

Guidelines on Quality Assurance for Parts Supplied

Quality Assurance Agreement

between

Seilzugwerk Thüringen GmbH
Arnstädter Straße 9
98708 Gehren

hereinafter "SZW"

and

hereinafter "supplier"

	Quality Assurance Agreement (QAA) for suppliers	QMH Kapitel 7	Revision 05
			Datum 30.05.2011
		FBL 07-04.1	

Preface

This Quality Assurance Agreement (QAA) states and regulates all the quality assurance measures which the parties to the agreement have planned for future supplies, the aim being to ensure high quality products.

**Our shared aim is
high quality
at the highest possible cost-effectiveness**

In this context the essentials are a quality management system based on recognised standards together with genuinely cooperative partnership.

This QAA describes the minimum requirements to which the quality management system (QMS) of the partners to the agreement are subject, establishing their rights and duties in respect of the quality of the products to be supplied.

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1. Applicability

This QAA shall apply to all manufacturing materials supplied (raw materials, semi-finished products, raw and finished parts, tools, auxiliary materials and materials used in operation) for use in mass production at SZW and it shall be construed as an element of other contractual agreements between the supplier and SZW.

2. Requirements set on the supplier's quality management system

The supplier company is responsible for the quality of its products. An effective QMS is the sensible way of ensuring quality.

The supplier's QMS shall be compatible with the requirements of DIN EN ISO 9000ff, of VDA 6.1 (VDA: German Association of the Automotive Industry) or of QS 9000. The eventual aim shall be to move over to ISO/TS 16949. The supplier shall be responsible for obtaining and observing the most up-to-date version of these rules.

Where a QMS is being successfully applied, this shall be shown by a valid certificate. SZW shall be notified of any changes occurring.

The demands of the directives and standards are also to be communicated to any subcontractors by the supplier company and it shall find a suitable way of ensuring compliance.

3. Technical Data

The features of the products to be supplied are to be laid down in technical documentation such as drawings and technical Conditions of Supply. This documentation may be created either by the supplier, by SZW or by the ultimate buyer. Reference shall be made to the documents in orders and contracts.

The supplier shall receive a valid drawing from SZW. Notes of technical standards and regulations listed on such a drawing and applicable to the supplier shall be binding on the supplier without any express mention in the order. It shall be the supplier's own responsibility to obtain these standards and regulations and to keep them in an up-to-date version. The supplier shall ensure that any manufacture by both the supplier and any subcontractors is conducted exclusively in accordance with the latest documentation.


No deviation shall be permitted from the technical documentation without the prior written consent of SZW.

4. Tools

If tools financed by and remaining the property of SZW are developed or obtained in order enable products to be manufactured and supplied, an appropriate tool hire agreement shall be made. The tools are to be marked unmistakably with the product and the name of the tool's owner (SZW).

5. Advance Quality Planning (AQP)

So that possible sources of error can be identified early and appropriate preventive measures instituted, there must be an advanced quality plan established at the stage when manufacturing and inspection procedures are being set up for new products or product groups or for product changes. If the supplier is responsible for the design, this will apply as early as the design stage.

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The quality protection plan shall include the planning and creation of:

- **Feasibility study**
- **Specifications and drawings**
- **FMEA**
- **Inspection plans and checklists**
- **Tools / jigs**
- **Gauges**
- **Statistical process control (SPC)**
- **Test of durability**
- **Approval for prototypes**
- **Subcontractors**
- **Packaging**

All documents shall be shown to the SZW employee responsible on request.

To enable work to be carried out effectively and economically, agreement of the relevant activities for the product is crucial between the supplier and SZW. The supplier shall carry out quality assurance measures independently before commencing supply. The supply of goods and services which match the specifications for these items will always be what SZW expects. SZW shall be free of any requirement to carry out more than an inspection of the goods on delivery to check quantities and identification. Any further inspection measures necessary on receipt of the goods which are due to errors in supply shall be charged for by SZW unless otherwise agreed in advance. Any necessary documentation such as acceptance test certificates, manufacturing records and notes on material or coating shall on request be submitted with the goods or supplied separately. The responsibility for the correctness of the documents lies with the supplier. Any inspection certificates under this heading shall be no older than one year.

6. Prototypes and requalification

Any new parts shall be supplied first as a sample with an initial sample inspection report (ISIR) in accordance with VDA 2 "Assuring the Quality of Supply" sample stage 2 (unless otherwise agreed).

Initial samples shall be manufactured entirely with the materials and equipment used for mass production and also under mass-production conditions. It shall be the supplier's responsibility to fulfil all the specifications in accordance with the drawing, the technical Conditions of Supply, standards etc.

If there are individual tests which it is impossible for the supplier company to carry out itself, it shall have the testing done at a suitable testing station. In every case the responsibility shall remain with the supplier.

