

**NATIONAL OCCUPATIONAL STANDARD**

**Marble Natural Stone Sizing and Cutting Worker**

**LEVEL 3**

**REFERENCE CODE** / …

**OFFICIAL JOURNAL DATE-ISSUE/ …**

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| **Occupation:** | **Marble Natural Stone Quarry Worker**  |
| **Level:** | **3[[1]](#footnote-2)** |
| **Reference Code:** | **…………………………………….** |
| **Prepared by:** | ………………………………………… |
| **Verified by:** | **VQA ………. Sector Committee** |
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 **TERMS, SYMBOLS AND ABBREVIATIONS**

**BLOCK:** Properly shaped mass which has economic value and obtained from marble blocks.

 **NATURAL STONE:** It is the name given to rocks formed naturally in nature which can take any shape using specific hand tools in the decorative way, on which all kinds of surface treatment can be performed, which can be polished and cut, and given corner and edge when cut, and which permit taking blocks whatever their style of formation.

**OHS:** Occupational Health and Safety

**PERSONAL PROTECTIVE EQUIPMENT (PPE):** All kinds of tools, instruments, appliances and devices which are worn, put on or hold by the worker and which protect the worker from one or more hazards arise from the work and effect the health and safety of the worker, and which were designed to suit such purpose,

**MARBLE:** Marble is the rock formed as a result of the recrystallisation of limestones combined with Calcium Carbonate or Magnesium Calcium by metamorphosing under the effect of pressure and temperature.

**WASTE:** Pieces of marble or natural stone which cannot be utilized as block and rubble at the quarry

**WASTE DISPOSAL AREA:** Specific area for disposal of waste

**RISK:** The composition of the possibility of any dangerous situation and the results of the same,

**DANGER:** Potential of damage or injury likely to affect the worker or work place and likely to exist in the workplace or to be caused externally

**Side cutting:** Side cutting fastens the production by separating strip plates into two parts.

Jig Saw: Large marble cutting machine through which strip plate is obtained at various width and thickness by means of vertical or lateral fixed rotating saws.

LAMA: each of diamond saw blade in gang saw machine ranged with certain distances to obtain plates appropriate for block geometry.

SAW: Stone cutting disc with a steel body in different sizes and thicknesses, which is surrounded by stone cutting tool called sockets that are attached to the body of the saw by welding.

TRIMMING: The process of cutting stone from its edges to give stone a zero-error shape.

Single Head Cutting: The machine which makes sizing by cutting strip tablets vertically to long edge.

MULTIPLE HEAD CUTTING MACHINE: The machine which makes sizing with more than one saw by cutting strip tablets vertically to long edge.

IMPACT STONE SPLITTING: The machine which divides thick strips from a requested point with hydraulic pressure in order to produce wall stone.

SIDE CUTTING MACHINE: The machine which is used for splitting stones in all sizes in parallel with long edges.

HORIZONTAL SPLITTING MACHINE: The machine which is used for splitting two equal marble tablets horizontally which are cut in a thick shape.

TILE: Material in different sizes, which is produced from all kinds of natural stones, has the thickness of 1-1,2-1,5 cm, under which joint gap is opened, and four sides of which is chamfered, and which is pasted while performing wall covering work.

PALLET: Wooden material, on which substances are collected and which is produced in a way that ensures to be carried easily by forklift.

CONVEYOR: The band which has a definite size is made of rubber-plastics mixture material, and which automatically carries the marble tablets placed on it.

STRIP: Marble and natural stone tablets which are cut in definite length and thickness.

PLATE: Block shaped marble or natural stone tablets, which have geometric shapes and different sizes, and which are cut in different thicknesses.

TABLET: Marbles or natural stones with definite thicknesses, sizes and geometric shapes.

GRAPPLING TOOL: A steel tool used to graple, lift and move the big marble plates, which compresses more by moving in the opposite sides due to the plate weight, and inner parts of which are covered with rubber.

BRIDGE CUTTING: The machine of stone cutting and sizing whose saw can move back and forward on a bridge, whose tray can make 360-degree turn and which is used for sizing gang saw plates

CONTROL PANEL: Electronic panel, which is furnished with several buttons, and which is used to digitally record the values to be given according to the production details of the machines, and to perform the process in accordance with the records.

