



NATIONAL QUALIFICATION

12UY0075-3

ELECTRICAL PANEL INSTALLER

LEVEL 3

REVISION NO: 02

AMENDMENT NO: 01

VOCATIONAL QUALIFICATIONS AUTHORITY

Ankara, 2019

PREFACE

Electrical Panel Installer (Level 3) National Qualification was prepared by the Ankara Chamber of Industry (ASO) assigned by the VQA in accordance with the provisions of the Regulation on the Development of National Occupational Standards and National Qualifications published in the Official Gazette No. 29507 and dated 19/10/2015, and the Regulation on the Procedures and Principles for the Establishment, Duties, and Operation of the Vocational Qualifications Authority Sector Committees published in the Official Gazette No. 26713 and dated 27/11/2007 and evaluated after receiving the opinions of relevant institutions and organizations in the sector, and approved by the VQA's Executive Board upon being examined by the VQA's Electrics and Electronics Sector Committee.

Electrical Panel Installer (Level 3) National Qualification has been amended by the Presidential Decree dated 10.06.2020 and no. 1570.

Vocational Qualifications Authority

INTRODUCTION

The basic criteria for the development of national qualification, its exam by the sector committees, and its approval by the VQA Executive Board are specified in the Regulation on the Development of National Occupational Standards and National Qualifications.

The basic criteria for national qualifications are defined as follows:

- a) National qualifications shall be developed on the basis of national occupational standards or international standards.
- b) National qualifications shall be developed with a participatory approach and the opinions and contributions of relevant parties shall be received.
- c) National qualifications cover matters related to occupational health and safety, environmental safety and quality, regarding the occupational field.
- d) National qualifications shall be written to be understood by users.
- e) National qualifications encourage individuals to develop themselves and make progress in the occupation, within the framework of the lifelong learning principle.
- f) National qualifications do not contain any discriminative components, either explicit or implicit.
- g) National qualifications include components that ensure measuring the knowledge, skills, and competency of individuals within the scope of quality assurance.

12UY0075-3 ELECTRICAL PANEL INSTALLER NATIONAL QUALIFICATION

1	NAME OF THE QUALIFICATION UNIT	Electrical Panel Installer
2	REFERENCE CODE	12UY0075-3
3	LEVEL	3
4	PLACE IN THE INTERNATIONAL CLASSIFICATION	ISCO 08: 7411
5	TYPE	-
6	CREDIT VALUE	-
7	A) PUBLICATION DATE	22.08.2012
	B) REVISION / AMENDMENT NO	Revision No: 02 Amendment No: 01
	C) REVISION / AMENDMENT DATE	Revision No. 02 20/11/2019 -2019/149 Amendment No. 01 10/06/2020-1570
8	AIM	<p>The qualification has been prepared to ensure the supply of skilled personnel in the Electrical Panel Installer (Level 3) occupation, to carry out field studies by trained and skilled people, and to increase the quality of the studies towards the purposes defined below;</p> <ul style="list-style-type: none"> • Defining the qualifications, knowledge, skills, and competencies that the candidates should possess, • Providing the candidates with the opportunity to prove their vocational qualification with a valid and reliable certificate, • Providing a reference and resource for the education system, and the testing and certification bodies
9	OCCUPATIONAL STANDARD(S) THAT FORM(S) THE BASIS FOR THE QUALIFICATION UNIT	12UMS0217-3 Electrical Panel Installer National Occupational Standard
10	REQUIREMENT(S) FOR ENTERING THE QUALIFICATION EXAM	-
11	STRUCTURE OF QUALIFICATION	
11-a) Mandatory Units		
12UY0075-3/A1 Occupational Health and Safety, Quality and Environment 12UY0075-3/A2 Electrical Panel Installation Operations		
11-b) Elective Units		
-		
11-c) Alternatives for Grouping Units and Additional Learning Outcomes		

