Quality guidelines for suppliers

Content

QUALITY GUIDELINES FOR SUPPLIERS

The Supplier Quality Guideline is published in German and English. In case of doubt, the German version always applies.

A. INTRODUCTION

1. Objective

Suppliers of R&P Umformtechnik GmbH & Co. KG (R&P) are forming an integral part of our chain of processes. An important element of our company strategy is our high quality demand. Special attention is paid, in this context, to the unconditional fulfillment of the customers' expectations as well as to the consistent pursuit of the zero-defect objective, coupled with a flawless quality of supplies. The resulting demands made on the suppliers' quality management system serve as a basis for cooperation provide the basic technical and organizational conditions and processes between R&P and our suppliers

R&P requests due to the demands of the ISO/TS 19949 standard the certification of its supplier's quality management system according to at least ISO 9001. Furthermore, R&P expects the development in the direction of ISO/TS 16949. The realization of zero-defect strategy, that means continuous improvement of product quality in direction to 0 ppm (ppm = parts per million), is a prerequisite from our suppliers.

These quality guidelines serve, in addition to the terms of purchasing, as a clarification of the supplier relationship, in which the product requirements, the requirements of the services and the supplier transaction are generally defined. Furthermore, this should enable smooth transaction and avoid misunderstandings and responsibility discussions. Specific requirements about production and/or inspection and test processes, if required, are defined in separate quality agreements.

The supplier shall bind his sub-suppliers to the compliance with the duties assumed by him as a result of the present contract. The supplier shall bear full responsibility for securing the quality of sub-suppliers. When selecting sub-suppliers the supplier shall have to ensure the sub-supplier's quality potential.

2. Area of responsibility

The „Supplier Quality Guidelines" shall apply to all procurement processes for manufacturing operating supplies and auxiliaries, input material, raw, semi-finished and finished material (e.g. merchandize) as well as services for R&P being closely associated with manufacturing processes. They shall supplement the current purchasing conditions and form part of each sales agreement respectively involved as well as of any type of order.

Any parts and substances purchased and used for the subject matter of the contract in the supplier's production process shall have to comply with any legal provisions respectively valid in the country of production and the country of performance of the contract.

The supplier's negotiating partners shall be R&P-purchase for all contractual agreements. Any contacts with further technical departments shall be coordinated by the purchase department.

B. CONTENT AND EXTENT OF DUTIES

1. Review of inquiry rsp. order documents

External parts and services are defined, with the accompanying drawings or other further specifications in the inquiry/order. Should conflicting inquiry/order requests or requirements which are not economical to realize be ordered, the supplier is obliged to immediately inform R&P purchasing. Alteration of, or deviation from the order data is not permissible without previous written approval from R&P.

2. Development support and advanced quality planning

To enable a rational and qualitative highgrade production of the externally purchased parts and services, we expect a constant interchange of information or the required technical support from our suppliers, especially in the development phase. For preventing potential defects and for continuous improvement purposes suitable advance quality planning methods shall have to be implemented. Content and extent will depend on on the complexity of the product/process and/or customers' specifications.

3. Production part approval process (PPAP)

The supplier will be notified of the requirement of a PPAP procedure. Usually this is only required before the start of series orders, but not for individual orders.

The PPAP-process serves as the assurance of the quality of procedures before the start of series orders. The aim is to determine whether the in drawings and specifications agreed quality requirements were correctly understood and the supplier is in the position to execute processes and manufacture products which fulfill these requirements during a production cycle under series conditions.

There is an obligation for the conduction of the PPAP-procedure in the following cases:

- before the series production of a new part,
- on modification of a part and revisions of the drawing (mostly limited to initial sampling),
- before series manufacturing when a change of material occurs,
- Before series manufacturing when tooling and procedure modification occurs,
- after re-location of production under usage of new machines, tooling and operating material,
- with parts on which production has been discontinued for, as a rule, a period longer than one year,
- in agreement with R&P when a change of sub-contractor is required,
- after a halt of deliveries due to serious problems of quality.