JOINT GAP: Approximately 1 mm or deeper gap, which is grooved in the bottom surface of the tile in order to paste it.

CAPSTONE: Piece of large marble or natural stone which has a thickness of 10-15 cm and which is at the bottom on wagon in block cuttings performed with jig saw.

SCAN CUTTING: The cutting on block in order to determine strip thickness in cutting performed with jig saw.

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1. **INTRODUCTION**

National occupational standard titled Marble Natural Stone Sizing and Cutting Worker (Level 3) was issued by Turkish Association of Marble, Natural Stone and Machine Producers (TÜMMER) assigned as per the provisions of Vocational Qualifications Authority (VQA) Law No.5544 and “Bylaw on Drawing up National Occupational Standards” and “Regulation on the Establishment, Duties and Operation Procedures and Principles of the Sector Committees of Vocational Qualification Authority” introduced pursuant to the aforementioned Law.

National occupational standard titled Marble-Natural Stone Quarry Worker (Level 3) was assessed upon receiving the opinions of the related institutions and organizations in the sector, and approved by VQA Board of Directors upon examination of VQA Mining Sector Committee.

1. **INTRODUCTION OF THE OCCUPATION**
	1. **Definition of the Occupation**

Marble Natural Stone sizing and cutting worker (level 3) is a qualified person who takes precautions related to occupational health and safety, makes work organization, cutting monowire and monolama machine, produces tablet from block, produces dimensional stone from strip tablets, produces dimensional stone from plate tablets and participates in vocational development activities within the frame of quality systems.

* 1. **Place of the Occupation in International Classification System**

**ISCO 08:** 7113 “Stonemasons, stone cutters and carvers”

* 1. **Regulations on Health, Safety and Environment**

Social Security and General Health Insurance Law No.5510

Regulation on Heavy and Dangerous Work, Regulation on Occupational Health and Safety, Regulation on Conditions of Health and Safety in Using Work Equipment, Regulation on Use of Personal Protective Equipments in the Workplace, Regulation on Safety and Health Signs

Regulation on Heavy and Dangerous Work Communication on Vocational Training of Workers in Heavy and Dangerous Work

Regulation on the General Principles of Waste Management

Regulation on Procedures and Principles of Occupational Health and Safety Trainings of the Employees

Regulation on Health and Security Measures for Working with Devices with Screens

Regulation on Manual Handling Works

Regulation on Noise

Regulation on Preparation, Completing and Cleaning Works

Occupational Safety and Health Regulation

Regulation on Health and Safety Measures to be taken in the Workplace Buildings and Additional Buildings

Regulation for Control of Solid Waste

Regulation on Preventing the Personnel from the Hazards of the Explosive Environments

Regulation on Fire

Furthermore, it is essential to obey laws, statutory rules and regulations on occupational health and safety and environment; and to perform risk analysis regarding this issue.

* 1. **Other Legislation regarding the Occupation**

Labor Act No.4857

Social Security and General Health Insurance Law No.5510

Mining Law No.3217

Environmental Law No.2872

Furthermore, it is essential to obey other current legislations, laws, statutory rules and regulations concerning the occupation.

* 1. **Working Environment and Conditions**

 Marble natural stone sizing and cutting worker (level 3) works at appropriate temperature in open or closed factory environment that includes machines working with a large quantity of water, which is adequately lighted, humid, dusty, noisy; and where occupational health and safety measures are required to be taken.

S/he works in communication with his/her co-workers and relevant authorities, depending on the requirements of work.

Works almost any time of the year as long as atmospheric conditions are convenient.

Mostly is on the move in the process of work and sometimes must stand on feet for a long time and carry heavy materials.

May face occupational diseases like backache, knee pain, rheumatism diseases etc. due to the environmental conditions.

Works with appropriate personal protective equipment during processes. There are also damage and injury risks which require taking occupational health and safety measures while practicing the work.

* 1. **Other Requirements regarding the Occupation**

Marble and natural stone sizing and cutting worker (level 3) must have the “Form of Initial Entrance and Periodical Medical Examination for Workers in Heavy and Dangerous Works”.