In order for the candidate to be considered skilled, they must be successful in all qualification units	
12	ASSESSMENT AND EVALUATION
<p>Candidates willing to achieve the Electrical Panel Installer (Level 3) Vocational Qualification Certificate are subjected to the exams defined in the units. Candidates must be successful in the exams defined in the units in order to achieve their vocational qualification certificates.</p> <p>Theoretical and practical exams in the qualification units can be held separately or jointly for each unit. However, each unit must be assessed independently.</p> <p>The validity period of qualification units is 2 years from the date of achievement of the unit. In order to achieve a qualification by combining the qualification units, all units must remain valid.</p>	
13	CERTIFICATE VALIDITY PERIOD
	The validity period of the qualification certificate is 5 years.
14	OBSERVANCE FREQUENCY
	-
15	ASSESSMENT AND EVALUATION METHOD TO BE USED IN CERTIFICATE RENEWAL
	<p>At the end of the validity period of five (5) years, the performance of the certificate holder shall be assessed using at least one of the methods defined below;</p> <p>a) Submitting records indicating that they worked in the relevant field for at least two years in total or for the last six months within the 5-year document validity period (such as service transcript, reference letter, contract, invoice, portfolio),</p> <p>b) Taking the practical exams defined for the qualification units within the scope of qualification.</p> <p>For the candidates with a positive assessment result, the validity period of the certificate shall be extended for another 5 years.</p>
16	ORGANIZATION(S) DEVELOPING THE QUALIFICATION
	Ankara Chamber of Industry (ASO)
17	SECTOR COMMITTEE VERIFYING THE QUALIFICATION
	VQA Electric-Electronic Sector Committee
18	VQA EXECUTIVE BOARD'S APPROVAL DATE and NUMBER
	22.08.2012/2012-61 Rev 02: 20/11/2019 – 2019/149

**12UY0075-3/A1 OCCUPATIONAL HEALTH AND SAFETY, QUALITY AND ENVIRONMENT
QUALIFICATION UNIT**

1	NAME OF THE QUALIFICATION UNIT	Occupational Health and Safety, Quality and Environment
2	REFERENCE CODE	12UY0075-3/A1
3	LEVEL	3
4	CREDIT VALUE	-
5	A) PUBLICATION DATE	22.08.2012
	B) REVISION / AMENDMENT NO	Revision No: 02 Amendment No: 01
	C) REVISION / AMENDMENT DATE	Revision No. 02 20/11/2019 -2019/149 Amendment No. 01 10/06/2020-1570
6	THE OCCUPATIONAL STANDARD THAT FORMS THE BASIS FOR THE QUALIFICATION UNIT	12UMS0217-3 Electrical Panel Installer National Occupational Standard
7	LEARNING OUTCOMES	<p><u>Learning Outcome 1: Explaining occupational health and safety, and environmental protection measures.</u></p> <p>Performance Criteria:</p> <p>1.1: Defines legal and workplace rules regarding occupational health and safety.</p> <p>1.2: Explains mitigation of risk factors related to occupational health and safety.</p> <p>1.3: Explains the emergency procedures to be applied in case of danger.</p> <p>1.4: Explains environmental protection measures.</p> <p><u>Learning Outcome 2: Describes the quality requirements of work processes and work environment.</u></p> <p>Performance Criteria:</p> <p>2.1: Explains the quality assurance techniques.</p> <p>2.2: Describes the works for correcting errors and faults detected while working.</p>
8	ASSESSMENT AND EVALUATION	
	8 a) Theoretical Exam	Multiple Choice Exam: The theoretical exam for the A1 unit shall be applied as per the "Information" checklist in Annex A1-2. In the theoretical exam, candidates should take a written exam consisting of at least 25 four-option multiple-choice questions, each one with an equal point value. No points shall be deducted for wrong answers in the exam consisting of multiple-choice questions. Candidates shall be given at least 1.5 minutes per question during the exam. A candidate who answers at least 60% of the questions correctly in the written exam shall be deemed successful. The questions in the exam should measure all knowledge statements (ANNEX A1-2) intended to be measured by the theoretical exam in this unit.
	8 b) Practical Exam	-
	8 c) Other Conditions Regarding Assessment and Evaluation	The validity period of the qualification unit is 2 years from the date of achievement of the unit.
9	INSTITUTION/ORGANIZATION(S) DEVELOPING THE QUALIFICATION UNIT	Ankara Chamber of Industry (ASO)

