



Alliance for Batteries Technology, Training and Skills

2019-2023

Battery Manufacturing Technician



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Battery Manufacturing Technician

A battery manufacturing technician is responsible for the production of batteries in a manufacturing facility. They work with a team of engineers and scientists to assemble, test, and package batteries for various applications such as electric vehicles, consumer electronics, and grid storage. They are responsible for the assembly, testing and packaging of the battery cells, packs, and systems, ensuring that they meet the required quality standards and performance specifications.

ESCO Occupations - [ESCO - Occupations - European Commission \(europa.eu\)](https://ec.europa.eu/education/skills-competence-development/index.cfm?id=32636_1)

ID	NAME	Concept URI
No relevant occupation		

Context

Minimum EQF	4/5
Value Chain	Raw Materials and Processing Components and Cells Manufacturing Modules and Packs Integration
Departments	Production and Maintenance
Specialisations	Engineering Technician Cell Assembly Technician Battery Pack Production Employee Battery Production Technician

Cross-sectoral Specific Competence

Name	Type (S/K)	Description/Context	Level	ESCO
Inspect Quality of Product / Sampling	S	- Perform quality checks as specified - Follow a strict standardised procedures (in battery fabrication) to produce batteries of consistent excellent quality	Practitioner	inspect quality of product
Process Improvement	S	- Work with continuous Improvement (CI) for shift team - Interact with different team members to understand and	Practitioner	identify process improvement

		<p>communicate improvements that need to be done and has been done</p> <ul style="list-style-type: none"> - Assist in proposing improvements to enhance department efficiency and reliability 		
Production Processes	K	<ul style="list-style-type: none"> - Can work within a mix of manual and automated production processes. - Follow process that include documented procedures. - Perform production process checks as specified. 	Practitioner	production process
Equipment Maintenance	S	<ul style="list-style-type: none"> - Coordinating and executing equipment maintenance per manufacturer's guidelines. - Install, maintain, and repair instrument devices. - Repair and replace equipment. - Evaluation of needed spare parts for the equipment. - Control the equipment and process materials used in production. - Conduct preventive maintenance. 	Expert	ensure equipment maintenance
Safety Procedures	K	<ul style="list-style-type: none"> - Perform all work in accordance with established safety procedures and adhere to all safety and environmental policies set forth by the company. 	Practitioner	safety engineering
Equipment and Tools Handling	S	<ul style="list-style-type: none"> - Installation, commissioning and maintenance of electrical installations, machinery, and equipment. - Control the equipment and process materials used in our production - Coordinating and executing equipment maintenance - Evaluation of needed spare parts of the equipment 	Practitioner	equipment and tools handling
(Automated) Product Testing	S	<ul style="list-style-type: none"> - Creating and testing conversions and extensions according to plans - Testing and repairing components - Development and testing of system batteries 	Practitioner	perform product testing
Maintenance Processes (Repair, Replace, Inspect)	K	<ul style="list-style-type: none"> - Conduct preventive maintenance - Coordinating and executing equipment maintenance per manufacturer's guidelines - Contribute in maintenance program optimization - Installation, commissioning and maintenance of electrical installations, machinery and equipment - Repair, maintenance and inspection of machinery and production environment 	Practitioner	maintenance and repair
Analyse Test Data	S	<ul style="list-style-type: none"> - Interprets the data from the production and take necessary actions based on the data 	Awareness	analyse test data
Analysis Methods	K	<ul style="list-style-type: none"> - Perform root cause analysis 	Practitioner	

Remove Defective Product	S	- Methods for removing defective products	Practitioner	remove defective product
Automation	K	- Automated production systems	Awareness	operate automated process control
Operate Machines	S	- Operate battery manufacturing machines	Practitioner	work safely with machines
Material Operations and Handling	S	- Apply material and manipulation handling principles	Practitioner	operate material handling equipment

Sector Specific Competence

Name	Type (S/K)	Description/Context	Level	ESCO
Assemble Batteries	S	- Understand the characteristics of the battery assembly and methods - Apply the methods for battery assembly and manufacturing	Practitioner	assemble batteries
Battery Components	K	- Understand components for battery manufacturing - Lithium-ion battery components - Limits of battery components - Understand battery parameters	Practitioner	battery components
Battery Material	K	- Materials for battery and battery cell manufacturing and their characteristics	Awareness	
Battery Chemistry	K	- Understand chemical processes within the battery cells and battery storage - Understand synthesis methods for energy storage materials - Understand battery degradation mechanisms	Awareness	battery chemistry
Battery Testing	K	- Perform quality checks during the battery manufacturing - Monitor the battery manufacturing processes in the context of quality - Apply battery testing after the battery completion	Practitioner	battery testers
Battery System	K	- Understand the development of battery systems - Understand the battery systems in connection to the battery manufacturing (BMS)	Awareness	
Battery Formation	S	- Formation of battery cells	Practitioner	

Soft Competence

Name	Type (S/K)	Description/Context	Level	ESCO
Communication	K	- Good communication	Practitioner	communication

		- Communicate with team members and other departments on production status and issues		problem solving & troubleshoot
Problem Solving/Troubleshooting	S	- Take proper action when having failures and deviations affecting the production, report these as well as doing root cause analysis to solve the issues	Expert	
Teamwork	K	- Ability to work independently and in a team is necessary - Together with the rest of the team, being a key player to develop and maintain a safe work environment - Work proactively together with the maintenance team.	Practitioner	

General Transversal Competence

Name	Type (S/K)	Description/Context	Level	ESCO
Health and Safety Standards	K	- Work in accordance with established safety procedures and adhere to all safety and environmental policies set forth by the company	Practitioner	health and safety in the workplace
English	K	- Follow written and verbal instructions in a multicultural/international environment	Awareness or Practitioner depending on the environment	English
Computer Literacy / Office	S	- Interfacing with computer systems to enter and retrieve data and analyze basic operational information - Ability to understand and use appropriate tools - Knowledge of MS Office environment	Practitioner	have computer literacy
Documentation	S	- Operating production tools and equipment per training and documentation - Record build information on computer log sheets and other documentation	Practitioner	use technical documentation; observe documents
Reporting		- Carry out reporting activities	Practitioner	follow reporting procedures

Academic Competence (can be taken from University programme)

Name	Type (S/K)	Description/Context	Level	ESCO

Electrical Engineering	K	- Understand electrical engineering, a field of engineering that deals with the study and application of electricity, electronics, and electromagnetism.	Practitioner	electrical engineering
Chemical Engineering	K	- Basics of organic and anorganic chemistry - Basics of chemical technology	Practitioner	chemistry