1. **OCCUPATIONAL PROFILE**
	1. **Duties, Tasks and Performance Criteria**

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| **Duties** | **Tasks** | **Performance Criteria** |
| **Code** | **Title** | **Code** | **Title** | **Code** | **Description** |
| **A** | To take precautions related to quality, environmental safety and occupational health and safety  | **A.1** | To be informed of and to participate in trainings/ meetings of environment and OSH | **A.1.1** | Participates in internal training activities to improve his/her knowledge on work experience and in external training activities if charged. |
| **A.1.2** | Does what is required in accordance with the information s/he received and determined before, makes recommendations.  |
| **A.1.3** | Informs and demands his/her superiors on training subjects s/he identified related to work. |
| **A.1.4**  | Participates in trainings organized according to requirements.  |
| **A.1.5** | Tries to provide maximum benefits for his/her own personal development from trainings.  |
| **A.1.6** | Identifies acquisitions from trainings s/he participated, gives feedback. |
| **A.2** | ***To take precautions against risks and hazards*** | **A.2.1** | Learns and complies with the information s/he received related to risks and hazards to be arose in work environment.  |
| **A.2.2** | ***Attends to the studies conducted to evaluate the risk factors and obtains information and skills for reducing the same.*** |
| **A.2.3** | Learns and complies with the important information s/he received for safety at work. |
| **A.2.4** | Learns and complies with the information s/he received for situations requiring emergency action and having importance in the aspect of work safety, participates in practices.  |
| **A.2.5** | Learns the information related to personal protective equipment required for work and use of this equipment, and complies with this information.  |
| **A.2.6** | Learns, complies and applies information s/he received on safe use of machines and equipments required for work. |
| **A.2.7** | Learns the meaning of table and signs which are required to be present at work environment and acts in compliance with such rules. |
| **A.2.8** | Complies with the directives prepared on environment and work safety, acts in compliance with such rules.  |
| **A.2.9** | Obeys the directives on use of work area clearly, orderly and in conformity with hygienic rules, acts in compliance with these rules, and warns those who do not obey such rules. |
| **A.2.10** | Makes appropriate controls in compliance with the instructions of technical supervisor and occupational health and safety specialist on equipments which are on his/her own disposal and responsibility at work area and on connection of this equipment to all system. |
| **A.3** | To notify concerned people of deficiencies on environment and OHS  | **A.3.1** | Notifies deficiencies related to OHS and environment as insufficient lighting, warning sign and protective equipment which may imperil worker's safety at work, follows up until these deficiencies are resolved. |
| **A.3.2** | Notifies concerned people in written of non resolved deficiencies.  |
| **A.3.3** | Identifies equipments and appliances which imperil his/her safety and which are for his/her personal use and demands improvement, change or renewal. |
| **A.3.4** | Pays attention to equipment required for emergency case is ready and available. |

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| **Duties** | **Tasks** | **Performance Criteria** |
| **Code** | **Title** | **Code** | **Title** | **Code** | **Description**  |
| **B** | To organize the work(To be continued) | **B.1** | To take over shift | **B.1.1** | Obtains information on instructions about works or problems which will affect them from former shift production staff. |
| **B.1.2** | Applies operating procedures related to shift takeover. |
| **B.1.3** | Takes order from his/her superiors related to works to be performed at the beginning of his/her shift. |
| **B.2** | To record works performed. | **B.2.1** | Writes properly all operating procedures, information of team participated in work, material used, definition of work in related forms.  |
| **B.2.2** | Delivers this form and records to his/her superiors by signing. |
| **B.3** | To plan works under his/her duty | **B.3.1** | Plans his/her works as their duration and content of application by sequencing the works to be performed in his/her shift according to work orders given by his/her superiors. |
| **B.3.2** | Confirms this planning within the frame of his/her works with his/her superiors. |
| **B.4** | To provide appliances, material and equipment | **B.4.1** | Determines appliances, consumable material and equipments suitable for his/her works to be performed according to their quantity and functionality. |
| **B.4.2** | If appliances, material and equipment required for the work are found at the storage unit, provides them from there. |
| **B.4.3** | Resolves deficiencies by controlling cleaning and maintenance of the equipments. |
| **B.4.4** | Keeps clean and tidy all storage units and lockers |
| **B.4.5** | Reports all equipment deficiencies and failures, condition of his/her material required for operation if they are decreased or not available to his/her superiors. |