10	SECTOR COMMITTEE VERIFYING THE QUALIFICATION UNIT	Electric-Electronic Sector Committee of VQA
11	VQA EXECUTIVE BOARD'S APPROVAL DATE and NUMBER	22.08.2012/2012-61 Rev 02: 20/11/2019 – 2019/149

QUALIFICATION UNIT ANNEXES

ANNEX A1-1: Information on the Recommended Training for the Awarding of the Qualification Unit

Candidates shall be recommended to complete a program with the below-described training content for this unit.

Training Content:

1. Occupational health and safety and environmental protection

- 1.1. Occupational health and safety rules and their application in business processes
- 1.2. Personal protective equipment and their usage
- 1.3. Protection and intervention tools and their usage features
- 1.4. Warning Signs and Plates
- 1.5. Hazardous and risky situations
- 1.6. Precautions to be taken against dangerous and risky situations
- 1.7. Emergency procedures
- 1.8. Effects of the performed operations on the environment
- 1.9. Recyclable materials and the processes regarding these materials
- 1.10. Hazardous and harmful wastes and the processes regarding these materials
- 1.11. Flammable and combustible materials and the processes regarding these materials
- 1.12. Methods of using business resources economically and efficiently

2. Quality requirements

- 2.1. Protective and preventive maintenance tasks for the Electrical Panel
- 2.2. Quality requirements
- 2.3. Tolerances and deviations
- 2.4 Errors and malfunctions and methods for detecting and eliminating them

ANNEX A1-2: Checklist to be Used in the Assessment and Evaluation of the Qualification Unit

a) INFORMATION

No.	Knowledge Statement	NOS-Related Department	Qualification Unit Performance Criteria:	Assessment Tools
INFO.1	Lists the norms of occupational health and safety.	A.1.1	1.1	T1
INFO.2	Lists the personal protective equipment suitable for the job.	A.1.3	1.1 1.2	T1
INFO.3	Lists the rules on keeping the workstation and equipment in order.	A.1.2	1.1	T1
INFO.4	Lists the occupational health and safety protection and intervention tools.	A.1.3	1.1 1.2	T1
INFO.5	Lists the usage characteristics for occupational health and safety protection and intervention tools.	A.1.3	1.1 1.2	T1

No.	Knowledge Statement	NOS-Related Department	Qualification Unit Performance Criteria:	Assessment Tools
INFO.6	Lists the warning signs and plates suitable for the performed work.	A.1.5	1.2	T1
INFO.7	List the hazards and risks associated with the work they carry out.	A.1.4	1.1 1.2	T1
INFO.8	Lists the measures to be taken for reducing the risk factors.	A.1.4	1.1 1.2	T1
INFO.9	Lists the potentially hazardous situations.	A.1.4	1.3	T1
INFO.10	Matches the dangerous situations that cannot be immediately averted with the relevant agencies that must be contacted.	A.1.5	1.3	T1
INFO.11	Lists the emergency procedures specific to the devices used and the task performed.	A.1.5	1.3	T1
INFO.12	Lists the exiting or escaping procedures in cases of emergency.	A.1.5	1.3	T1
INFO.13	Lists the environmental impacts related to the conducted tasks.	A.2.1	1.4	T1
INFO.14	Lists the recyclable materials.	A.2.4	1.4	T1
INFO.15	Lists the sorting and classification of recyclable materials.	A.2.4	1.4	T1
INFO.16	Lists the dangerous and hazardous wastes.	A.2.3	1.4	T1
INFO.17	Lists the principles for the separation of dangerous and hazardous wastes from other materials.	A.2.2	1.4	T1
INFO.18	Lists the safe storage requirements for combustible and flammable materials.	A.2.4	1.4	T1
INFO.19	Lists the proper hardware, materials and equipment to be used against spills and leaks.	A.2.4	1.4	T1
INFO.20	Lists the principles for using business resources economically and efficiently.	A.2.4	1.4	T1
INFO.21	Lists the protective and preventive maintenance tasks for the used equipment.	C.1.3	2.1	T1
INFO.22	Lists the quality system requirements set forth in the instructions.	A.3.1	2.1	T1
INFO.23	Lists the tolerances and deviations allowed in practice.	A.3.1	2.1	T1
INFO.24	Defines the quality standards of operations.	A.3.1	2.2	T1
INFO.25	Lists the errors and faults that are likely to occur while working.	A.3.2	2.2	T1