SZW shall carry out counter-testing at its own discretion to check actual values when the initial sample and fully completed ISIR are presented. The evaluated ISIR shall be returned without delay to the supplier.

If required so to do, the supplier must be in a position to produce initial samples to meet PPAP (Production Part Approval Process) Level 3 and make an entry in the IMDS (International Material Data System).

6.1. Scope of Inspection

The scope of inspection/testing is laid down in the relevant standards.

In addition, the supplier shall ensure the inspection covers the following:

- All measurements and characteristics in the drawing shall be inspected or tested on at least 5 parts. The parts inspected are to be identified by a number. Each characteristic is to be listed in the ISIR with its ideal and actual values. Actual values not lying within the permitted tolerances are to be highlighted.
- Test measurements and function measurements (marked in the drawing with a frame around them) and/or other characteristics specially laid down are to be inspected on at least 60 parts. The statistics for the actual values are to be worked out and shown in a suitable chart. The conventional process capability characteristics apply.

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- If multiple tools are used in the manufacture of the products, each “nest” is to be identified. When the initial sample is being made, a measurements report is to be written and (where requested) process capability is to be demonstrated.

If it is not possible to keep exactly to a significant characteristic, the supplier shall give the reason. In such cases, a suggestion of possible measurements and tolerances should be provided to SZW.

The interim process capability inspection should be based on as many measurements as possible. At least twenty sub-groups (containing three to five items each) are usually necessary to provide enough information for decisions.

For the purpose of determining interim process capability determination, the process is to be stable and should not show trends or unexplained values which lie outside the limits capable of modification.

For mass production, long-term process capability of $C_{pk} > 1.33$ is required and must be monitored and regulated by means of the SPC system.

6.2. Responsibility

The person or place with responsibility for correct execution of all initial sample inspections is the quality officer or department of the supplier. Clearance of the initial samples by SZW does not relieve the supplier company of responsibility for the quality of its products. Such clearance is of a technical nature only and does not represent a supply contract.

6.3. Supply and identification of sample parts

Sample parts (prototypes), initial samples and other mass-produced parts not yet cleared in the quality assurance system shall be clearly marked as such by the supplier. SZW will provide the supplier with a label for this purpose on making the order. The label is to be completed, printed on *orange paper* and attached to the goods so that it is clearly visible. This labelling ensures the goods will be properly handled on receipt at SZW.

Sample parts not marked in this way will be returned and a complaint will result.

The costs of the complaint shall be three times the lump sum set for complaints plus the costs of returning the goods to the supplier.

6.4. Requalification of mass-produced parts

Serial parts shall be requalified at regular intervals, i.e. it shall be shown that all specifications are still being kept to.

The suppliers shall carry out requalification at least every two years independently or on demand from SZW. An ISIR shall be created with details of measurements inspected, relevant process capability evidence and any materials tests requested. This shall be sent to SZW for evaluation.


7. Statistical process control (SPC) and statistical procedures

Statistical procedures must be applied in the following cases:

- qualification of inspection equipment (the capability of any measuring systems and gauges)
- product qualification (inspections for clearance)
- process monitoring in mass production (SPC, quality control charts)
- inline inspection

When statistical procedures are used, the conditions must be laid down in writing:

- observance of relevant standards
- agreements with subcontractors (e.g. concerning institution of SPC)
- significant characteristics and means of inspection laid down in writing
- rules laid down for action to be taken when limits necessitating this are reached

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The supplier shall carry out process capability inspections for all identified characteristics which have an influence in particular on functionality or safety or which constitute a crucial quality criterion.

The inspection procedures shall be based on VDA Vol. 4, Part 1.

Short-term capability is achieved at $C_m / C_{mk} > 1.67$

Long-term capability is achieved at $C_p / C_{pk} > 1.33$

A statement of process capability shall only be permitted if the analysis has proved that the process is under control.

If parts are produced in a process lacking capability ($C_{pk} < 1.33$), 100 % inspection must be carried out without extra charge to SZW.

Proof of statistical process control (control charts, SPC) shall be made available to the SZW quality officer on demand.

8. Documentation

All process parameters which might possibly have a negative effect on product quality and all characteristics which are crucial to functioning shall be monitored and there shall be the appropriate documentation of observance, deviations and remedial action.

Any incomplete documentation in respect of the points 8.1 and 8.2 below may lead to rejection of the goods supplied.

Point 15 below covers the period of time for which drawings and documents shall be retained.