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| **Duties** | **Tasks** | **Performance Criteria** |
| **Code** | **Title** | **Code** | **Title** | **Code** | **Description**  |
| **B** | To organize the work | **B.5** | To hand over shift  | **B.5.1** | Records the condition of systems at working area, problems possible to affect next shift and intervention which was performed or to be performed to these problems in line with operation procedures in shifts book.  |
| **B.5.2** | Makes explanations in compliance with the instructions to next shift's production staff on issues recorded in shifts book.  |

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| **C** | **To make cutting with Monowire and Monolama cutting machines** | **C.1** | To make preparation procedures. | **C.1.1** | Installs lama to machine if s/he works with lama or diamond wire if s/he works with diamond wire. |
| **C.1.2** | Loads block of marble to machine wagon to be processed. |
| **C.2** | To shape blocks with monolama or monowire | **C.2.1** | Determines directions of cutting by using miter, drawing on block at right angles.  |
| **C.2.2** | Puts block loaded wagon under machine and fixes it. |
| **C.2.3** | Adjusts monolama or monowire to cut on drawn lines to start with two long edges. |
| **C.2.4** | Turns on water spray valve and provides water spraying to cutting. |
| **C.2.5** | Performs cutting by giving directions to machine through start and stop buttons. |
| **C.2.6** | By repeating same process on short edge, puts block of marble into a shape of right angled prism with same edges. |
| **C.2.7** | Accumulates pieces left from edge cutting on pallet to be used in wall stone production. |
| **C.2.8** | Directs shaped block to marketing stock area. |
| **C.3** | To obtain clogs requested with thickness over 5 cm from block with monolama or monowire machines | **C.3.1** | Draws a line where the first cutting will be performed and which will separate capstone on block that s/he will make cutting.  |
| **C.3.2** | Puts block loaded wagon under machine and fixes it. |
| **C.3.3** | Adjusts monolama or monowire to cut on lines s/he drew. |
| **C.3.4** | Enters thickness values to be cut on block to machine. |
| **C.3.5** | By turning on water spray valve and provides water spraying to cutting. |
| **C.3.6** | Performs cutting by giving directions to machine through start and stop buttons. |
| **C.3.7** | Provides safety by putting wooden daggers between cut clogs.  |
| **C.3.8** | Directs block wagon to next process following the last cut of clog.  |
| **C.3.9** | Observes water spray system with monolama or monowire during cutting. |
| **C.3.10** | Accumulates capstones obtained at cutting start and finish points on pallet to be used in wall stone production. |

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| **Duties** | **Tasks** | **Performance Criteria** |
| **Code** | **Title** | **Code** | **Title** | **Code** | **Description** |
| **D** | **To produce tablet from block**  | **D.1** | To produce strip tablet with jig saw. | **D.1.1** | Puts block positioned in block wagon under jig saw. |
| **D.1.2** | Fixes block wagon with fixing mechanism by preventing its movement during cutting. |
