



Guideline Initial Sampling SICK

Purpose of this guideline and of Initial Sampling

This guideline shall facilitate a smooth process during Initial Sampling between supplier and SICK. By Initial Sampling the supplier provides evidence that his products meet SICK quality requirements.

Execution of Initial Sampling and release

Initial Sampling is mandatory for all purchased parts if specified in the order or agreed otherwise. The requirements given in the bill of materials are authoritative. These can be amended by further requirements agreed during Advanced Quality Planning.

Initial Samples will be ordered by SICK with volume and receiving date for new parts or part modifications initiated by SICK (e.g. change of drawing, of delivery specification, of material composition) or after product change notifications initiated by the supplier.

Initial Samples are products fully produced with serial equipment and under serial conditions (facilities, processes, inspections, materials). They shall randomly be taken out of a representative production quantity and be delivered together with the First Article Inspection Report to the delivery address given in the order.

The supplier is responsible for correct execution of the sampling and the correctness of the inspection results. In case deviations are discovered regarding completeness or compliance to SICK requirements, root causes have to be evaluated unsolicited and corrective actions to be implemented.

The sampling will be evaluated by SICK. After inspection of samples and documentation and tentative measurements or further investigations SICK will grant approval, conditional approval or reject approval.

Approval will not discharge the supplier regarding the quality of his products and does not imply an order.

As a basic principle the supplier has the obligation to notify SICK regarding changes for the cases listed below. Notification has to take place in a timely manner to enable SICK to evaluate the potential impact and as may be the case, define the scope of new sampling. The supply of modified parts is allowed only after approval of the change by SICK.

Obligation of notification is given in case of

- Production relocation or new production site concept
- Change of production process
- Introduction of new, modified or replacement tools
- After modification or substantial maintenance of tools
- Before recommissioning after tool defect
- Change of supplied parts or material

The First Article Inspection Report has to be provided in English or German language, the cover sheet to be signed, the complete report to be attached to the sample parts and kept separately from other parts.

Blank cover sheet forms can be downloaded from the SICK web site (www.sick.com → About SICK → Procurement).

Requirements regarding contents of documentation

If part-specifically not agreed otherwise, the supplier shall provide the following information during Initial Sampling:

Requirement	Detailing
FAIR cover sheet	<ul style="list-style-type: none">• According to SICK form sheet or own cover sheet, if content identical
Inspection report	<ul style="list-style-type: none">• Drawings, delivery specifications and bill of material marked with checkmarks; evidences or measurement report with references to sample parts for all requirements and dimensions according to SICK drawings, delivery specifications, inspection specifications and specifications provided in bills of material• Marking of those dimensions or results in the report not complying to SICK requirements• Denotation of inspection or test equipment and test condition in the report per dimension. The test equipment has to be capable regarding accuracy and reproducibility. The evidence of capability is given if the imprecision does not exceed 10% of the smallest acceptable tolerance of the inspection and test criteria.• If relevant for inspection and test results: indication of test/measurement position on sample parts or on sketch.• Evidence of use of raw materials or substances defined in the bill of material (e.g. base material, granulate, certification of plating, etc.)
Process flow diagram/Control Plan	<ul style="list-style-type: none">• Process steps including test steps and list of test/inspection equipment, control plan
Sample parts	<ul style="list-style-type: none">• According to quantity given in the order

Requirements regarding inspection quantity

Unless agreed otherwise, the following requirements are regarded as agreed regarding the inspection quantity:

- For multiple cavity tools sampling and documentation is mandatory for each cavity in the report (at least one part per cavity).
- In case of non-tooling parts a minimum of three parts has to be measured/inspected and marked
- In case of dimensions where machine capability according to SICK drawing is required (see next page), evidence of capability with $cmk/cpk \geq 1,67$ has to be provided on base of 50 parts at least.

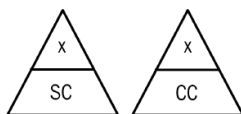
Procedure in case of special characteristics

Special characteristics are product or process characteristics with impact on function, legal requirements, performance, fit, appearance or further processing. These are denoted as Significant or Critical Characteristics by SICK.

Significant Characteristics describe requirements relevant for function or accreditation, which in case of non-conformity could impact the function of the final product, perturbation of the succeeding process of the product accreditation e.g. to legal or official requirements.

Critical Characteristics describe specification items which in case of non-conformity could impact the safety function of the final product

Significant or Critical Characteristics are marked in SICK drawings or documents with the following symbols:

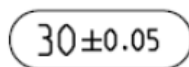


X consecutive number
SC Significant Characteristic
CC Critical Characteristic

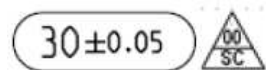
For parts with Critical Characteristics the supplier shall provide a declaration of conformity according to ISO/IEC 17050-1 for each delivery, in which the supplier attests conformity of the products delivered regarding the Critical Characteristics. For products including Critical Characteristics a declaration of conformity has to be provided for each shipment which attests compliance to the Critical Characteristics.

Procedure in case of inspection characteristics

Inspection characteristics are illustrated on drawings or specifications as extended circle:



Ex.: Insp. characteristic without relation to special characteristic



Ex.: Insp. characteristic with relation to special characteristic

In case an inspection characteristic is related to a Significant or Critical Characteristic it has to be monitored, results have to be documented over the whole product lifetime and records archived (e.g. by SPC, manual control chart,...). In Addition short term capability has to be provided during Initial Sampling (requirement $cmk/ppk \geq 1,67$) for quantitative characteristics.

The archiving period for inspection characteristics results related to a Critical Characteristic shall be 30 years.

SICK Bill of Materials

SICK products are defined in orders by bills of materials, revision index and material description. Within the bill of materials documents are included such as drawings, test specifications, delivery/packing specifications or raw materials (granulate alloys, coating specifications, sub components, specific dimension tolerances in case of generic drawings ...).

If not agreed otherwise all requirements from the bill of materials and further applicable documents have to be considered in the sampling process. In case of the requirement to use specific base or raw materials this implies the attestation that these materials or if so, mandatory sub suppliers have been used.

Documents or materials given in the bill of materials may have a different revision index as the index given in the order, the sampling always has to reference to the index of the order.