8.1. Before initial sample

If new parts are developed for the design of which SZW is responsible or if already-tested parts are modified, the following documentation shall be approved by SZW before initial sample acceptance of new parts:

- drawings
- technical specifications for the product

It is also necessary for the following documents to be agreed:

- FMEA for the design (this may be evaluated on the supplier's premises)
- process FMEA (to act as basis for inspection plan, evaluation at the supplier's premises)
- inspection plan (the inspection plan must reflect the knowledge obtained from the FMEA)

8.2. Before first supply of mass-produced goods


The following documents shall reach SZW before the first supply of mass-produced new parts or modified products/processes in cases where the design responsibility lies with the customer or, in cases where the design responsibility lies either with SZW or the supplier, before written approval is given:

- materials clearance by SZW
- fully completed ISIR or clearance by SZW/customer
- proof of short-term process capability or machine capability
- where requested, IMDS entry

9. Parts subject to documentation requirement

Parts for which the documentation is subject to a special archiving period shall be marked in the drawing with the symbol "A". Characteristics for which documentation is an obligation shall be marked in the drawing with a bar or triangle.

The supplier shall be under an obligation in respect of such parts to document the quality assurance procedures and the results of quality inspections for every lot and with full traceability. Volume 1 of the VDA booklet "Dokumentationspflichtige Teile bei Automobilherstellern und deren Zulieferanten" ("Parts requiring documentation by automotive manufacturers and their suppliers") shall be applied. The

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documentation shall be retained for at least 15 years and must be traceable and available at all times and in its complete form.

10. Modifications

Information shall be provided in due time and to a full extent concerning modifications which may have an effect on the processes of manufacture (manufacturing procedures, order of process stages, inspections, place of production), so that their potential consequences can be examined by SZW or its customer and if necessary objected to. The period of notice for modifications shall not be less than six weeks before delivery deadline.

If there are changes to manufacturing processes and the place of production, it shall be obligatory to carry out a new initial sample process.

Responsibility for the quality of the product remains with the supplier even after modifications have been approved.

11. Deviations, complaints

If there is disruption to the process or quality deviations occur, any faulty items shall be rejected and marked as such. The causes shall be analysed, improvements instituted and their effect checked. Products not in line with the specifications shall not be delivered to SZW. In certain exceptional cases for good reason SZW may give short-term or small-quantity approval to the deviant product as long as there is no impairment of function. This exceptional approval shall be obtained in writing by the supplier from SZW before the products are supplied.

If a delivery is nonetheless made in which defects exist, SZW shall pass on to the supplier all costs arising therefrom, including any consequential costs incurred by third parties.

When a QDR (Quality Assurance Discrepancy Report) is issued, a standard inspection report charge of 30.00 € will be raised to cover the costs incurred by SZW in issuing it. If the QDR proves to be unjustified, the standard charge shall be reimbursed.

A QDR shall be issued in every case of non-observance of a specification. It provides all the crucial details which are the basis for a complaint. Thereupon the supplier shall be responsible for any further action. However, the quality assurance department in SZW shall coordinate on the matter. It shall be up to the supplier to protect the manufacturing process in SZW from faults in the supplier's product and to find remedies.

12. Evaluation of product quality/supplier evaluation

Every delivery arriving at the goods inward section of SZW shall be subjected to an examination of its identification and, as far as possible, of quantity delivered, also inspected for any obvious damage, such as transport damage.

Further inspections may be carried out in the form of random testing.

The criteria against which inspections will take place shall be:

- inspection plan
- acceptance test certificate 3.1 in accordance with DIN EN 10204, delivered with goods
- evidence of quality (documentation accompanying goods)

Any defects and damage identified in the inspection and any defects which do not become visible until later, i.e. during use or processing of the goods, shall be notified immediately to the supplier.

With every delivery, an analysis shall be carried out of the supplier's quality capability. The supplier shall receive a communication about every matter of concern and shall respond to this. If a QDR is issued, the expectation shall be – unless otherwise stated – a written statement of the supplier's position in the form of an 8D report.

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All goods supplied, complaints etc. shall be taken into account for the supplier evaluation. These evaluations shall be carried out every three months under normal circumstances and the result shall be communicated to the supplier.

13. Pollution avoidance

The supplier is responsible for all materials and substances which are used in the product. The legal requirements and environmental protection rules are to be observed.

The supplier shall be under an obligation to issue or to deliver with the goods a safety data sheet in accordance with §14 of the GefStoffV (German law on hazardous substances), 91/55/EEC (European Directive) or TRGS 220 (German technical rules on hazardous substances), concerning all hazardous materials and substances listed in §§4-4b, §14 Section.1 of the GefStoffV, where such is applicable.

Where necessary, evidence shall be given that directive 2002/95/EG (RoHS) and EU Regulation No. 1907/2006 (REACH) have been observed in their latest revisions.

Any entries in the IMDS which are required shall be asked for separately by SZW.

Products and manufacturing procedures shall always reflect the current state of the art.