| **D.1.3** | Measures block sizes, calculates how much level cutting s/he will do according to strip's width and thickness which is considered to be produced.  |
| **D.1.4** | Brings saws to block cutting starting point by giving jig saw a lateral movement through movement buttons on control panel.  |
| **D.1.5** | Sets start stopper at starting point. |
| **D.1.6** | Enters cutting depth data according to minimum stone loss in machine control panel for uneven upper part scan. |
| **D.1.7** | Removes uneven part by performing scan cutting. |
| **D.1.8** | Enters width and thickness values of strip tablet to be produced in control panel of jig saw. |
| **D.1.9** | Determines cutting speed of saws in relation with the hardness of stone, begins to spill cutting water on saws, starts cutting by giving forward direction.  |
| **D.1.10** | Makes saws go back in the same way by setting cutting finish stopper when vertical and horizontal saw is completely out of stone at cutting finish point of first strip. |
| **D.1.11** | Positions strip retainers under the strip by controlling lateral saw movement to prevent cut strip to turn over. |
| **D.1.12** | Directs previous strip from cutting area to head cutting table by hand or via vacuum lift jib crane before the start of strip cutting.  |
| **D.1.13** | Brings vertical and lateral saw to starting point after the completion of first level of cutting.  |
| **D.1.14** |
| **D.1.15** | Continues to cutting by the total consumption of block by entering width and thickness values in control panel for second level of strip cutting. |
| **D.2** | To produce plate tablet with gang saw. | **D.2.1** | Puts block positioned in block wagon under jig saw. |
| **D.2.2** | Fixes block wagon. |
| **D.2.3** | Measures block sizes, adjusts ranges of gang saw lama according to thickness of plates to be produced. |
| **D.2.4** | Puts lamas to lama housings in parallel with each other. |
| **D.2.5** | Applies required hydraulic recession by compressing lamas at their housing, fixes the tension. |
| **D.2.6** | Pours cutting water on lamas. |
| **D.2.7** | Puts lamas on block to be cut by moving it in vertical direction and makes lamas touch to block. |
| **D.2.8** | Turns flywheel from control panel which will make lamas move. |
| **D.2.9** | Defines speed of embedding into stone according to hardness of stone as cm/hour following the back and forward movement of lamas on stone and enters value to control panel.  |
| **D.2.10** | Puts thin wooden daggers from above to lama cutting spaces in order to prevent plates bend over or shatter after lamas are embedded into stone as 50 cm.  |
| **D.2.11** | Stops machine after the termination of cutting.  |
| **D.2.12** | Moves lamas upward.  |
| **D.2.13** | When lamas reach point of ¾ at upward direction, s/he bends stone in the middle with a strap,  |
| **D.2.14** | Takes daggers above and puts them among plates in a way that they will stay under lamas at side surfaces, fixes plates again. |
| **D.2.15** | Makes lamas go out of stone completely by moving them upwards. |
| **D.2.16** | Directs plate wagon to plate polish line. |

