp tools, safety and hazards of machines, fire safety and, disposal of harmful chemicals and materials
- KU2.** work flow involved in companys jewellery manufacturing process
- KU3.** importance of the individuals role in the workflow
- KU4.** reporting structure
- KU5.** how different chemicals react and what could be the danger from them
- KU6.** how to use machines and tools without causing bodily harm
- KU7.** fire safety education
- KU8.** first aid execution
- KU9.** disposal of hazardous chemicals, tools and materials by following prescribed environmental norms or as per company policy
- KU10.** companys policies on: safety and hazardsand personnel management
- KU11.** reporting structure
- KU12.** how to use machines and tools without suffering bodily harm

Generic Skills (GS)

User/individual on the job needs to know how to:

- GS1.** prepare notes, task lists and schedule with co-workers
- GS2.** prepare progress reports
- GS3.** read notes and put notes on design

- GS4.** read company rules and compliance documents required to complete the work
- GS5.** discuss task lists, schedules and work-loads with co-workers
- GS6.** question co-workers appropriately in order to understand the nature of problem and to make a diagnosis
- GS7.** keep seniors informed about the progress of work
- GS8.** make decisions pertaining to the concerned area of work to implement them on personal or organizational level
- GS9.** plan and organize the work to meet health, safety and security requirements
- GS10.** 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
- GS11.** think through the problem, evaluate the possible solution (s) and suggest an optimum/ best possible solution (s)
- GS12.** identify immediate or temporary solutions to resolve delays
- GS13.** analyze activities by breaking them down into single and manageable components
- GS14.** anticipate process disruption and reasons for delay
- GS15.** effectively communicate the danger
- GS16.** keep all the tools in an organised manner so as to avoid accidents
- GS17.** keep the work environment safe and clean
- GS18.** report potential sources of danger
- GS19.** follow prescribed procedure in the event of an accident
- GS20.** wear appropriate safety gear to avoid an accident
- GS21.** learn from past mistakes regarding use of hazardous machines or chemicals
- GS22.** spot danger
- GS23.** report potential sources of danger
- GS24.** follow prescribed procedure in the event of an accident
- GS25.** wear appropriate safety gear to avoid an accident

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Communicating potential accident points</i>	2	4	-	-
PC1. spot and report potential hazards on time	1	1	-	-
PC2. follow company policy and rules regarding use of hazardous materials	-	2	-	-
PC3. attend and actively participate in the health and safety campaigns organised by the company	1	1	-	-
<i>Using safety gear</i>	1	1	-	-
PC4. use or wear safety gear as per the rules of the company	1	1	-	-
NOS Total	3	5	-	-

National Occupational Standards (NOS) Parameters

NOS Code	G&J/N9905
NOS Name	Maintain occupational health and safety
Sector	Gem & Jewellery
Sub-Sector	Imitation Jewellery, Cast and diamonds-set jewellery
Occupation	Designing and Product Development
NSQF Level	4
Credits	TBD
Version	1.0
Last Reviewed Date	27/05/2021
Next Review Date	27/05/2024
NSQC Clearance Date	27/05/2021

Assessment Guidelines and Assessment Weightage

Assessment Guidelines

1. Criteria for assessment for each Qualification Pack will be created by the Sector Skill Council. Each Element/ 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 Element/ 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 these criteria.
6. To pass the Qualification Pack assessment, every trainee should score the Recommended Pass % aggregate for the QP.
7. In case of unsuccessful completion, the trainee may seek reassessment on the Qualification Pack.

Minimum Aggregate Passing % at QP Level : 50

(**Please note:** Every Trainee should score a minimum aggregate passing percentage as specified above, to successfully clear the Qualification Pack assessment.)

Assessment Weightage

Compulsory NOS

National Occupational Standards	Theory Marks	Practical Marks	Project Marks	Viva Marks	Total Marks	Weightage
G&J/N2602.Make the wax pieces	10	65	-	-	75	70
G&J/N9901.Respect and maintain IPR	4	5	-	-	9	10
G&J/N9902.Interact with colleagues and seniors	3	5	-	-	8	10
G&J/N9905.Maintain occupational health and safety	3	5	-	-	8	10
Total	20	80	-	-	100	100

Acronyms

NOS	National Occupational Standard(s)
NSQF	National Skills Qualifications Framework
QP	Qualifications Pack
TVET	Technical and Vocational Education and Training

Glossary

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 (KU) they need to meet that standard consistently. Occupational Standards are applicable both in the Indian and global contexts.
Performance Criteria (PC)	Performance Criteria (PC) are statements that together specify the standard of performance required when carrying out a task.
National Occupational Standards (NOS)	NOS are occupational standards which apply uniquely in the Indian context.
Qualifications Pack (QP)	QP comprises the set of 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 (KU)	Knowledge and Understanding (KU) 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.

<p>Organisational Context</p>	<p>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.</p>
<p>Technical Knowledge</p>	<p>Technical knowledge is the specific knowledge needed to accomplish specific designated responsibilities.</p>
<p>Core Skills/ Generic Skills (GS)</p>	<p>Core skills or Generic Skills (GS) 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. These skills are typically needed in any work environment. In the context of the OS, these include communication related skills that are applicable to most job roles.</p>
<p>Electives</p>	<p>Electives are NOS/set of NOS that are identified by the sector as contributive to specialization in a job role. There may be multiple electives within a QP for each specialized job role. Trainees must select at least one elective for the successful completion of a QP with Electives.</p>
<p>Options</p>	<p>Options are NOS/set of NOS that are identified by the sector as additional skills. There may be multiple options within a QP. It is not mandatory to select any of the options to complete a QP with Options.</p>