



Bruter - Diamond Processing

Options: Laser Bruter

QP Code: G&J/Q4505

Version: 1.0

NSQF Level: 3

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G&J/Q4505: Bruter - Diamond Processing

Brief Job Description

The individual works with bruting machine and another diamond or wheel (rotating in opposite direction to the diamond being bruted) or with laser machine to give the rough diamond round and cone shapes. A bruter must be careful while aligning the marking and setting parameter so that excess bruting does not cause too much stone loss or sub-optimal bruting causes the girdle to disappear at a later stage of processing. Also known as Bruter or Coner, the auto bruter provides round girdle and cone shape to the sawed rough diamond with the help of bruting machine/rotating wheel or laser machine

Personal Attributes

The job requires the individual to have: attention to details; good eyesight; steady hands; ability to work in a process driven team; ability to work for long hours in sitting position in front of a screen; high level of concentration; and a lot of patience.

Applicable National Occupational Standards (NOS)

Compulsory NOS:

1. [G&J/N4501: Fix the diamond for bruting](#)
2. [G&J/N4503: Brute and cone the diamond with bruting Machine](#)
3. [G&J/N9901: Coordinate with others](#)
4. [G&J/N9902: Maintain health and safety at workplace](#)

Options(Not mandatory):

Option : Laser Bruter

This unit is about giving the diamond its basic round and conical shape by using the laser machine in which the doped diamond is placed on a platform, aligned and cut using a laser beam. The objective is to ensure that a perfectly round girdle is formed and the pavilion and crown is coned, while maximizing yield as per planned dimensions.

1. [G&J/N4504: Brute and cone the diamond with laser machine](#)

Qualification Pack (QP) Parameters

Sector	Gem & Jewellery
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Sub-Sector	Diamond Processing
Occupation	Bruting and Coning
Country	India
NSQF Level	3
Credits	NA
Aligned to NCO/ISCO/ISIC Code	NCO-2015/ 7313.1306
Minimum Educational Qualification & Experience	8th Class with 1 Year of experience OR 10th Class
Minimum Level of Education for Training in School	
Pre-Requisite License or Training	NA
Minimum Job Entry Age	18 Years
Last Reviewed On	11/10/2017
Next Review Date	31/03/2022
NSQC Approval Date	06/04/2022
Version	1.0

G&J/N4501: Fix the diamond for bruting

Description

This OS unit is about fixing sawed rough diamond in the pot with accurate alignment

Scope

The scope covers the following :

- This unit/task covers the following:
- Setting rough in the holder
- Maintaining productivity
- Controlling defects
- Reporting problems to reporting authority

Elements and Performance Criteria

Setting rough in the holder

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

- PC1.** compare the specifications of the roughs such as shape, size and quantity, as per those mentioned on the rough diamond packet issued by supervisor
- PC2.** select the correct dop for the size of the rough to be bruted
- PC3.** fix rough as per the bruting required using adhesive either prescribed by company or recommended by machine manufacturer, with accuracy
- PC4.** to align and level the rough on the dop accurately

Maintaining productivity

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

- PC5.** achieve the productivity in terms of carats or number of pieces as set by the company
- PC6.** ensure delivery for further processing is not delayed

Controlling defects

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

- PC7.** ensure no damage to the rough during fixing process

Reporting problems to reporting authority

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

- PC8.** report mismatch in rough issued and received
- PC9.** report unclear marking and report
- PC10.** report defective or inadequate number of dops/ pots
- PC11.** report inadequate quantity of consumable such as adhesives
- PC12.** report machine break down or wear and tear of tools, etc.