12UY0075-3/A2 ELECTRICAL PANEL INSTALLATION OPERATIONS QUALIFICATION UNIT

1	NAME OF THE QUALIFICATION UNIT	Electrical Panel Installation Operations
2	REFERENCE CODE	12UY0075-3/A2
3	LEVEL	3
4	CREDIT VALUE	-
5	A) PUBLICATION DATE	22.08.2012
	B) REVISION / AMENDMENT NO	Revision No: 02 Amendment No: 01
	C) REVISION / AMENDMENT DATE	Revision No. 02 20/11/2019 -2019/149 Amendment No. 01 10/06/2020-1570
6	THE OCCUPATIONAL STANDARD THAT FORMS THE BASIS FOR THE QUALIFICATION UNIT	12UMS0217-3 Electrical Panel Installer National Occupational Standard
7	LEARNING OUTCOMES	<p><u>Learning Outcome 1: Makes pre-work preparations.</u> Performance Criteria: 1.1 Receives the work order and examines the production schedule for the work to be performed. 1.2 Prepares the tools, apparatus and equipment to be used.</p> <p><u>Learning Outcome 2: Performs panel installation preparation tasks.</u> Performance Criteria: 2.1 Provides materials. 2.2 Checks the power and control circuit materials. 2.3 Explains how to check measuring and control instruments.</p> <p><u>Learning Outcome 3: Assembles the panel frame and panel materials.</u> Performance Criteria: 3.1 Assembles the panel frame. 3.2 Assembles power, control and measuring circuit materials. 3.3 Assembles busbars and isolators.</p> <p><u>Learning Outcome 4: Assembles cable duct, rail and terminal box.</u> Performance Criteria: 4.1 Assembles cable duct. 4.2 Assembles rails. 4.3 Assembles terminal box.</p> <p><u>Learning Outcome 5: Assembles cables.</u> Performance Criteria: 5.1 Prepares the cables for connection. 5.2 Makes cable connections. 5.3 Places the cables.</p> <p><u>Learning Outcome 6: Prepares the panel for dispatch.</u> Performance Criteria:</p>

- 6.1 Cleans the panel.
6.2 Assembles the panel covers in a way not to scratch the panel paint.
6.3 Explains the methods of packaging the panel.

Learning Outcome 7: Applies the OHS, environment and quality requirements.

Performance Criteria:

- 7.1 Applies the OHS rules in the works carried out.
7.2 Applies the quality requirements in the works carried out.
7.3 Applies the environmental protection measures in the works carried out.

8 ASSESSMENT AND EVALUATION

8 a) Theoretical Exam

T1: The theoretical exam for the A2 unit shall be applied as per the "Information" checklist in Annex A2-2. In the theoretical exam, candidates should be applied a written exam with 4 multiple choice and at least 15 questions, each of which is worth equal points. No points shall be deducted from the overall score for wrong answers to any of the questions and an average of 1,5 minutes time shall be granted for candidates for each question. A candidate who answers at least 60% of the questions correctly in the written exam shall succeed. The questions in the exam should cover all knowledge statements (Annex A2-2) intended to be assessed through the theoretical exam in this unit.

