

Quality assurance agreement

between

ARNOLD UMFORMTECHNIK GmbH & Co. KG
Carl-Arnold-Str. 25
74670 Forchtenberg-Ernsbach

referred to hereinafter as ARNOLD

and

referred to hereinafter as SUPPLIER

Preamble:

Shifts in customer expectations and global competition require constant improvements to all products and processes. One requirement is the **zero error objective** for all deliveries. This can be achieved and safeguarded only as part of cooperation between ARNOLD and its suppliers.

1. Subject matter

1.1. This quality assurance agreement is concluded between the parties as an outline agreement for all supply contracts agreed during the period of validity. The agreement is to safeguard at all times through the following, mutually agreed procedures the **quality** and **consistency** of deliveries and services/products provided by SUPPLIER.

1.2. Applying exclusively to all other concerns are the terms and conditions under the outline purchasing agreements concluded between the parties. When there is no outline purchasing agreement, the purchasing terms and conditions issued by ARNOLD apply to

the **exclusion of all and any sales terms and conditions** issued by SUPPLIER, also when SUPPLIER refers to these in an order confirmation, delivery note, invoice, or other document or communication.

1.3. ARNOLD is obliged to submit to SUPPLIER on its request the purchasing terms and conditions valid at the time of each and every order. ARNOLD informs SUPPLIER of any and all changes to the purchasing terms and conditions.

1.4. This quality assurance agreement and the general conditions under Section 1.2 apply to all deliveries and services SUPPLIER provides to ARNOLD and for the benefit of companies affiliated with ARNOLD.

1.5. The conclusion and implementation hereof does not justify any claims on the part of SUPPLIER to receive orders for products.

1.6. The products must comply with the parts specifications (e.g. data sheets, design drawings) provided by ARNOLD.

1.7. The latest parts specifications submitted to SUPPLIER provide the basis for the manufacture and inspection of the products. Also the latest pertinent standards applying to the product must generally be observed.

1.8. SUPPLIER delivers in advance – from a batch manufactured under series conditions – a quantity of inspected initial samples of the product. This quantity is specified in the order. The provisions under Section 3 apply.

1.9. SUPPLIER must inspect the products for compliance with the parts specifications submitted by ARNOLD. When, in the course of developing, producing, or inspecting a product, SUPPLIER discovers that the parts specifications are incorrect, ambiguous, incomplete, or incompatible with the sample, SUPPLIER informs ARNOLD thereof immediately in writing and proposes remedial measures.

1.10. SUPPLIER safeguards the consistency of its products according to the examined parts specifications.

2. Inspection procedure for initial samples

2.1. Initial samples

Initial samples are parts, assemblies, or other production materials that have been manufactured completely and exclusively with series equipment and under series constraints whose effects on the geometrical, material, and functional attributes are fully identical to subsequent series production. All and any other samples that do not fulfil these requirements (manual, preliminary, special samples) must be declared accordingly and do not fulfil the obligation under Section 2.3.

2.2. Scope

Initial samples are always required in the case of:

- a new product
- a changed product
- corrections to a sampled product
- changes to production methods, processes, facilities
- new subsuppliers
- changes to inspection methods and testing equipment
- relocated production sites (outsourcing)
- relocated production facilities at the site
- production suspended for longer than twelve months
- Requalification
- Changes to purchased parts

In the event of changes to production methods, production conditions, or production sites (own or external), SUPPLIER is obliged to submit to ARNOLD an initial sample inspection report.

2.3. Initial sample inspection

The initial sample inspection applies to the measurements, function, and materials of the initial samples and is conducted under series conditions with respect to all specifications agreed between ARNOLD and SUPPLIER (e.g. drawings, standards, technical delivery terms, etc.). The testing equipment used must allow SUPPLIER to inspect the parts' compliance with the given specifications. This may require the services of external providers. In all cases, the responsibility lies with SUPPLIER. At least ten parts must be subjected to an initial sample inspection. The labels affixed to the inspected parts must allow unambiguous assignment to the measured values.