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** companys policies on: acceptable limits of weight loss; incentives; delivery standards; safety practices and hazards; security and performance measurement
- KU2.** nondisclosure of confidential information provided by the company either orally or in writing marked as confidential
- KU3.** liability arising out of loss, theft, or inadvertent disclosure of confidential information
- KU4.** work flow involved in companys diamond processing process
- KU5.** importance of the individuals role in the workflow
- KU6.** reporting structure
- KU7.** issue return procedures followed by the company
- KU8.** shape, cut, clarity, carat, and physical characteristics of the diamond to be fixed
- KU9.** accurate fixing of roughs on dope or holder as per planned brut
- KU10.** heat sensitivity of different types of adhesives such as temperature, duration
- KU11.** potential work hazards
- KU12.** use of magnifying camera with screen or an eye glass in order to check alignment

Generic Skills (GS)

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

- GS1.** to document work done for status and performance appraisal
- GS2.** to read descriptions on the diamond packets/ bags
- GS3.** to discuss task, schedules, and work-loads with co-workers and supervisors
- GS4.** to understand instructions and report problems
- GS5.** select correct dop as per size of rough diamond and marking.
- GS6.** the rough needs to be fixed for a particular bruting and coning requirement
- GS7.** to work in a safe environment, i.e., without injuries
- GS8.** to minimize damage or loss of any diamond during the doping process
- GS9.** to handle diamonds with care
- GS10.** to identify the factors such as quality of the glue/white cement, tools and machines used, that contribute to the fixing of roughs
- GS11.** to identify immediate or temporary solutions to avoid delays
- GS12.** to plan the work to improve productivity and quality of setting the rough
- GS13.** to spot process disruptions and delays

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Setting rough in the holder</i>	2	8	-	-
PC1. compare the specifications of the roughs such as shape, size and quantity, as per those mentioned on the rough diamond packet issued by supervisor	1	1	-	-
PC2. select the correct dop for the size of the rough to be bruted	-	3	-	-
PC3. fix rough as per the bruting required using adhesive either prescribed by company or recommended by machine manufacturer, with accuracy	-	3	-	-
PC4. to align and level the rough on the dop accurately	1	1	-	-
<i>Maintaining productivity</i>	1	2	-	-
PC5. achieve the productivity in terms of carats or number of pieces as set by the company	-	1	-	-
PC6. ensure delivery for further processing is not delayed	1	1	-	-
<i>Controlling defects</i>	1	1	-	-
PC7. ensure no damage to the rough during fixing process	1	1	-	-
<i>Reporting problems to reporting authority</i>	-	5	-	-
PC8. report mismatch in rough issued and received	-	1	-	-
PC9. report unclear marking and report	-	1	-	-
PC10. report defective or inadequate number of dops/ pots	-	1	-	-
PC11. report inadequate quantity of consumable such as adhesives	-	1	-	-
PC12. report machine break down or wear and tear of tools, etc.	-	1	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
NOS Total	4	16	-	-

National Occupational Standards (NOS) Parameters

NOS Code	G&J/N4501
NOS Name	Fix the diamond for bruting
Sector	Gem & Jewellery
Sub-Sector	Diamond Processing
Occupation	Bruting and Coning
NSQF Level	3
Credits	TBD
Version	2.0
Next Review Date	10/11/2021

G&J/N4503: Brute and cone the diamond with bruting Machine

Description

This OS unit is about giving the basic round and conical shape to the rough diamond in the proportion and symmetry as per the planning or the objective fixed by the company

Scope

The scope covers the following :

- This unit/task covers the following:
- Operating the bruting/coning machine
- Maintaining quality of bruting
- Ensuring productivity
- Controlling defects
- Multitasking

Elements and Performance Criteria

Operating the bruting/coning machine

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

- PC1.** ensure the dop is placed in the machine holder with precision
- PC2.** align the bruting line with the marking of the diamond with accurately to achieve proper cut
- PC3.** enter the parameters, such as dimensions in the computer
- PC4.** ensure the angle of the diamond or the wheel for coning process is precisely done
- PC5.**
 - steady control of the lever for the to
 - and-fro bruting and coning process

Maintaining quality of bruting

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

- PC6.** create a perfectly round girdle
- PC7.** carry out bruting and coning of the roughs as prescribed
- PC8.** label and bag the bruted diamonds before returning

Ensuring productivity

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

- PC9.** achieve the productivity in terms of carats or number of pieces as set by the company
- PC10.** achieve timely delivery for further processing
- PC11.** maintain cycle time

Controlling defects

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

- PC12.** ensure diamond is not damaged while girdle marking
- PC13.** minimize damage, weight loss and breakage
- PC14.** repair a damaged stone