The business partners shall strive constantly for the avoidance and reduction of environmental pollution. They shall guarantee proper disposal of waste, particularly of hazardous substances. The same shall apply to liquid waste and gaseous emissions.

14. Packaging

SZW shall, jointly with its suppliers, meet the waste disposal targets of legislation on the environment (such as packaging regulations) with attention to the following features:

- **Avoidance:** limitation of volume and weight to what is necessary (protection of resources, reduction of road and other transport).
- **Reduction:** Employment of reusable packaging.
- **Materials recycling:** Use of environmentally friendly, recyclable materials for all types of packaging.

The packaging shall be planned specifically for the part with regard to logistics, quality assurance, avoidance of pollution/waste and economic factors and shall be agreed with SZW.

The supplier shall be under an obligation to receive back his packaging materials in accordance with legal requirements, particularly if the above-mentioned features have not been taken into account.


15. Audit of quality by SZW

Where necessary, an evaluation of the quality management system shall be carried out on the supplier's premises by officers of SZW. In the evaluation associated with this SZW expects that the supplier shall meet at least the B level ("satisfactory in general") given in the SZW audit score system (VDA Volume 6, Questionnaire/Evaluation of Results)

It shall be on the basis of the audit results that the decision is made whether a business relationship is to be recommended. If weaknesses are found which fail to meet the requirements of recognised standards, the remedial action required and date for this shall be recorded in the audit report. The defects identified in the audit shall be noted in an action plan to remedy the weaknesses and shall be remedied within a stated period.

As long as there is no drop in quality of goods supplied, audits shall be planned for two-yearly intervals where a business relationship exists. Fluctuations in product quality may lead to shortening of the interval. Suppliers unable to show that they have a certified QMS shall be audited annually.

The quality officers of SZW shall agree to keep confidential for the supplier all information and knowledge obtained during audits.

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16. Keep-on-file dates for documents and records relevant to quality

The supplier shall establish the period for which documents and records relevant to quality assurance are to be archived. The following minimum requirements set by SZW shall be observed:

- documents and records for features subject to documentation requirement – 15 years
- documentation of development and initial sample – 15 years from cessation of mass production
- records of special inspections – 15 years
- records of QA performance (QA control charts, inspection results, ppm listings, etc.) – 3 years
- records of process and production clearance, materials inspection reports, purchase agreements, any additions thereto etc. – 1 year from cessation of production for serial and spare parts purposes
- records relating to QMS evaluations, internal audits, etc. – 3 years

The above periods all commence on the date the document is produced. These provisions are in no case a replacement for statutory provisions.

17. Code of conduct and ethical principles

The following principles set out the ethical code of conduct, which the Seilzugwerk has adopted. They constitute the basis of all business relationships within and beyond Germany.

It is the intention of SZW to take its share in this way of social, economic and environmental responsibility and SZW expects its suppliers to keep to these principles, too.

They include:

1. Corruption prohibited

No form of corruption or venality will be tolerated. Personal influence or commitments shall not be exerted or evoked. Insofar as it is a customary form of courtesy to make gifts in certain nations, no dependence shall be generated thereby. National laws shall be observed and obeyed in this matter.

2. Observance of laws

Maximum working hours shall be observed as laid down in current labour legislation.

3. Payment of fair wages and salaries

Wages and salaries shall reflect currently valid legal provisions and the contracts establishing the individuals' rights. All employees shall have the right to fair and complete payment for their work.

4. Forced labour, corporal punishment and child labour prohibited

The exercise of direct or indirect force shall be prohibited. Employees shall not be intimidated or forced to work. This shall include a prohibition of verbal or psychological abuse or physical violence and of coercion or harassment (also sexual assault or harassment).

SZW will not accept the employment of children and young people younger than 15 years and expects of its suppliers that they will also not tolerate child labour.

5. Prohibition of discrimination

There shall be equal treatment of all employees independently of their gender, skin colour, age, race, religion, political opinion, physical or mental disability, ethnic, national or social origin, sexual orientation or other personal characteristics.

6. Safe and healthy working conditions

All business partners shall take measures to avoid damage to health and accidents. Employees shall be trained at regular intervals on the subject of health and safety at work.

18. Associated applicable documents

- Terms and Conditions of Business, Seilzugwerk
- Supplier Evaluation Form
- All standards and regulations named in this QAA
- VDA booklets
- Customer requirements, product requirements
- The German civil code (BGB)
- German product liability law
- Other legal provisions

all in their most up-to-date version.

19. Notes, remarks, special agreements

Seilzugwerk Thüringen GmbH

Supplier

Purchasing:

Name, Date, Signature

QA:

Name, Date, Signature

.....

Date, Stamp, Name, Signature

Name of supplier:

Ref. no. of supplier: