

[Organization logo]

[Organization name]

Commented [9100A1]: All fields in this document marked by square brackets [] must be filled in.

PROCEDURE FOR MANUFACTURING OF ELECTRICAL AND OPTICAL EQUIPMENT

Commented [9100A2]: If you want to find out more about production and service provision, see this 9001Academy article: Understanding Product & Service Provision in ISO 9001 <http://advisera.com/9001academy/blog/2014/10/07/understanding-product-service-provision-iso-9001/>

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Commented [9100A3]: Adapt to the existing practice in organization.

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Commented [9100A4]: This is only necessary if document is in paper form; otherwise, this table should be deleted.

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Date	Version	Created by	Description of change
	0.1	9100Academy	Basic document outline

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1. Purpose, scope and users

The purpose of this procedure is to describe the process of manufacturing of electrical and optical equipment according to demanded quantity and deadlines, in line with the request for product quality, according to customer request.

The procedure is applied in realization of the manufacturing process.

Users of this document are persons responsible for the process of manufacturing in [organization name].

2. Reference documents

- AS9100 Rev D standard clauses 8.5; 8.6
- Procedure for Document and Record Control
- Procedure for Competence, Training and Awareness
- Procedure for Purchasing and Evaluation of Suppliers
- Procedure for Design and Development
- Warehousing Procedure
- Procedure for Management of Nonconformities and Corrective Actions
- Procedure for Equipment Maintenance and Measuring Equipment
- [Work instruction manuals]

Commented [9100A5]: List the names of instruction manuals used in this process.

3. Product realization

3.1. Product realization planning

3.1.1. Making production plan

According to demand of products and volume of production in previous period, [CEO] together with [job title] creates [Production Plan].

Commented [9100A6]: E.g. Production Manager

[Production Plan] defines the following:

- Availability of information that defines product characteristics

[Redacted text]

For project-based production and individual production according to customer request, information about product characteristics is defined in [document name].

Commented [9100A7]: E.g. Product Specification, law and regulatory requirements, instructions, catalogues, etc.

Commented [9100A8]: Delete if there is no cyclic production.

Commented [9100A9]: E.g. Customer Request, Project Task, etc.

Commented [9100A10]: Delete if organization doesn't perform this type of production.

[Job title] defines all resources needed for production, including human resources,

[Job title] creates the Quality Plan, which defines necessary activities of verification,

- *Availability of work instructions*

[Job title] is responsible for creation of work instructions for the following process activities:
[list the names of work instruction for each activity].

- *State of equipment required*

[Job title] is responsible to ensure that all equipment is in operational condition and, on [job title]'s request, deliver evidence of execution of the Plan for Preventive Equipment Maintenance and records of calibration and repairs of measuring equipment.

[Job title] is responsible for equipment maintenance and verify maintenance activities for equipment in light of equipment requirements. [Job title] is responsible for verifying with such requirements.

- *Conducting measuring and monitoring*

[Job title] must ensure availability of monitoring and measuring resources and define the enter them into the Quality Plan.

[Job title] ensures that any documented information for monitoring and measurement

are to be retained, and any specific equipment required and instructions for use.

[Job title] must ensure that when sampling is used the sampling plan is justified on the basis

Commented [9100A11]: E.g. Production Manager

Commented [9100A12]: Work instructions are needed for

Commented [9100A13]: E.g. Maintenance Operator

Commented [9100A14]: E.g. Production Manager

Commented [9100A15]: E.g. Head of maintenance department

Commented [9100A16]: E.g. Production Manager, Technology Engineer, etc.

Commented [9100A17]: Other records can be defined as addition to Quality Plan, e.g. records for monitoring temperature, pressure, humidity, etc.

Commented [AS910018]: E.g. Production Manager, Technology Engineer, etc.

Commented [AS910019]: E.g. pass/fail, etc.

Commented [AS910020]: E.g. Production Manager, Technology Engineer, etc.

3.1.2. Creating work order

For each individual batch, [job title] creates [Work Order] which defines all activities to be executed

According to [document name], [job title] makes an internal purchasing order that specifies

the Project Plan, and delivers it to [job title]. [Job title] defines which work instructions will be applied

are stated in the Product Specification made by [job title].

Commented [9100A21]: E.g. Production Plan, Customer Request, Project, etc.

Commented [9100A22]: E.g. Production Manager

Commented [9100A23]: Delete if clause 8.3 of AS9100 Rev D is excluded.

Commented [9100A24]: E.g. Warehouse Manager

Commented [9100A25]: E.g. Production Manager

Commented [9100A26]: E.g. Production Manager

3.2. Production provision realization

[organization name]

Production is executed in controlled working conditions, which implies compliance with all technical and technological requirements defined in documents necessary for the production process. If

Commented [9100A27]: This refers to law and legal requirements.

materials are entered in Production Registry by [job title]. [Job title] ensures that products are never

3.2.1. Internal purchase and receipt of raw materials

According to the Production Plan and Production Registry, [job title] makes internal purchase. After received quantity meets demand, [job title] sends raw materials to production.

3.2.2. Production of plastic semi-product

Commented [9100A28]: Adapt to organization practice.

[Job title] receives the raw plastics in form of as granules, pellets, or powder. The raw plastic is then

3.2.3. Production of electrical components

Commented [9100A29]: Adapt to organization practice.