Multitasking

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

PC15. work on variety of bruting and coning machines using a different technology

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** companys policies on: acceptable limits of weight loss; incentives; delivery standards; safety practices and hazards; security and performance measurement
- KU2.** nondisclosure of confidential information provided by the company either orally or in writing marked as confidential
- KU3.** liability arising out of loss, theft, or inadvertent disclosure of confidential information
- KU4.** work flow involved in companys diamond processing process
- KU5.** importance of the individuals role in the workflow
- KU6.** reporting structure
- KU7.** issue return procedures followed by the company
- KU8.** typical customer profile and market trends
- KU9.** specialization area of the company (size, clarity, shape, quality, etc. of diamonds)
- KU10.** diamond processing objective of the company, e.g. maximizing yield, maximizing clarity, etc.
- KU11.** bruting and coning methods
- KU12.** shape, cut, clarity, carat, and physical characteristics of the diamond
- KU13.** alignments for different bruting and coning of a diamond
- KU14.** potential steps which may cause damage to a diamond
- KU15.** potential work hazards, particularly, when using bruting machine
- KU16.** operating computer and bruting and coning machine
- KU17.** using the marking machine
- KU18.** polishing process
- KU19.** use of various scopes in diamond processing
- KU20.** geometry to understand the angles and symmetry
- KU21.** repair work
- KU22.** uses of different types of tools and materials for different purposes
- KU23.** maintenance and preparation of tools as per job requirement

Generic Skills (GS)

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

- GS1.** to enter data on the computer
- GS2.** to document work done for status and performance appraisal
- GS3.** to read descriptions on the job packets/ bags
- GS4.** to discuss task, schedules, and work-loads with co-workers and supervisor's
- GS5.** to understand instructions and report problems
- GS6.** to decide for a particular rough, if girdling is possible on the marking provided
- GS7.** to determine from where to begin bruting in order to minimize weight loss

- GS8.** to handle diamonds with care
- GS9.** to plan work for maximum productivity
- GS10.** to rectify defects occurred
- GS11.** to minimize damage or loss of any diamond during the bruting process
- GS12.** to suggest improvements in order to reduce loss
- GS13.** to brut in order to yield maximum value for the finished diamond, where no design is provided
- GS14.** to spot process disruptions and delays

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Operating the bruting/coning machine</i>	10	21	-	-
PC1. ensure the dop is placed in the machine holder with precision	2	3	-	-
PC2. align the bruting line with the marking of the diamond with accurately to achieve proper cut	2	5	-	-
PC3. enter the parameters, such as dimensions in the computer	2	3	-	-
PC4. ensure the angle of the diamond or the wheel for coning process is precisely done	2	3	-	-
PC5. • steady control of the lever for the to • and-fro bruting and coning process	2	7	-	-
<i>Maintaining quality of bruting</i>	5	18	-	-
PC6. create a perfectly round girdle	2	3	-	-
PC7. carry out bruting and coning of the roughs as prescribed	2	13	-	-
PC8. label and bag the bruted diamonds before returning	1	2	-	-
<i>Ensuring productivity</i>	2	8	-	-
PC9. achieve the productivity in terms of carats or number of pieces as set by the company	1	4	-	-
PC10. achieve timely delivery for further processing	1	2	-	-
PC11. maintain cycle time	-	2	-	-
<i>Controlling defects</i>	3	20	-	-
PC12. ensure diamond is not damaged while girdle marking	1	7	-	-
PC13. minimize damage, weight loss and breakage	1	4	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC14. repair a damaged stone	1	9	-	-
<i>Multitasking</i>	-	3	-	-
PC15. work on variety of bruting and coning machines using a different technology	-	3	-	-
NOS Total	20	70	-	-

National Occupational Standards (NOS) Parameters

NOS Code	G&J/N4503
NOS Name	Brute and cone the diamond with bruting Machine
Sector	Gem & Jewellery
Sub-Sector	Diamond Processing
Occupation	Bruting and Coning
NSQF Level	3
Credits	TBD
Version	2.0
Next Review Date	10/11/2021

