

## Purpose

This guideline specifies AUMA's minimum requirements towards the suppliers for initial sample (or first article) inspection process. This guideline is valid for the AUMA Group.

## Definition

Initial samples are the products which are completely produced using the resources and under conditions as in the standard series production (equipment, processes, inspections, materials).

## Motives/ Reasons

The following motives or reasons require an initial sample procedure:

AUMA:

- New part
- Change (specification, drawing...)
- New supplier / relocation
- Quality problems

Supplier:

- Modification of production process (process, equipment/ fixture, die/ pattern...)
- Change of production site
- Material change
- Discontinuation
- Change of a sub-supplier

The above mentioned motives must be indicated by the supplier. Generally, the supplier is obliged to notify planned modifications in the above mentioned cases. The notice has to be provided in due time, so that AUMA may evaluate potential impacts and possibly determine the extent of a new sampling.

## Input

The drawings, inspection specifications, purchase specifications, as well as AUMA requirements are decisive for the extent of the sampling.

Initial samples are requested by AUMA by means of an order, stating the delivery date.

The assessment of the initial sampling is performed by AUMA. After inspecting the samples and documents, as well as after cross-checking or further inspections, AUMA will grant the following decision to the supplier:

- **Approval**  
The products/samples supplied fully comply with the specifications.
- **Approval with drawing adaptation requirement**  
The products/samples supplied show deviations. These deviations are accepted by AUMA and will be added on the drawing. A new sampling is not required.
- **Rejected**  
The products/samples supplied show deviations, which cannot be accepted. A new sampling is required.

### Documentation requirements

Unless agreed otherwise for AUMA parts, the supplier shall provide AUMA with the following information during initial sampling:

- Initial sampling test report
- Process flowchart
- Inspection plan/production control plan
- Measuring equipment list
- Material test report

In addition, the following documents shall be supplied for electronic sub-assemblies:

- DFM report
- Micrograph of printed circuit board (PCB)

For cables and cable harnesses

- Micrograph

Requirement	Detailed description
Initial Sample Inspection Report (ISIR/FAIR)	AUMA template shall be used. As an alternative, initial sampling inspection reports complying with VDA requirements may be used.
Details in ISIR/FAIR	Indication of production site, production machine or production line. When sub-suppliers are involved, the process steps and the sub-suppliers have to be indicated.
	Drawing indicating position numbers. Proofs of fulfilling all requirements of: supply specifications, order specifications, parts lists, assembly instructions etc.
	Original measured values of each measured component must be recorded in the test report.
	Indicating the dimensions or characteristics that do not fulfil AUMA requirements.
Test equipment list	Naming the used test equipment or test conditions in the test report for each checked parameter. Test equipment must be capable of in terms of accuracy and reproducibility. Proof of suitability has to be provided on request. As a guideline: The measurement and test uncertainty should not exceed 10% of the minimum allowable tolerance of measurement and test criteria.
	If relevant for the measurement results: Indicating the measuring points on the sample parts or on a sketch with measuring points.
Inspection certificate 3.1 according to EN 10204	Proof of the specified materials (e.g. raw materials, alloys, granulate, confirmation of coatings, etc.)
Process flowchart	Description of the process steps, which are relevant for the production of the part.
Inspection plan	Measured values with tolerances, test equipment, random sampling and production machine or production line.
Initial sample parts	Initial samples must be clearly marked.

## Requirements regarding the scope of inspection

Unless agreed otherwise, the following requirements apply to the scope of inspection:

- For moulds, dies or patterns with several cavities, the total number of cavities has to be mentioned in the initial sample test report and parts from each cavity have to be checked according to the order.
- Dimensions can be specified and agreed between the supplier and AUMA for which, machine capability has to be proved. These defined dimensions have to be measured on at least 50 pieces from each cavity, so that the machine capability index cmk of  $\geq 1.67$  is proven. If the cmk value is not obtained, production has to be ensured and proven by a suitable method.

The initial sample inspection reports (ISIR/FAIR) shall be issued in either German or English. The cover sheet must be signed and the complete report shall be sent via electronic mail. The requested documentation can be included as appendix to ISIR/FAIR or provided as individual documents.