2.4. Initial sample inspection reports

An initial sample inspection report collates all of the nominal and actual values and consists of sections pertaining to measurements, materials, and, if necessary, functions. In all cases, SUPPLIER must draw up an initial sample inspection report in English that complies with submission stage 2 of the **part submission warrant (PSW)**. In addition, every initial sample report must be submitted with a production steering plan. The initial sample inspection report must list the nominal and actual values of all attributes. Only the affected attributes must be considered following changes to the numerical indexes. In the case of discrepancies, there must be no deliveries without prior consultation with ARNOLD quality management.

The required procedure and documents can be found on our website, under the Purchasing section (for internal consideration: modify webpage and documents).

2.5. Subsequent inspections at ARNOLD

On receiving the initial samples and initial sample inspection reports, ARNOLD conducts additional random inspections at its own discretion that culminate in one of the following decisions:

- approval
- approval on condition (FA)
- rejection, new sample required (AM)

SUPPLIER is notified in writing of the findings returned by subsequent inspections. When the sample is rejected, an initial sample inspection report must again be drawn up for the new delivery, but only on the unverified attributes.

The details entered by SUPPLIER in the initial sample inspection report are decisive for specifications that ARNOLD did not include in its subsequent inspection. In the case of approved samples, the initial sample inspection report provides the basis for the consistency of these products as ensured under the quality assurance agreement. Initial sample inspection reports must not be provided with the products, but sent by post or email to the competent ARNOLD quality assurance office. Samples are always rejected when their initial sample inspection reports have not been submitted. ARNOLD inspects initial samples only in exceptional cases.

2.6. Requalification inspection

According to the production steering plans, all products must be subjected to a full inspection of their measurements and function with consideration to the customer's material and function specifications. The findings must be available for customer ratings. The requalification inspection must be conducted once a year. Products can be collected into product groups. This method must be agreed with ARNOLD Umformtechnik.

2.7. Cost regulation

When subsequent sampling under § 2.1 becomes necessary as a result of failure to comply with the initial parts specifications provided by ARNOLD, costs may be billed following the second subsequent sampling at ARNOLD. Any changes caused by ARNOLD remain unaffected. The initial sample inspection reports must be drawn up free of charge.

3. PPM/PSI target agreement, supplier rating, and escalation

3.1. PPM/PSI target agreement

The overriding objective is the improvement of joint performance. For the operative implementation of this strategic objective, ARNOLD and the supplier agree measurable targets for the quality of deliveries. Rated are the number of bad parts in PPM (parts per million) and the severity of complaints in PSI (problem supplier indicator). Wire suppliers are not rated as a PPM value, but as a factor based on the quantity of returned shipments. The ratings are based on a target agreement between ARNOLD and the supplier that is reconcluded at regular intervals.

3.2. Escalation management

When a sudden drop in quality has been ascertained at the supplier, or when the agreed quality targets are not achieved over the medium term (period under review is six months), these suppliers are included in ARNOLD escalation management. The objective of this method is to implement suitable measures at the supplier so that the delivered products again comply with the ARNOLD requirements.

Depending on the duration and severity of the fault, suppliers are entered on one of three escalation levels depicted on the supplier escalation flow chart.

Controlled shipping 1-3

For the supplier, this means that the customer demands higher inspection requirements for goods as a result of the quality problems the supplier has caused.

These requirements are divided into the following:

Controlled shipping level 1

CSL 1 demands an additional 100% inspection that **the supplier** must conduct on the parts to be delivered. The test bench must be set up separately from production. The test findings must be documented daily. The supplier must agree with ARNOLD on how the parts inspected by the supplier are labelled.

Controlled shipping level 2

CSL 2 demands that this additional 100% inspection is conducted by an independent service provider representing the interests of ARNOLD. The costs incurred are **borne by the supplier**. The service provider must submit a report on the test findings every week to the ARNOLD purchasing department.