G&J/N9901: Coordinate with others

Description

This OS unit is about communicating with colleagues, seniors and outside parties in order to achieve the deliverables as per schedule

Elements and Performance Criteria

Interacting with supervisor

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

- PC1.** coordinate for receiving work instructions and raw materials from reporting supervisor
- PC2.** communicate to the reporting supervisor about process flow improvements, product defects received from previous process, repairs and maintenance of tools and machinery as required
- PC3.** communicate to reporting supervisor about operation details and hazards
- PC4.** interact with supervisor regarding compliance of company policy and rules

Interacting with colleagues within and outside the department

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

- PC5.** coordinate with colleagues to share work, as per the workload in order to achieve team goals
- PC6.** communicate and discuss work flow related difficulties in order to find solutions with mutual agreement
- PC7.** coordinate and receive feedback from quality control department
- PC8.** resolve conflicts by communicating with colleagues and other departments
- PC9.** communicate and discuss work coordinate with colleagues regarding multitasking in other departments with requirements

Interacting with outside parties

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

- PC10.** adhere to nondisclosure policy of the company in all outside coordination

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.** companys policies on non-disclosure of confidential information provided by the company either orally or in writing marked as confidential
- KU3.** liability arising out of loss, theft or inadvertent disclosure of confidential information
- KU4.** reporting structure
- KU5.** various categories of people that one is required to communicate and coordinate within the organization
- KU6.** importance of effective communication in the workplace like expressing and addressing grievances appropriately and effectively
- KU7.** importance of teamwork in organization and individual success
- KU8.** various components of effective communication

- KU9.** barriers to effective communication
- KU10.** common reasons for interpersonal conflict
- KU11.** what constitutes disciplined behavior for a working professional

Generic Skills (GS)

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

- GS1.** write instructions, remarks, job sheets, basic information, technical details etc. in preferred local language of communication and english
- GS2.** read preferred language of communication as prescribed by the company
- GS3.** read job sheets and interpret technical details mentioned in the job sheet
- GS4.** discuss task lists, schedules, and work-loads with co-workers
- GS5.** be a good listener
- GS6.** be effective in communicating the issues faced, to the supervisor
- GS7.** avoid using jargon, slang or acronyms when communicating
- GS8.** how to spot and communicate potential areas of disruptions in the work process and report the same
- GS9.** how to report supervisor or deal with a colleague individually, depending on the type of concern
- GS10.** how to plan work for maximum productivity
- GS11.** how to plan and organize the schedule for maintenance of tools and machines
- GS12.** how to convey accurate information to relevant internal as well as external customers
- GS13.** how to handle critical situations caused due to communication issues at workplace and solve problems without blaming others
- GS14.** how to analyse the work processes by interacting with others and adopting best practices
- GS15.** how to use prior experience to observe and reflect for development of ideas
- GS16.** how to think through the problem, evaluate the possible solution(s) and suggest an optimum /best possible solution(s)
- GS17.** how to deal with clients lacking the technical background to solve the problem on their own
- GS18.** how to spot process disruptions, delays and report and communicate with solutions
- GS19.** how to identify immediate or temporary solutions to resolve delays
- GS20.** how to apply, analyze and evaluate the information gathered from observation, experience, reasoning, or communication, as a guide to thought and action

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Interacting with supervisor</i>	-	6	-	-
PC1. coordinate for receiving work instructions and raw materials from reporting supervisor	-	1	-	-
PC2. communicate to the reporting supervisor about process flow improvements, product defects received from previous process, repairs and maintenance of tools and machinery as required	-	1	-	-
PC3. communicate to reporting supervisor about operation details and hazards	-	1	-	-
PC4. interact with supervisor regarding compliance of company policy and rules	-	3	-	-
<i>Interacting with colleagues within and outside the department</i>	2	10	-	-
PC5. coordinate with colleagues to share work, as per the workload in order to achieve team goals	-	3	-	-
PC6. communicate and discuss work flow related difficulties in order to find solutions with mutual agreement	-	2	-	-
PC7. coordinate and receive feedback from quality control department	1	1	-	-
PC8. resolve conflicts by communicating with colleagues and other departments	-	2	-	-
PC9. communicate and discuss work coordinate with colleagues regarding multitasking in other departments with requirements	1	2	-	-
<i>Interacting with outside parties</i>	1	1	-	-
PC10. adhere to nondisclosure policy of the company in all outside coordination	1	1	-	-
NOS Total	3	17	-	-