8 b) Practical Exam

P1: The practical exam for A2 unit is realized as per the "Skills and Competencies" checklist given in Annex A2-2. The critical steps that must be accomplished by the candidate shall be specified in the skills and competencies checklist. In order for a candidate to succeed in the practical exam, they should score at least 80 out of 100 points (80%) provided that they succeed in all the critical steps. The duration of the practical exam should correspond to the time under actual practical conditions. The practical exam shall be carried out in a real or realistically arranged work environment. All expressions of skill and competency (Annex A2-2) should be measured with a practical exam.

8 c) Other Conditions Regarding Assessment and Evaluation

The validity period of the exams foreseen for the unit shall be 1 year from the date of achievement of the exam. In order to achieve the unit, the time between achieved exam dates cannot exceed one year. The validity period of qualification units is 2 years from the date of achievement of the unit.

If the candidate displays a behavior that could jeopardize their own safety and the safety of others, the exam shall be terminated.

9	INSTITUTION/ORGANIZATION(S) DEVELOPING THE QUALIFICATION UNIT	Ankara Chamber of Industry (ASO)
10	SECTOR COMMITTEE VERIFYING THE QUALIFICATION UNIT	Electric-Electronic Sector Committee of VQA
11	VQA EXECUTIVE BOARD'S APPROVAL DATE and NUMBER	22.08.2012/2012-61 Rev 02: 20/11/2019 – 2019/149

QUALIFICATION UNIT ANNEXES

ANNEX A2-1: Information on Recommended Training for the Acquisition of the Qualification Unit

Candidates shall be recommended to complete a program with the below-described training content for this unit.

Training Content:

1. Project

- 1.1. Work order
- 1.2. Work program
- 1.3. Electrical project reading and review
- 1.4. Electrical materials

2. Installation

- 2.1. Selection, preparation and use of tools, equipment and instruments
- 2.2. Material provision and inspection
- 2.3. Metal sheet installation
- 2.4. Panel electrical material installation
- 2.5. Installation of power and control circuit materials
- 2.6. Installation of busbars and isolators
- 2.7. Copper busbar selection, processing and installation
- 2.8. Cable duct selection and installation
- 2.9. Determination of rail dimensions and rail installation
- 2.10. Terminal box selection and installation
- 2.11. Determining the cable cross-section, and preparing and installing the cable

3. Dispatch

- 3.1. Panel cleaning operations
- 3.2. Installation of panel covers and aspects to be considered
- 3.3. Panel packaging operations

4. Occupational Health and Safety, Quality and Environment

- 4.1. Rules of OHS and their implementation in work processes
- 4.2. Personal protective equipment and their usage
- 4.3. Instructions, plans and quality requirements
- 4.4. Nonconformities detected during operations and the methods to eliminate them
- 4.5. Environmental protection measures and their implementation
- 4.6. Waste management

ANNEX A2-2: Checklist to be Used in the Assessment and Evaluation of the Qualification Unit**a) INFORMATION**

No.	Knowledge Statement	NOS-Related Department	Qualification Unit Performance Criteria:	Assessment Tools
INFO.1	Lists the equipment suitable for the work to be done.	D.2.1 D.2.2	1.2	T1
INFO.2	Explains how to check power circuit materials.	F.2.1	2.2	T1
INFO.3	Explains how to check control circuit materials.	F.2.2	2.2	T1
INFO.4	Explains how to check measuring and control instruments.	E.3	2.3	T1
INFO.5	Explains the assembly process of the parts that make up the panel frame.	F.1.2 F.1.3	3.1	T1
INFO.6	Explains the assembly process of power circuit materials.	F.2.1	3.2	T1
INFO.7	Explains the assembly process of control circuit materials.	F.2.2	3.2	T1