Controlled shipping level 3

When all of these activities fail to introduce a clear improvement to quality, the ARNOLD purchasing department sets the supplier's status to New Business Hold, i.e. CSL 3 bars the supplier from new projects.

Supplier rating

Once initial approval has been granted, the suppliers are rated at regular intervals. The following rating criteria may be used:

- quality with the factors PPM, PSI, and incoming goods inspections
- quality and environmental management system
- quality assurance agreement
- deliveries to schedule
- technology

The supplier receives his rating details in writing. The information sheet enclosed with the supplier rating explains the criteria used. A supplier with the general rating C is entered in the escalation programme in accordance with Section 3.2.

4. Archiving periods for documents and records

Quality records must be drawn up at all of the supplier's divisions. These records verify fulfilment of the quality demands and must be submitted on request.

The archiving periods are based on the current VDA Volume 1.

The following minimum requirements must be observed:

- 15 years for legal requirements
- 15 years for standard attributes
- 20 years for critical attributes

5. Duty to report ascertained discrepancies

On detecting discrepancies, the supplier applies for an exception from approval inspections by ARNOLD before delivery. When products that could have been affected by the discrepancy have already been delivered, the supplier informs ARNOLD immediately.

6. Condition on delivery

When no special form of delivery has been agreed, the supplier must package the product in such a manner that it is protected adequately against soiling, moisture, and transport damage. The supplier labels every transport and storage unit as follows:

- batch ID, quantity
- expiration, storage details (when necessary)
- safety and hazardous substance information (when necessary)
- article number, drawing's revision level

The ARNOLD container cycle must be observed.

Any provided packaging and labels must be used.

When subsequent work has been performed, the delivery papers and the packaging units must bear a reference to this work (inspection report number, "reworked").

7. Handling complaints

Complaints of defects are always submitted in writing. Feedback on immediate measures must be returned within 48 hours. The concluding opinion must be submitted together with an explicit 8D report within ten working days. This period may be shorter when necessary. Provisional notifications must be provided on request. ARNOLD must be

notified immediately in writing of exceeded deadlines. Exceeded deadlines are always included in the supplier rating when the supplier fails to notify ARNOLD in time.

The supplier must examine carefully the products causing complaints (analysis of faults/causes). We expect on request that the quality tools used are Ishikawa diagrams and the Five Ws. When necessary, this will be specified in the complaint of defects. The supplier must immediately summarise in an 8D report the findings and the planned corrective measures including their implementation schedule, and forward this report to ARNOLD. It must be verified that the corrective measures have been implemented effectively. The complaint of defects must be concluded after sixty days at the latest.

The required procedure and documents can be found on our website, under the Purchasing section.

8. Environmental protection, safety

The supplier is obliged to observe the laws and other safety and environmental protection requirements in force in the manufacturer's and customer's country.

The legal and the customer's specifications affecting the environmental compatibility of the delivered products must be fulfilled in accordance with our LV15. Following updates, you must examine fulfilment regularly and without prior request. The LV15 can be retrieved from the Purchasing section of our website at www.arnold-umformtechnik.de. The supplier runs an environmental management system complying with DIN ISO 14001. We expect further development for the purpose of certification under this standard.

9. Raw materials / energy efficiency

One essential constituent of environmental protection is the efficient use of resources. The supplier is therefore requested to focus on the sparing use of energy and raw materials when processing his products.

Energy consumption must be included as a rating criterion affecting the decision to buy machinery and plant.

In line with our energy policy, we request suppliers to target the implementation of an energy management system.

10. Additional freight

The supplier must list the additional freight he has paid for, and submit this list on request.

11. Implementing quality management

SUPPLIER runs a quality management system that complies at least with DIN EN ISO 9001. We expect that this quality management system is developed further to comply with ISO TS 16949. SUPPLIER will manufacture and inspect the products at least in accordance with the specifications and regulations under this standard. Any other requirements are defined in the parts specifications. SUPPLIER must verify that these requirements do not conflict with his own quality management system.

The inspection plan contains the definitions of the inspection elements that the supplier himself has specified for documentation. After changes to the product, SUPPLIER submits the updated inspection plan to ARNOLD for authorisation and approval. SUPPLIER must make records of the measured values and test findings that must be documented.

[After prior scheduling coordination with ARNOLD, SUPPLIER shall grant the authorized representative of Arnold and Arnold's customers access to its premises and equipment to check the function of quality management.](#)

When a conducted process audit rates the supplier as C, this supplier is entered in the escalation programme in accordance with Section 3.2.

On request, SUPPLIER will allow ARNOLD to examine all records and will hand over requested samples. SUPPLIER will support ARNOLD in the assessment of records and samples. SUPPLIER runs a labelling system allowing him to identify the contracted objects affected by an identified defect. SUPPLIER will instruct ARNOLD in this labelling system and/or his other measures so that ARNOLD can establish its own findings to the required extent.

When the supplier purchases prior deliveries (input stock, software, services, production or test equipment) from third parties for the manufacture or quality assurance of the contracted objects, SUPPLIER safeguards the quality of these prior deliveries as set down in these agreements, either by his own means or by an equivalent contractual integration of the subsupplier in SUPPLIER's quality management system. New subsuppliers must be agreed with Arnold in advance.

When SUPPLIER experiences technical or organisational quality management problems, ARNOLD may demand special measures over an appropriate period until the corrections planned there take effect. The additional costs incurred as a result must be paid by SUPPLIER when the cause of the experienced quality problems has not been verified to lie with ARNOLD.

12. Responsibility for quality

The supplier is responsible for all measures needed to safeguard the demanded quality, also at subsuppliers that ARNOLD has consented to.

13. Manufacturability rating

On receiving a request, the supplier draws up an extensive manufacturability rating according to the requirements in the modules APQP, VDA Volume 6 Part 1. This must take into account cost minimisation and simplification aspects, the use of resources, and disposal.

14. Quality planning

The supplier draws up a suitable quality plan with consideration to the zero error demand and fault prevention. He uses risk assessment methods like FMEA.

15. Special attributes, process parameters

Important, critical attributes (attributes that must be documented) and parameters are marked separately by us (see the drawing, orders, or delivery specification). In addition, it is the supplier's responsibility to set down other important, critical product attributes and process parameters in the quality plan. The following minimum requirements apply:

ppk \geq 1.67 corresponds to 1 ppm
cpk \geq 1.33 corresponds to 67 ppm
Special demand for D part attributes:
ppk $>$ 2.0; cpk 1.67

When these are not achieved or the process is rated as unstable, the supplier implements suitable measures for fulfilling the minimum requirement. Details can be taken from the applicable VDA standards. It must be verified that the measuring equipment used for the tests is suitable.

16.Traceability

The supplier must ensure the traceability of data at all times following receipt of complaints.

17.Acceptance test certificate

ARNOLD is entitled at all times to demand from the supplier an acceptance test certificate verifying compliance with key properties. These must comply with the requirements under the pertinent DIN EN standards.

18.Information

ARNOLD will inform SUPPLIER in writing and in good time of any changes to the products' requirements. The information flow from ARNOLD to SUPPLIER and from SUPPLIER to ARNOLD is channelled through their respective contacts. Information must be communicated in writing. Information communicated orally must be documented directly in writing and confirmed.

SUPPLIER will inform ARNOLD in writing of any changes to the quality management methods and to materials, production methods, purchased parts, data sheets, and other applicable documents at the latest six months before their introduction. Information must be communicated fully and in good time so that ARNOLD can examine it for its import before the affected change is applied to the products. When ARNOLD does not reply to the above information, this does not exempt SUPPLIER from his general responsibility for his products' consistency and reliability.

SUPPLIER obtains information on the purpose of the products he manufactures for ARNOLD. When SUPPLIER learns of facts that may cast doubt on the products' suitability for their intended purpose, he must inform ARNOLD thereof without delay. ARNOLD will inform SUPPLIER in writing of how safety relevant parts are used. This also applies when products constitute a risk or may exercise other negative effects without exhibiting a defect as defined herein.