National Occupational Standards (NOS) Parameters

NOS Code	G&J/N9901
NOS Name	Coordinate with others
Sector	Gem & Jewellery
Sub-Sector	Jewellery Retail, Cast and diamonds-set jewellery
Occupation	Appraising and Valuation
NSQF Level	5
Credits	TBD
Version	2.0
Last Reviewed Date	24/02/2022
Next Review Date	24/02/2025
NSQ Clearance Date	24/02/2022

G&J/N9902: Maintain health and safety at workplace

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 at workplace.

Elements and Performance Criteria

Health and safety in work area

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

- PC1.** identify and use appropriate protective clothing/equipment for specific tasks and work
- PC2.** identify hazardous job activities in his/her job and communicate the possible causes of risks or accidents in the workplace
- PC3.** carry out safe working practices while dealing with hazards to ensure safety of self and others
- PC4.** identify and avoid doing any tasks or activities in a wrong posture
- PC5.** practice appropriate working postures to minimise occupational health related issues

Fire safety

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

- PC6.** use the appropriate fire extinguishers on different types of fire
- PC7.** demonstrate rescue techniques applied during fire hazard
- PC8.** demonstrate good housekeeping in order to prevent fire hazards
- PC9.** demonstrate the correct use of any fire extinguisher

Emergencies, rescue and first aid procedures

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

- PC10.** administer appropriate first aid procedure to victims wherever required eg.in case of bleeding, burns, choking, electric shock etc.
- PC11.** respond promptly and appropriately to an accident or medical emergency
- PC12.** participate in emergency procedures such as raising alarm, safe evacuation, correct means of escape, correct assembly point etc.,

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** companys policies on: safety and hazards and personnel management
- KU2.** names and location of documents that refer to health and safety in work place
- KU3.** reporting structure
- KU4.** meaning of hazards and risks
- KU5.** health and safety hazards commonly present in the work place and related precautions
- KU6.** various dangers associated with use of electrical equipment
- KU7.** preventative and remedial actions to be taken in case of exposure to toxic material
- KU8.** methods of accident prevention

- KU9.** how different chemicals react and the related hazards
- KU10.** how to use machines and tools without causing any accident
- KU11.** importance of using protective clothing/ equipment while working
- KU12.** precautionary activities to prevent the fire accident
- KU13.** various causes of fire
- KU14.** techniques of using different fire extinguishers
- KU15.** different materials used for extinguishing fire
- KU16.** rescue techniques applied during a fire hazard
- KU17.** various types of safety signs and their meaning
- KU18.** appropriate basic first aid treatment relevant to different condition e.g. bleeding, minor burns, eye injuries etc.,
- KU19.** casualty lifting in case of an accident caused to a person

Generic Skills (GS)

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

- GS1.** read and comprehend basic content to read labels, charts, signages
- GS2.** read and comprehend basic english to read manuals of operations
- GS3.** communicate effectively the risk of not following safety measures
- GS4.** respond to emergencies/accidents, by taking an appropriate and timely decision
- GS5.** organize work schedule, work area, tools, equipment and material to minimize health and safety risk
- GS6.** ensure appropriate action in case of any emergencies, accidents or fire at the work location
- GS7.** analyze untoward incidents from the past and implement correct use of machines, tools or hazardous chemicals
- GS8.** critically analyze the processes carried out by self and colleagues in the department to spot potential hazards and safety issues