No.	Knowledge Statement	NOS-Related Department	Qualification Unit Performance Criteria:	Assessment Tools
INFO.8	Explains the assembly process of measuring circuit materials.	F.2	3.2	T1
INFO.9	Explains the assembly process of busbars and isolators.	F.3.3 F.3.4	3.3	T1
INFO.10	Explains how to determine the cable ducts.	G.1.1 G.1.2 G.1.3	4.1	T1
INFO.11	Explains how to determine the dimensions of the rails.	G.2.1 G.2.2 G.2.3	4.2	T1
INFO.12	Explains the process of determining and assembling appropriate terminal boxes.	G.3.1 G.3.2	4.3	T1
INFO.13	Explains the process of preparing cables.	H.1	5.1	T1
INFO.14	Explains the cable labeling process.	H.1.6	5.1	T1
INFO.15	Explains the cable connection process.	H.2.1 H.2.2 H.2.3	5.2	T1
INFO.16	Explains the cable placement process.	H.3.1 H.3.2	5.3	T1
INFO.17	Explains how to clean the panel.	I.1.3 I.1.4 I.1.5	6.1	T1
INFO.18	Explains the methods of packaging the panel.	I.3.1 I.3.2 I.3.3	6.3	T1

b) SKILLS AND COMPETENCIES

No.	Statement of Skills and Competencies	NOS-Related Department	Qualification Unit Success Criteria	Assessment Tools
SC.1	Receives the work order and examines the production schedule for the work to be performed.	D.1.1 D.1.2	1.1	P1
SC.2	Prepares the tools, apparatus and equipment to be used.	D.2.1 D.2.2	1.2	P1
SC.3	Brings the panel frame to the work area.	E.1.1	2.1	P1
SC.4	Brings the control and power circuit and consumables to the work area according to the instructions.	E.1.2	2.1	P1
SC.5	Brings the measuring and control instruments to the work area according to the instructions.	E.1.3	2.1	P1

No.	Statement of Skills and Competencies	NOS-Related Department	Qualification Unit Success Criteria	Assessment Tools
SC.6	Brings the rails and assembly plates to be used in panel assembly to the work area.	E.2	2.1	P1
SC.7	Brings the terminal boxes, labels, interim terminal plates and arresters to the work area according to the instructions.	E.3	2.1	P1
SC.8	Checks whether the power and control circuit materials used in the panel perform their mechanical functions and replaces any defective ones.	E.2.1 E.2.2	2.2	P1
SC.9	Assembles the panel frame.	D.1.2 D.1.3	3.1	P1
*SC.10	Assembles power circuit materials according to the instructions.	D.2.1	3.2	P1
*SC.11	Assembles control circuit materials according to the instructions.	D.2.2	3.2	P1
SC.12	Assembles busbars and isolators.	D.3.3 D.3.4	3.3	P1
*SC.13	Determines the dimensions of the cable ducts and assembles them according to the instructions.	E.1.1 E.1.2 E.1.3	4.1	P1
*SC.14	Determines the dimensions of the rails and assembles them according to the instructions.	E.2.1 E.2.2 E.2.3	4.2	P1
*SC.15	Assembles power and control circuit terminal boxes, interim terminal plates and arresters according to the instructions.	E.3.1 E.3.2 E.3.3	4.3	P1
*SC.16	Prepares the cables according to the instructions.	F.1.1 F.1.2 F.1.3	5.1	P1
*SC.17	Attaches the ferrule and lugs to the cable terminals and tightens them with crimping pliers.	F.1.4	5.1	P1
*SC.18	Prepares the labels of the cables and attaches them to the cables according to the instructions.	F.1.6	5.1	P1
*SC.19	Makes the connections of the power circuit cables according to the instructions.	F.2.1	5.2	P1
*SC.20	Makes the connections of the control circuit cables according to the instructions.	F.2.2	5.2	P1
*SC.21	Makes the connections of the cables between the metal surfaces and the grounding busbar.	F.2.3	5.2	P1
*SC.22	Places the connected cables into the cable duct.	F.3.1	5.3	P1
SC.23	Cleans the panel and tidies the work environment.	G.1.1	6.1	P1
SC.24	Assembles the panel covers in a way not to scratch the panel paint.	G.2.1 G.2.2	6.2	P1
*SC.25	Applies the OHS rules in the works they carry out.	A-1	7.1	P1
*SC.26	Applies the quality requirements in the works carried out.	A.3	7.2	P1
*SC.27	Applies the environmental protection measures in the works carried out.	A-2	7.3	P1