When one of the two parties hereto learns that products do not fulfil the requirements set down herein, both parties are obliged to inform the other without delay. Directly after being informed, SUPPLIER will introduce corrective measures for remedying detrimental discrepancies and inform ARNOLD in writing thereof without delay.

19.Confidentiality

The parties hereto are obliged to maintain secrecy with regard to those facts, documents, and findings that concern the parties' operations and that they learn about when implementing this agreement. This applies only when the affected information has been designated confidential or there is an obvious interest in keeping this secret. Some examples are Q planning data like FMEA or process data.

This obligation to maintain secrecy does not exist when the affected fact is verified:

- to be public state of the art, or will become so without the assistance of the party receiving the information, or
- to be known already to the receiving party, or will be announced to a third party authorised to communicate this, or
- to fall under legal provisions or sovereign regulations that demand disclosure.

20. Incoming goods inspection

The inspection of products under Section 11 hereof before they are delivered to ARNOLD serves the purpose of making incoming goods inspections unnecessary at ARNOLD.

On receiving the contracted objects at its own or other designed delivery sites, ARNOLD will solely examine whether they correspond to the ordered quantity and the ordered type and whether there is any external visible transport damage or other external visible defects.

When ARNOLD or its agents discover a defect or damage, ARNOLD will inform SUPPLIER of this defect or fault in the form of a duly sent complaint of defects.

ARNOLD has no obligations other than the above for notification and examination. SUPPLIER will not object on the grounds of belated complaints of defects as set down under § 377 HGB (German commercial code) or according to commercial customs.

21. Insurance

According to the ARNOLD purchasing terms and conditions agreed under § 305 III BGB (German civil code) and Section 1.2 as a provision under this outline agreement, or according to an outline purchasing agreement, SUPPLIER is obliged to take out manufacturer's and product liability insurance against the risks associated with the deliveries for the duration of the business relationship and at least another 24 months following its termination.

SUPPLIER is obliged to extend insurance coverage to €10 million for each case of damage to property and €10 million for each case of harm to persons all over the world. SUPPLIER must insure in addition the recall costs of safety relevant parts to the additional amount of €10 million each.

SUPPLIER is obliged to extend his manufacturer's and product liability insurance to the contractual obligations under this quality assurance agreement and the underlying outline purchasing agreement or, in the absence of such, to the ARNOLD purchasing terms and conditions.

SUPPLIER must inform ARNOLD immediately in writing of changes or risks to the insurance portfolio or the obligations to intervene (specifically formal notices from the insurer under §§ 38, 39 VVG [German insurance contract laws]).

For the purpose of verifying that all obligations under Section 21 have been fulfilled, SUPPLIER is obliged without prior request to draw up written confirmation in the form of a qualified certificate of insurance, extending to the business relation, and to renew this every year thereafter.

22. Life, termination

This agreement comes into force as soon as it is signed. The life is unlimited in time. The agreement can be terminated by both parties hereto six months before the end of the quarter. It applies to all deliveries and services for products that are ordered after this agreement has come into force and whose orders are confirmed before this agreement is terminated.

When an outline purchasing agreement has been concluded between the parties, termination of the one agreement also affects the other. The nonterminated agreement likewise loses its validity after the period of termination applying to the terminated contract.

23. Final provisions

Should one of the provisions herein lose all or part of its validity, this does not affect the validity of the other provisions herein. The parties hereto will replace ineffective provisions with effective provisions that best represent their business interests.

Changes to the contract and/or inspection terms become an integral constituent hereof only after they have been set down in writing by both parties hereto.

The exclusive venue is Heilbronn/Neckar.

Forchtenberg-Ernsbach, date

(ARNOLD UMFORMTECHNIK GmbH & Co. KG)

Place, date

(SUPPLIER's full company name)