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Health and safety in work area</i>	1	7	-	-
PC1. identify and use appropriate protective clothing/equipment for specific tasks and work	-	2	-	-
PC2. identify hazardous job activities in his/her job and communicate the possible causes of risks or accidents in the workplace	-	1	-	-
PC3. carry out safe working practices while dealing with hazards to ensure safety of self and others	-	1	-	-
PC4. identify and avoid doing any tasks or activities in a wrong posture	-	2	-	-
PC5. practice appropriate working postures to minimise occupational health related issues	1	1	-	-
<i>Fire safety</i>	-	6	-	-
PC6. use the appropriate fire extinguishers on different types of fire	-	1	-	-
PC7. demonstrate rescue techniques applied during fire hazard	-	2	-	-
PC8. demonstrate good housekeeping in order to prevent fire hazards	-	1	-	-
PC9. demonstrate the correct use of any fire extinguisher	-	2	-	-
<i>Emergencies, rescue and first aid procedures</i>	2	4	-	-
PC10. administer appropriate first aid procedure to victims wherever required eg.in case of bleeding, burns, choking, electric shock etc.	-	1	-	-
PC11. respond promptly and appropriately to an accident or medical emergency	1	2	-	-
PC12. participate in emergency procedures such as raising alarm, safe evacuation, correct means of escape, correct assembly point etc.,	1	1	-	-
NOS Total	3	17	-	-

National Occupational Standards (NOS) Parameters

NOS Code	G&J/N9902
NOS Name	Maintain health and safety at workplace
Sector	Gem & Jewellery
Sub-Sector	Jewellery Retail, Cast and diamonds-set jewellery
Occupation	Appraising and Valuation
NSQF Level	5
Credits	TBD
Version	2.0
Last Reviewed Date	24/02/2022
Next Review Date	24/02/2025
NSQ Clearance Date	24/02/2022

G&J/N4504: Brute and cone the diamond with laser machine

Description

This OS unit is about giving the basic round and conical shape to the rough diamond in the proportion and symmetry as per the planning or the objective fixed by the company.

Scope

The scope covers the following :

- This unit/task covers the following:
- Operating the laser coning machine
- Maintaining the quality of bruting
- Ensuring productivity
- Controlling defects
- Following safety procedures at work

Elements and Performance Criteria

Operating the laser coning machine

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

- PC1.** calibrate laser bruting machine using calibration pot
- PC2.** to ensure the dop is placed with the machine holders with accurately
- PC3.** to ensure the dimensions of the rough are properly reflected in the computer program
- PC4.** to be able to align the diameter, table and girdle marking of the diamond with the help of computer screen
- PC5.** to monitor the process on screen while machine does bruting
- PC6.** check the bruted diamond for the given specifications

Maintaining the quality of bruting

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

- PC7.** create a perfectly round girdle
- PC8.** carry out bruting and coning of the roughs as per requirement
- PC9.** label and bag the bruted diamonds before returning

Ensuring productivity

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

- PC10.** achieve the productivity in terms of carats or number of pieces as set by the company
- PC11.** achieve timely delivery for further processing
- PC12.** maintain cycle time

Controlling defects

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

- PC13.** to ensure, diamond is not damaged while girdle marking
- PC14.** minimize damage, weight loss and breakage
- PC15.** repair a damaged stone

Following safety procedures at work

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

- PC16.** ensure that the door of the laser machine is closed before starting the machine
- PC17.** follow exact machine operating procedures provided by manufacturer while performing bruting operations
- PC18.** wear proper safety equipment such as eye glasses while working

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** company's policies on: acceptable limits of weight loss; incentives; delivery standards; safety practices and hazards; security and performance measurement
- KU2.** nondisclosure of confidential information provided by the company either orally or in writing marked as confidential
- KU3.** liability arising out of loss, theft, or inadvertent disclosure of confidential information
- KU4.** work flow involved in company's diamond processing process
- KU5.** importance of the individual's role in the workflow
- KU6.** reporting structure
- KU7.** issue return procedures followed by the company
- KU8.** typical customer profile and market trends
- KU9.** specialization area of the company (size, clarity, shape, quality, etc. of diamonds)
- KU10.** diamond processing objective of the company, e.g. maximizing yield, maximizing clarity, etc.
- KU11.** bruting and coning methods
- KU12.** shape, cut, clarity, carat, and physical characteristics of the diamond
- KU13.** alignments for different bruting and coning of a diamond
- KU14.** potential steps which may cause damage to a diamond
- KU15.** potential work hazards, particularly, when using bruting machine
- KU16.** operating computer and bruting and coning machine
- KU17.** using the marking machine
- KU18.** polishing process
- KU19.** use of various scopes in diamond processing
- KU20.** geometry to understand the angles and symmetry
- KU21.** repair work
- KU22.** uses of different types of tools and materials for different purposes
- KU23.** maintenance and preparation of tools as per job requirement
- KU24.** heat requirements such as temperature, duration for different adhesives
- KU25.** potential work hazards
- KU26.** use of magnifying camera with screen or an eye glass in order to check alignment