The intensity of the procedure will be given depending on the complexity of the product/process, or can also proceed according to customer specifications. The PPAP-process includes the following aspects:

- Initial samples as a minimum requirement
- Producibility assessment
- Process flowchart
- FMEA-Scheme
- Production control plan
- Machine/process capacity index
- Packaging planning

1. Initial samples as a minimum requirement in the PPAP procedure

Initial sampling is always to be conducted as a minimum requirement in the production part approval process. This will be conducted independently by the supplier with the necessary documentation.

Principally, a supply agreement (on production material) shall only be concluded with suppliers having achieved the status of “Approval without restrictions”. The costs for tooling or models will be only reimbursed after complete and unrestricted production part approval process.

1.1. Conditions of initial sample

Initial samples must be produced under conditions of series production, which means with the tooling and materials on the machines/system which are effectively in use for series production.

Unless otherwise stated in the order, it is appropriate for the supplier to choose the amount of the initial sample. The supplier is liable for the costs of surplus supplies. Payment ensues only with the initial sample inspection result: *Release without conditions.* For samples involved in project-related small-scale production (e.g. single-piece production, small quantities, etc.), the supplier shall attempt to perform initial sampling operations within the framework of a run-at-rate production flow.

Every supplier is obliged to carry out the complete test of the initial sample according to design conformity. These obligations apply also, if models, devices and tools provided by R&P. For the check on design specifications, copies of the drawing are available from R&P. All design characteristics are equipped with position-numbers, which the respective positions in the test result sheet of the initial sample inspection report correspond to.

The results of the tests are to be given in the form of an initial sample VDA inspection report with the delivery of the initial sample. Initial sample forms can, if required, be requested from R&P. Confirmation of the materials used is to be given in the form of a test report 2.2, for security relevant parts at least test report 3.1 or according to standard EN 10204.

With parts produced for the automobile industry the supplier is also obliged to verify the material content of the part or its surface in compliance with European (EU)-scrap car guidelines (2000/53/EG) in form of the VDA-material data sheet. These forms, including explanations, may also be requested from R&P if required**.** If the supplier has access to the IMDS (International Material Database System) of the automobile industry, the data must be entered directly and therefore the material data sheet is unnecessary. R&P is to be informed on completion of this.

If second or further sampling inspections are necessary, the supplier need merely make note of the modified values in the initial sample inspection report**,** but there must be a reference to the preceding initial sample inspection report.

1.2. Delivery of initial sample

The delivery note and the packing must be clearly marked 'INITIAL SAMPLE'. With the initial sample, the following documents are to be enclosed: R&P drawings with marked characteristics, initial sample inspection report (front page and measuring result sheet, material information sheet), test report 2.2/3.1 for material confirmation, process capability studies, etc. If no or only incomplete documents are enclosed with the initial sample, and not subsequently supplied despite a reminder from the R&P quality assurance or purchasing department allowing adequate time for submission, we reserve the right to return the goods.

The release of conforming initial samples from our quality assurance department will be granted by means of initial sample inspection report. The approval is a pre-requisite for the start of the series production. An adequate re-sampling inspection is required on occurrence of nonconformity of the actual-value target (initial sample rejection or release with conditions).

2. Additional PPAP-requirements

The PPAP-process is often enhanced by the following aspects:

- Producibility assessment
- Process flowchart
- FMEA-Scheme
- Production control plan
- Machine/process capacity index

Content and extent depend on the complexity of the process/product or to customer specifications.

2.1. Producibility assessment

Producibility assessments must provide evidence that a product can be manufactured under series conditions in accordance with the drawing and the specification. The tolerances stated shall, in particular, have to be observed from statistical points of view as well as the product function and stresses. A statement shall also be made as to whether the supplier's capacity makes it possible to supply the quantities planned, whether the time schedule can be adhered to, and whether the packaging selected can make it possible to safeguard the product quality during transit and storage.

2.2. Process flowchart

The supplier undertakes herewith to set up a process diagram in the form of a graphical description of the overall manufacturing process in which all working sequences, automatic enquiries and testing areas are marked and secured by pointing to potential problems in the FMEA and the inspection plan. Material markings and the material flow shall be designed in such a way that the processing of wrong materials or products is precluded.

2.3. FMEA-Scheme

Any supplier is obliged to to a systematic performance of FMEAs for products, so that defects in products and processes can be identified and prevented at an early stage. Any product features and process parameters, especially special features defined and agreed upon, being critically identified by system FMEAs, have to be entered and highlighted in the inspection plan as essential features by the supplier.

2.4. Production control plan

Instructions for product and production process control operations, especially for special (critical and significant) features, must be specified in the production control plan as well as implemented and updated on a permanent basis. A production control plan shall have to be implemented by the supplier throughout the service lifetime of a product, and be maintained at state-of-the-art level, depending on the current requirements respectively involved, during the phase of both pre-series and series production.

2.5. Machine/process capacity index

For production process and product approval, the machine capacity index and/or process capacity index shall have to be indicated for any characteristics agreed upon. For testing characteristics the process capability has to be determined and documented. Following minimum values have to be achieved:

- Short-time process capability (machine capability): Cmk > 1,67
- Interim process capability: Ppk > 1,67

These special features shall be determined in the advance quality planning process for the function of the product and the quality of the processes. Tightened values apply for the series.

2. Delivery of goods

2.1. Delivery notes

Only deliveries with completed delivery notes and if required with corresponding inspection certificates are accepted by R&P. The delivery notes must at least contain the following information:

- delivery note number
- R&P – identification: identification number, modification index, designation
- order number
- amount
- weight
- packing information (i.e number of packing units, type of packing)

2.2. Packaging

The packaging concept shall have to be agreed upon with R&P. Suitable packing materials preventing any damage to the products and complying with current safety and environmental protection regulations shall have to be used.

Finished products shall have to be delivered in clean condition permitting further processing operations on the part of R&P without any additional actions / retouching work. The same applies to packaging equipment, especially circulating containers (e.g. skeleton containers, small plastic containers, etc.). R&P also reserves the right to make further demands for certain articles.

2.3. Identification of the goods and of the part

For the identification of products delivered by the supplier, a tag according to **VDA 4902 version 4** is to be attached to each container (transport box). The attachment is to ensue in a form that the tag, in the case of multiple consignments or combined delivering of several packing drums, must always be on the same, visible place.

Where stipulated in a drawing or specification, the identification mark of the manufacturer is to be on the part/ product (embossed or recessed, adhesive label, …).

2.4. Identification of deviations from design and/or change of product specification

With deviations from the design or specifications, a written deviation permit must be acquired from R&P/QS

In order to prevent a mix up with the previous product release the supplier is obligated to identify (the first three deliveries including) the change with proper identification. In such cases, each loading carrier has to be additionally identified by a change-triangle label and such changes have to be coordinated with R&P logistics.

3. Inspection testing and documentation

An inspection concept shall have to be formulated by the supplier on his own responsibility, so as to translate the objectives and specifications agreed upon into practice. Evidence shall have to be given in terms of processibility for functional, special and critical characteristics throughout the time of production by means of appropriate processes (e.g. statistical process regulation, or manual control-card technology). Unless otherwise agreed upon, the following characteristic capability values shall apply:

Pre-series: Ppk ≥1.67
Series: Cpk ≥1.33

These special features shall be determined in the advance quality planning rsp. PPAP process for the function of the product and the quality of the processes. Special characteristics shall have to be marked as such in drawings, specifications, or standards, or agreed upon in separate attachments.

Should the processibility demanded fail to be achieved and/or a random-sampling result reveal any faulty products, the quality shall have to be secured on the basis of appropriate testing methods. The production process shall have to be optimized accordingly, so as to achieve the capability required. The rigorousness of the tests shall have to be intensified as a result (full 10% inspection, if necessary). The reasons shall have to be analyzed, remedial actions initiated without delay and their efficiency checked accordingly. Explicit problem-solving techniques, liable to be reconstructed by R&P, shall be implemented. A report, based on 8D systematics, shall apply as a minimum requirement.

The supplier therefore equips itself with such test equipment that all characteristics can be tested according to previously given specifications. The performance capability of test and measuring equipment must be demonstrably proven in regular preplanned periods and if necessary, be corrected (test equipment monitoring).

Any inspection results and records (i.e, manufacturing batch inspection certificates,…), particularly for safety relevant parts, are to be filed and if requested to be submitted to R&P. It must be seen to it that acceptance test certificates can be called off within one working day. Safety relevant parts are distinguished with A in a triangle and circle or DmbA-print on the drawing or the specification. These records are to be safely deposited for a minimum of **15** years.

4. Seamless tracebility of delivered products

Seamless traceability shall have to be ensured by the supplier with regard to the products supplied all along the chain of processes, input material included, within the framework of the basic cause analysis, especially for restricting stocks affected by defects and deficiencies as well as those being in circulation and transit. Where stipulated in a drawing or specification, the identification mark of the manufacturer and all other necessary information is to be on the part.

5. Delivery Standard and protection of the supply

The suppliers are generally expected to absolutely maintain delivery standards concerning the delivery amount and date of delivery. Any difficulties within the supply chain and measures taken have to be immediately reported to R&P (purchase department). The supplier's management shall have to take part actively.

Furthermore, the supplier must assure R&P of the agreed upon supply through adequate emergency planning, e.g. through alternative production-plants, through safetystocks of materials, through preventive maintenance.

6. Complaints and complaints processing

R&P shall restrict its incoming-goods inspection to ascertaining the compliance of quantities and the identity of the contractual products on the basis of the data mentioned in the delivery note as well as to the identification of any obvious damage sustained by the packaging in transit. This receiving inspection is reduced for suppliers whose history of product quality is positive (with eventual possible abandoning of tests). The supplier waives, in this respect, the defence of delayed complaint (§ 377 of the German Commercial Code).

Any deficiencies observed in a delivery shall be notified immediately by R&P to the supplier in an appropriate course of business. Any defective parts shall be placed at the supplier's disposal on request.

The supplier is to recommend disputed and returned goods to inspect and to notify R&P of the actual amount of the 'not in order' products. Otherwise this would have an invalid effect on the ppm statistics.

As far as our supplier identifies at a later stage any deviations, R&P shall have to be informed immediately about.

If R&P makes a complaint (with test report) on a delivery, the complaint must be answered with the use of 8D-report by the supplier within **5** working days and include the following information: source of mistake; immediately initiated and implemented actions; effective corrective actions with statement of the date of effectiveness.

With the first delivery of effectively corrected products, it must be stated in the delivery note: *"Mistake according to test report (TR No. and date of effectiveness) effectively remedied."*

The cost entailed by the treatment of complaints shall be charged by R&P to the supplier with up to € 150 per job. Furthermore, R&P reserves the right to have all costs and expenses incurred in or incident to the sorting, inspection, replacement, repair, store, disposal and/or reshipment of defective products passed on to the supplier.

Particularly, in serious cases (e.g. failures sustained by R&P clients on the spot), R&P reserves the right to apply unrestrictedly special status rankings to the supplier (e.g. supplier ban for new line of business, controlled shipping, etc.) in accordance with the principle of causation.

The Controlled Shipping Level 1 (CS-1) status obligates the supplier to implement an additional inspection, checking and sorting process, together with a detailed trouble-shooting analysis. Prerequisites for CS-1 Status: recurring defects with safety-related risks in terms of installation and integration, function, etc.; inappropriate process and product check for preventing non-corformity; quality-related incidents on the spot (guarantee, customer satisfaction); stoppage of production at R&P, or at the final customer's premises. The Controlled Shipping Level 2 (CS-2) process includes current measures assuming the form of process and/or product audits shall be examined in terms of efficiency by R&P or a third party appointed by R&P. Any expenses incurred by R&P in this context shall be charged to the supplier.

7. Products provided by R&P

Any products and packagings provided by R&P shall have to be checked in terms of quantity, identity and visually discernable damage. Any faulty and/or damaged supplies shall have to be notified to R&P in writing within 24 hours. The consumption of delivery items provided shall have to be indicated in the shipping documents relating to the delivery involved.

8. Product requalification test

A product requalification test has to be carried out by the supplier periodically. Should such a requalification test reveal any deviation from the approved status, the results shall have to be notified to R&P together with the current process capacity values. The results shall have to be recorded on the basis of the currently valid documents included in the initial sample test report.

9. Tools and production appliances

Tools and production appliances shall have to be maintained in a state of product manufacture complying with relevant specifications on the basis of an appropriate maintenance scheme. Should production equipment be placed at the supplier's disposal by R&P, it shall have to be integrated by the supplier into his own production equipment monitoring and/or maintenance system.

The supplier undertakes to continue to provide R&P with the products ordered for production of spare parts for the customer of R&P after series deliveries have been suspended. Unless otherwise stipulated by R&P, such compulsory supplies shall remain valid for a period of 15 calendar years from the date of notification by R&P that series production has been discontinued.

10. Other duties

10.1. Secrecy

The contractual parties undertake to treat any in-house information confidentially. A separate secrecy-agreement may also be concluded between the contracting parties, if necessary.

10.2. Qualification of staff

The supplier's staff shall have to be qualified for performing their respective tasks so as to achieve a flawless product quality. This also applies to temporary staff. A training program shall have to be set up for this purpose.

10.3. Patent protection

Should an invention arise from a joint development for which patent or industrial property rights may be applied for, R&P has to be informed accordingly and without delay. R&P shall then be granted sole patent / industry property rights.

10.4. Compliance with laws and regulations, e.g. REACH declaration

Supplier represents and warrants that in the manufacturing of goods and/or performing of services it will obey any and all applicable laws and regulations, in particular but not limited to such laws and regulations relative to machine safety, chemical and hazardous substances law, environmental protection, work place safety.

Supplier acknowledges that any non-compliance with such laws and regulations, in particular any violation of restrictions of use of substances will result in a defect of the good delivered or insufficiency of the service performed and that Supplier shall indemnify and hold harmless R&P from and against any claims, expenses, costs and damage incurred in connection with such non-compliance

C. GENERAL INFORMATION

1. Supplier audit and assessment of supplier

R&P shall be entitled to establish by means of an audit whether the supplier's quality-securing measures are in line with customer requirements. The audit may be performed as a system, process or product audit and must be agreed upon in due course, prior to the time of implementation planned. The supplier may also be audited through R&P customers, in the presence of R&P.

R&P shall assess the performance of its suppliers at regular intervals on the basis of a process-oriented valuation system. The following achievements shall be evaluated in this context:

- quality management system certificate according to at least ISO 9001:2000
- achievement of the ppm-targets (product quality)
- quality consisting of the part criterion goods inwards inspection, audit result, complaint
- price consisting of the part criterion price level and price pattern
- supply consisting of part criterion maintenance of supply schedule, supply amount and packaging regulations

Additionally, the observance of these quality guidelines and possible existing quality agreements, unscheduled transportation, complaint processing and development support will be monitored.

2. Terms of purchase

The terms of purchase valid on the date of order shall apply to all procurement processes in accordance with the area of application involved.

The supplier shall recognize these terms to be binding on acceptance of the order. Any regulations diverging from these terms shall be binding on R&P only if they have been acknowledged by R&P in writing.

3. Warranty and product liability

The regulations governing warranty and product liability are specified in the terms of purchase. Any warranty agreements exceeding the scope of the said terms of purchase may also be concluded by R&P.

The supplier has to ensure that his products are strictly in line with the quality requirements mentioned in the product specifications. He shall provide this guarantee at least for the period of time legally applicable in the recipient country. Such a period of time cannot be reduced by means of contractual agreements. The supplier undertakes to take out a product liability insurance within the framework of his risk management.

Confirmation

Supplier Quality Guideline

Please complete, sign and return the form to the purchase rsp. quality department at R&P Umformtechnik GmbH & Co. KG, Harkortstr.5,59469 Ense-Höingen zurück.

We herewith confirm that we have duly received and acknowledged the present „Supplier Quality Guideline“, which is applicable to all procurement processes of R&P Umformtechnik GmbH & Co. KG and its affiliated companies. We undertake to implement and meet all the requirements contained therein as quickly as possible.

Company ……..

Address ……..

……..

Date ……..

Signature of the supplier ……..

Management (Printed letters)

……..

Sales (Printed letters)