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| **E** | To produce dimensional stone from strip plates. | **E.1** | To size strips with single head cutting machine | **E.1.1** | By positioning strip plate to be cut in a way that it will adhere to the side where saw housing is present, moves strip plate forward until it touches stopper.  |
| **E.1.2** | Adjusts the size between stopper and saw according to extent requested at the production.  |
| **E.1.3** | Turns on water spray valve and provides water spraying to cutting. |
| **E.1.4** | Makes cutting through start and finish buttons. |
| **E.1.5** | Takes dimensioned strip from saw housing with stopper.  |
| **E.1.6** | Continues to cutting until strip is over by moving strip forward until it touches stopper. |
| **E.1.7** | Accumulates left pieces on pallet to be used in different sizes. |
| **E.1.8** | Directs dimensioned stones to next point of process by accumulating them on pallet. |
| **E.2** | To size strips with multiple head cutting machine | **E.2.1** | By positioning strip plate to be cut in a way that it will adhere to the side where saw housing is present, moves strip plate forward until it touches stopper.  |
| **E.2.2** | Adjusts the size between stopper and saw according to extent requested at the production.  |
| **E.2.3** | Adjusts other saws at the same extent as the first saw. |
| **E.2.4** | Turns on water spray valve and provides water spraying to cutting. |
| **E.2.5** | Makes cutting through start and finish buttons. |
| **E.2.6** | Accumulates left pieces on pallet to be used in different sizes. |
| **E.2.7** | By taking dimensioned strips, directs them to next point of process. |
| **E.3** | To size strip plate along its long edge with side cutting machine | E.3.1 | Positions strip plate's long edge adjacent to sharp edge of side cutting machine. |
| E.3.2 | Adjusts saw in a way that it will make sizing of strip tablet along long edge by calculating saw cutting share. |
| E.3.3 | Turns on water spray valve and provides water spraying to cutting. |
| E.3.4 | Makes cutting through start and finish buttons. |
| E.3.5 | Takes the left piece between sharp edge and saw, positions strip again adjacent to sharp edge. |
| E.3.6 | Continues the cutting of strip until sizing along long edge is over. |
| E.3.7 | Directs dimensioned stones to next point of process by accumulating them on pallet. |
| E.3.8 | Accumulates left pieces on pallet to be used in different sizes. |
|  |  | **E.4** | To split strip with horizontal splitting machine  | E.4.1 | Positions thick-cut strips to tray of horizontal splitting machine in parallel to long edge. |
| E.4.2 | Gives the command to tray which will move stone forward. |
| E.4.3 | Turns on water spray valve and provides water spraying to cutting. |
| E.4.4 | Starts cutting operation of saws. |
| E.4.5 | Lifts upper stone from cleaved stones at the end of cutting, puts it on empty place of band moving forward. |
| E.4.6 | Directs cut stones to operating line for next processes. |
| E.4.7 | Accumulates stones which are broken during cutting on pallet to be used in different sizes. |
|  |  | **E.5** | To trim surpluses of strip with trimming machine | E.5.1 | Adjusts the distance between two blades so as to cut the strip with zero error and fixes it. |
|  | E.5.2 | Puts strips into line by turning them in order to cut the surpluses. |
|  | E.5.3 | Turns on water spray valve and provides water spraying to cutting. |
|  | E.5.4 | Activates trimming machine. |
|  | E.5.5 | Controls uninterrupted work of the line.  |
|  | E.5.6 | Stops machine after the termination of production. |
|  | E.5.7 | Directs cut stones to operating line for next processes. |
|  | E.5.8 | Accumulates stones which are broken during cutting on pallet to be used in different sizes. |
|  | E.5.9 | Throws small unusable left pieces to waste container. |
|  |  | **E.6** | To groove joint gap under the product sized as tile | E.6.1 | Adjusts joint gap saw distances according to tile size.  |
| E.6.2 | Adjusts joint gap saw depth according to tile thickness. |
| E.6.3 | Activates saws. |
| E.6.4 | Puts marble tiles which are coming through tile conveyor line into the compression frame of joint gap grooving machine. |
| E.6.5 | Directs tile grooved to selection and package unit. |
|  |  | **E.7** | To size parquet wall stone with impact stone splitting machine | E.7.1 | Puts stones which are thick-cut and have unsupported length into pallet of impact stone splitting machine in specified ranges. |
| E.7.2 | Moves pallet in the direction of breaking tool.  |
| E.7.3 | Performs stone breaking in any extent requested with impact by activating breaking mechanism through start-finish button when stone reaches breaking point. |
| E.7.4 | Directs broken stones to next point of process. |
| **F** | To produce dimensional stone from plates. | **F.1** | To produce dimensional stone from plates with bridge cutting machine. | F.1.1 | Places tray of bridge cutting machine almost in an upright position with 75 degree angle. |
| F.1.2 | Puts plate with grappling tool in a way that long edge will be in parallel to cutting direction in tray of bridge cutting machine. |
| F.1.3 | Puts tray in a lateral position and fixes it.  |
| F.1.4 | Enters the value regarding the size of the plate from control panel. |
| F.1.5 | Turns on water spray valve and provides water spraying to cutting. |
| F.1.6 | Cuts longitudinally in any size s/he desires with start-finish button. |
| F.1.7 | After long edge cuttings, fixes tray by turning it in horizontal axis and adjusting its cutting angle of short edge. |
| F.1.8 | Enters value of width size requested from control panel and starts cutting. |
| F.1.9 | After cutting by placing dimensioned stones on pallets to next point of process, directs them to next point of process. |
| F.1.10 | Accumulates left pieces on pallet to be used in different sizes. |