(*) Critical steps that must be accomplished in the practical exam.

QUALIFICATION ANNEXES

ANNEX 1: Qualification Units

12UY0075-3/A1 Occupational Health and Safety, Quality and Environment
12UY0075-3/A2 Electrical Panel Installation Operations

ANNEX 2: Terms, Symbols and Abbreviations

BUSBAR: Aluminum or copper plate that is used to distribute, collect and transmit energy,

POWER CIRCUIT: The circuit that carries the current of the load,

ISCO: International Standard Classification of Occupations

OHS: Occupational Health and Safety.

ISOLATOR: The material that insulates the conductors used in the transmission of electrical energy from the conductive parts,

FRAME: The sheet metal structure on which the components used in the panel are assembled,

PERSONAL PROTECTIVE EQUIPMENT(PPE): All tools, equipment, instruments, and devices that are either worn, put on, or held and that are specifically designed to protect the workers against one or multiple risks which may arise during work or which may affect their health and safety,

CONTROL CIRCUIT: The electrical circuit of the components controlling the switchgear in the system,

LUGS: Metal parts inserted into the cable terminals for bolted connections of the cables,

PANEL: The section that is used in the transfer of energy to the end user and contains the switchgear materials and control components,

RISK: Composition of the probability of occurrence of a dangerous incident and its consequences.

SWITCHGEAR: Power circuit components that perform on-off, measurement, control and protection operations of electrical circuits,

ASSEMBLY PLATE, RAIL: System elements used in laying the cable,

HAZARD: The potential for harm or damage that exists in the workplace or may come from outside, which may affect the employee or the workplace.

LOAD: The circuit element that uses electrical energy and converts it,

FERRULE: Metal parts inserted into the cable terminals for the connection of the cables to the terminal boxes.

ANNEX 3: Horizontal and Vertical Progression Paths in the Occupation

Vertical Progression Path: Electrical Panel Installer (Level 4), Electrical Panel Installer (Level 5)

ANNEX 4: Evaluator Criteria

Persons who will serve as evaluators must meet one of the following conditions.

- a) Having received a bachelor's degree in Electricity, Electrical-Electronics, Electronics and Communication, Control and Automation or Mechatronics and Mechatronics Systems and having at least three (3) years of experience in fields related to electrical panel installation,
- b) Having worked at least for three (3) years as an instructor in vocational associate schools or universities, in one of the electricity, electrical-electronics ,
- c) Having an associate degree in Electricity or Electric-Electronics and having at least five (5) years of experience in fields related to electrical panel installation.
- d) Having worked at least for seven (7) years as an instructor in institutions providing vocational and technical education, in one of the electricity, electrical-electronics and electronics branches,
- e) Having a valid 12UY0075-Electrical Panel Installer Level 5 Vocational Qualification Certificate and having at least seven (7) years of experience.

Evaluators who possess the above-mentioned characteristics and who will participate in the assessment and evaluation process should be trained in vocational qualification system, relevant national qualification(s), relevant national occupational standard(s), assessment and evaluation and quality assurance and OHS in assessment and evaluation by institutions authorized in the relevant field.