Based on Product Specification, [job title] controls production of copper parts and soldering of testing of the components. If the testing results are satisfactory, [job title] sends the components to assembly facility.

3.2.4. Production of optical components

Commented [9100A30]: Adapt to organization practice, the whole section can be edited in order to be aligned with the manufacturing process in the organization.

[Job title] receives glass blank and compares it to Product Specification, if the glass blank meets the

[Job title] is responsible for generating lenses by grinding, after this rough grinding [job title] sends is conducted by [job title] using inverse spheres of the same radii ground together so that the hills and valleys on the optics will wear away to produce a true sphere. Slurry flows in between the grinding process.

After the lens is generated and fine ground, [job title] sends it to polishing that can be both Numerical Control) machines.

Before centering begins, the polished surfaces are inspected by [job title]. [job title] checks the

[organization name]

such as scratches, digs, and sleeks. If the optic does not meet its specifications, [job title] returns it to [redacted]

Once the optic is centered and edged, [job title] cleans and inspects it for the last time. Both [redacted] [redacted] places the optics into holders which are loaded into the top of a vacuum coating chamber.

When the lenses are finished, [job title] sends them to assembly facility.

3.2.5. **Assembly**

[Job title] receive plastic semi-products, electrical components and lenses and controls the assembly [redacted] [redacted] handled according to the Procedure for Managing Nonconformities and Corrective Actions.

Commented [9100A31]: Adapt to organization practice.

3.2.6. **Packaging and storage**

[Job title] oversees the packaging process and in case of nonconformities apply Procedure for Managing Nonconformities and Corrective Actions. Once the product is finished [job title] sends it to [redacted]

Commented [9100A32]: Adapt to organization practice.

3.2.7. **Identification and traceability**

[redacted] configuration management practices defined in the Procedure for Production and Service Provision enter identification data in the Record of Traceability, identifying differences between the actual configuration and the required configuration on the Record of Product-Service Configuration.

Commented [9100A33]: Or Production Registry.

3.2.8. **Validation of production and service provision**

[Job title] must conduct validation of all processes of production and service provision where:

- it is not possible to confirm by measurement that a product or service satisfies customer request;
- [redacted]

Commented [9100A34]: Delete if there are no processes that require validation; see Quality Manual.

Processes that fall under at least one of above conditions are defined as Special Processes and the results of their validation are recorded on the Record of Validation of Product Process and Special Process.

Commented [9100A35]: E.g. welding – techniques for testing welding compactness don't give information about its strength, or when service provision is instant and prevents subsequent testing.

Commented [9100A36]: For example lacquer thickness of lacquered wire.

Where appropriate, as part of validation, [job title] must determine:

- [redacted]
- Conditions to be in place to maintain process approval

Commented [AS910037]: E.g. necessary training and re-training of employees who perform the process, monitoring requirements for the process, scheduled re-validation of the process, etc.

[organization name]

Record name	Code	Storage			Responsibility
		Retention time	Location	Protection	
Product Specification	PR.10.1	2 years	[office of Production Manager]	Records are stored in file cabinet [describe name/location]	[job title]
Record of Product/Service Conformance	PR.10.2	2 years	[office of Production Manager]	Records are stored in file cabinet [describe name/location]	[job title]
Quality Plan	PR.10.3	2 years	[office of Production Manager]	Records are stored in file cabinet [describe name/location]	[job title]
Notification to a Customer about Changes on his Property	PR.10.4	2 years	[office of Production Manager]	Records are stored in file cabinet [describe name/location]	[job title]
Record of Traceability	PR.10.5	2 years	[office of Production Manager]	Records are stored in file cabinet [describe name/location]	[job title]
Production/Service Change Review Record	PR.10.6	2 years	[office of Production Manager]	Records are stored in file cabinet [describe name/location]	[job title]
Record of Validation of Product Process and Special Process	PR.10.9	2 years	[office of Production Manager]	Records are stored in file cabinet [describe name/location]	[job title]
Record of Product-Service Configuration	PR.10.10	2 years	[office of Production Manager]	Records are stored in file cabinet [describe name/location]	[job title]

Commented [9100A52]: If the records in this column are in electronic form, write the name of the folder on Production Manager computer.

Commented [9100A53]: Adapt the information in this column to the normal practice in your company.

Commented [9100A51]: Adapt the information in this column to the normal practice in your company.

Commented [9100A54]: This document is unnecessary if organization doesn't store and work with customer property.

[organization name]

Production Plan	PR.10.17	2 years	[office of Production Manager]	Records are stored in file cabinet [describe name/location	[job title]
Production Registry	PR.10.18	2 years	[office of Production Manager]	Records are stored in file cabinet [describe name/location	[job title]

5. Appendices

- Appendix 1 – Product Specification
- Appendix 2 – Record of Product/Service Conformance
- Appendix 3 – Quality Plan
- Appendix 4 – Notification to a Customer about Changes on his Property
- Appendix 5 – Record of Traceability
- Appendix 6 – Production/Service Change Review Record
- Appendix 9 – Record of Validation of Product Process and Special Process
- Appendix 10 – Record of Product-Service Configuration
- Appendix 17 – Production Plan
- Appendix 18 – Production Registry