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| **Duties** | **Tasks** | **Performance Criteria** |
| **Code** | **Title** | **Code** | **Title** | **Code** | **Description** |
| **G** | To participate in vocational development activities | **G.1** | To conduct studies on personal vocational development | **G.1.1** | Participates in trainings organized by the operation and keeps the documents s/he received. |
| **G.1.2** | Follows technological developments at the profession and the sector such as new appliances, new methods and new systems through periodicals, internet, journals etc. |
| **G.1.3** | Conveys his/her knowledge and experiences to his/her co-workers. |
| **G.1.4** | Observes installation and testing phases of newly-installed systems at the operation from the aspect of tasks of his/her duties. |

* 1. **Tools, Appliances and Equipment Used**
1. Jig Saw
2. Lamas
3. Saws
4. Weighing Machine
5. Trimming
6. Single Head Cutting
7. impact Stone Splitting
8. Joint Gap Grooving Machine
9. Multiple Head Cutting Machine
10. Side Cutting Machine
11. Horizontal Splitting Machine
12. Communication Equipments (radio, telephone etc.)
13. Generator
14. Truck
15. Forklift
16. Consumables (socket etc.)
17. Personal protective equipment (helmet, boot, earflap, glasses, dust glasses, dust mask, work shoes, protective gloves, coverall etc.)
18. Warning signs and tablets
19. Pallet
20. Metal stand
21. Laser
22. Basic hand tools (voltage tester, screwdriver, hammer and wrench set etc.)
23. Crane
24. Auxiliary equipment and materials (steel tape, water hose, digger, spade, sledgehammer, bucket, crowbar, chisel, plastic can, thick rope, rope, waterproof pencil, non wettable label, chock, yarn waste, styropor etc.)
25. Gang saw
	1. **Knowledge & Skills**
26. Knowledge on emergency situation
27. Knowledge on tools, tool and equipment
28. Knowledge and skill of basic first aid
29. Knowledge and skill of computer usage
30. Knowledge on land use
31. Knowledge and skill of drawing
32. Skill of working in a team
33. Knowledge and skill of using hand tools
34. Manual skill
35. Visual skill
36. Ability of persuasion
37. Oral and written communication skill
38. Knowledge on human psychology
39. Basic knowledge on Occupational Health and Safety
40. Knowledge on the work site operation procedures
41. Basic knowledge on quality assurance systems
42. Ability of decision making
43. Knowledge on use of user's guide, handbook and maintenance book
44. Knowledge on materials
45. Ability of distance and weight estimation
46. Knowledge on legal regulations regarding the occupation
47. Basic knowledge of electricity
48. Basic knowledge of physics
49. Basic knowledge of mathematics
50. Knowledge on occupational and technological advancements
51. Knowledge of vocational terms
52. Ability of note taking
53. Ability of working in a team or an organization
54. Skill of learning and being able to share what s/he learned
55. Ability to learn and teach
56. Knowledge on measuring and control
57. Ability to planning and problem solving
58. Knowledge of colors
59. Knowledge on standard materials
60. Knowledge and skill of technical drawing
61. Knowledge on warning sign and table
62. Knowledge on product
63. Knowledge on fire fighting techniques and use of fire-extinguisher
64. Knowledge on spare parts and consumables
65. Knowledge of surface
	1. **Attitudes and Behaviors**
66. To be cold blooded and calm under emergency and stressful situations
67. To pay attention to use of appliances and consumables
68. To be researcher
69. To be hardworking
70. To be able to use working time effectively and efficiently in compliance with work orders and instructions
71. To be sensitive to protection of environment
72. To adopt environmental, quality and OHS rules
73. To be open to change and to adapt to changing conditions
74. To pay attention to details
75. To be attentive
76. To be honest
77. To be in harmony with the team
78. To be open to criticism
79. To be energetic
80. To be observer
81. To be cheerful
82. To take initiatives
83. To take care of human relations
84. To have working discipline
85. To pay attention to work safety
86. To obey the working principles of the workplace
87. To pay attention to cleaning, tidiness and workplace organization
88. To pay attention to the usage of tools, appliances and equipments belonging to workplace
89. To pay attention to quality
90. To be decisive
91. To be willing to improve himself/herself
92. To ensure his/her own safety and safety of other people
93. To have professional ethics
94. To be planned and organized
95. To be sensitive to issues of risk and hazard factors
96. To be patient
97. To take care of his/her own health
98. To know his/her responsibilities and to fulfill the same
99. To learn instructions and guides and to comply them meticulously
100. To give fast and right reaction in dangerous situation in his/her own movement area
101. To be clean
102. To inform superiors properly and in time
103. To share information clearly, effectively at shift change
104. To be open to innovations
105. To inform concerned people about the malfunctions which are not under his/her authority

**4. TESTING, ASSESSMENT AND CERTIFICATION**

Testing and assessment for certification with respect to national qualifications based on marble natural stone sizing and cutting worker (Level 3) Occupational Standard shall be held in written and/or oral forms, theoretically and practically, in testing and assessment centers where required conditions are met.

Testing and assessment method and practice principles shall be detailed with national qualifications to be drawn up pursuant to this occupational standard. Activities regarding testing, assessment and certification shall be conducted within the framework of Vocational Qualification Authority, Testing and Certification Regulation.

Note: This part shall not be published on the Official Gazette, shall only be included on the web site of VQA.

**Annex: Institutions participated in the Occupational Standard Preparation Process**

 ……….

1. Qualification level of the occupation has been determined as level (..) in octal (8) level matrix. [↑](#footnote-ref-2)