Generic Skills (GS)

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

- GS1.** to enter data on the computer
- GS2.** to document work done for status and performance appraisal
- GS3.** to read descriptions on the job packets/ bags
- GS4.** to read manual and work instruction related to operations of laser bruting machine
- GS5.** to discuss task, schedules, and work-loads with co-workers and supervisors
- GS6.** to understand instructions and report problems
- GS7.** to decide for a particular rough, if girdling is possible on the marking provided
- GS8.** to determine from where to begin bruting in order to minimize weight loss
- GS9.** to plan work for maximum productivity
- GS10.** to rectify defects occurred
- GS11.** to minimize damage or loss of any diamond during the bruting process
- GS12.** to suggest improvements in order to reduce loss
- GS13.** to brut in order to yield maximum value for the finished diamond, where no design is provided
- GS14.** to spot process disruptions and delays

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Operating the laser coning machine</i>	10	32	-	-
PC1. calibrate laser bruting machine using calibration pot	2	5	-	-
PC2. to ensure the dop is placed with the machine holders with accurately	1	4	-	-
PC3. to ensure the dimensions of the rough are properly reflected in the computer program	2	8	-	-
PC4. to be able to align the diameter, table and girdle marking of the diamond with the help of computer screen	2	8	-	-
PC5. to monitor the process on screen while machine does bruting	2	3	-	-
PC6. check the bruted diamond for the given specifications	1	4	-	-
<i>Maintaining the quality of bruting</i>	6	16	-	-
PC7. create a perfectly round girdle	2	5	-	-
PC8. carry out bruting and coning of the roughs as per requirement	2	8	-	-
PC9. label and bag the bruted diamonds before returning	2	3	-	-
<i>Ensuring productivity</i>	4	7	-	-
PC10. achieve the productivity in terms of carats or number of pieces as set by the company	2	3	-	-
PC11. achieve timely delivery for further processing	2	2	-	-
PC12. maintain cycle time	-	2	-	-
<i>Controlling defects</i>	-	12	-	-
PC13. to ensure, diamond is not damaged while girdle marking	-	5	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC14. minimize damage, weight loss and breakage	-	2	-	-
PC15. repair a damaged stone	-	5	-	-
<i>Following safety procedures at work</i>	-	3	-	-
PC16. ensure that the door of the laser machine is closed before starting the machine	-	1	-	-
PC17. follow exact machine operating procedures provided by manufacturer while performing bruting operations	-	1	-	-
PC18. wear proper safety equipment such as eye glasses while working	-	1	-	-
NOS Total	20	70	-	-

National Occupational Standards (NOS) Parameters

NOS Code	G&J/N4504
NOS Name	Brute and cone the diamond with laser machine
Sector	Gem & Jewellery
Sub-Sector	Diamond Processing
Occupation	Bruting and Coning
NSQF Level	3
Credits	TBD
Version	2.0
Next Review Date	10/11/2021

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/N4501.Fix the diamond for bruting	4	16	0	0	20	20
G&J/N4503.Brute and cone the diamond with bruting Machine	20	70	0	0	90	60
G&J/N9901.Coordinate with others	3	17	-	-	20	10
G&J/N9902.Maintain health and safety at workplace	3	17	-	-	20	10
Total	30	120	-	-	150	100

Optional: 1 Laser Bruter

National Occupational Standards	Theory Marks	Practical Marks	Project Marks	Viva Marks	Total Marks	Weightage
G&J/N4504.Brute and cone the diamond with laser machine	20	70	0	0	90	60
Total	20	70	-	-	90	60

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>