



COMPLETING
GREAT
TECHNOLOGY.

Quality Assurance Agreement

between

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- hereinafter referred to as „client“ -

and

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Quality Assurance Agreement

Table of contents

Preamble (description of the purpose)

1 General agreements

- 1.1 Scope, purpose of the Agreement
- 1.2 Quality management system of the suppliers
- 1.3 Quality management system of the sub-suppliers
- 1.4 Audit (on supplier's premises)
- 1.5 Documentation, information

2 Agreements for product development

- 2.1 Development, planning
- 2.2 Serial production, traceability, identification, notice of defect
- 2.3 Tests, complaints, measures

3 Requalification

4 Escalation procedure for suppliers

5 Product liability, product security

6 Confidentiality

7 Code of ethics

8 Conflict minerals

9 Term of Agreement

10 Change history



Quality Assurance Agreement

Preamble (description of the purpose)

This Quality Assurance Agreement is the contractual commitment of technical and organizational framework and processes between client and supplier, which are essential for the achievement of the target quality goals.

It describes the minimum requirement for the management system of the contract parties in view of the quality assurance.

In this Quality Assurance Agreement the special requirements of the production processes and the product-release procedure are defined.

1. General agreements

1.1 Scope, subject of this Agreement

a.) This Agreement regulates the quality requirements for all the products, which were generated or delivered during their period of validity, especially for the contract partner– *these include:*

- *Turned parts*
- *Plastic parts*
- *Stamping and flexible parts, deep-drawn parts*
- *Die Casting Parts*
- *Springs*
- *Mechanical assemblies*
- *Norm parts, screws, pencils, etc.*
- *Sockets and sliding bearings*
- *Electric and mechatronic components, cables, plugs, MAG-MATE, switches, boards, etc.*
- *O-rings, rubber parts*
- *Copper wire*
- *Sealing compound, resin, hardener*
- *Software development*
- *Semi finished goods*
- *Surface finishing (for example coating, hardening)*
- *Tools*
- *Magnets*
- *Testing equipment*
- *Auxiliary materials, operating materials*

Contractors for product developments as well as external service enterprises for transports and storage must correspond to the made demands or specifications in each specific order.



Quality Assurance Agreement

- b.) This arrangement is valid as a supplement to the development conditions of the customer and is a component of the supply agreements.
- c.) Single clauses of this arrangement are not valid, as far as they are contradictory to priority contracts, e.g., to developing contracts or purchase agreements.
- d.) These arrangements as well as changes and supplements demand the written form.

1.2 Quality management system of the suppliers

a.) The supplier commits himself to the permanent use of a quality management system after the German Institute for Standardization DIN ISO 9001:2015. This is a minimum requirement. The quality management has to be developed toward IATF 16949:2016. Until implementation of IATF 16949:2016 the MAQMSR have to be fulfilled as minimum requirements.

The supplier bears the exclusive responsibility for the quality of his delivered products. The supplier undertakes to check the quality of the products made by him before delivery so that the customer doesn't have to apply an additional receiving inspection. The receiving inspection by the customer limits itself exclusively to externally recognizable damage in transport and packaging damages as well as to the compliance of amount and identity.

The check of the identity results from the delivery papers. Ascertained defects are immediately indicated to the supplier. The guarantee claims of the client remain untouched through this.

b.) The supplier is obliged to the zero-defect-aim and must optimize his achievements continuously to that effect. If the supplier cannot guarantee a zero-defect-delivery, annual ppm aims are fixed. If no separate ppm aims are agreed, a defect rate of <100 ppm is valid.

If the ppm aim is not reached, a package of measures is to be submitted by the supplier. An escalation procedure according point 4 is established, if necessary.

c.) If the customer provides means of production and examination to the supplier, these must be included in the supplier's quality management system just like his own production and test mediums, in case that nothing else was agreed upon.

1.3 Quality management system of the sub-suppliers

a.) The supplier will oblige his sub-suppliers in writing to comply with the assumed duties in this contract.

b.) The customer can require documented proofs from the supplier assuring that the latter has seen for himself the effectiveness of the quality management system with his sub-suppliers and/or has guaranteed the quality of additional purchased parts by other suitable measures.



Quality Assurance Agreement

1.4 Audit (on supplier's premises)

a.) The customer and his principal are entitled to find out by an audit whether the quality assurance measures of the supplier guarantee the fulfillment of the customer

demands. The audit can be carried out as a system audit, process audit or product audit and is to be agreed upon on time before planned realization. Besides, audits of admitted certification companies are to be considered. Adequate restrictions of the supplier will be accepted in order to protect his company secret.

b.) If quality problems appear which are caused by achievements and/or deliveries of sub-suppliers, the supplier is obliged to allow an audit with the affected sub-supplier.

1.5 Documentation, information

a.) The duty for the safekeeping of the default and proof documents amounts 15 years (VDA volume 1 "proof guidance"). By request, the supplier has to grant the examination into these documents to the customer. Paragraph 1.4 is valid.

b.) If arrangements (e.g., about quality features, appointments, delivery volume, etc.) cannot be kept, the supplier is obliged to inform the customer immediately about that. In order to find a fast solution the supplier is obliged to the disclosure of the data and facts.

c.) If the supplier notices an increase of the difference of the actual to the target state of the products (quality deterioration), he will immediately inform the customer about that and about planned remedial measures.

d.) Before changing a manufacturing method, materials or sub-suppliers for the products, a dislocation of manufacturing locations, changes of procedure or facilities to the examination of the products or of other quality assurance measures the supplier will inform the customer on time so that this can check whether these changes can disadvantageously affect.

e.) For customized advance materials and performance only admitted sub-suppliers may be considered with the procurement. For the change of such sub-suppliers an approval is to be solicited by the customer.

f.) All changes in the product and relevant to the product in the process chain, are to be documented in a product curriculum vitae and have to be treated according to VDA volume 2 "security of the quality of deliveries". The life cycle of products is to be shown to the customer by request.

g.) In the following cases, the supplier commits to inform MSG in written form:

- A customer complains about the supplier's management system
- A certificate of the supplier is withdrawn
- Special customer status (new business on hold for example)



Quality Assurance Agreement

2. Arrangements to the product curriculum vitae

2.1 Development, planning

a.) If the order to the supplier includes developing duties, the requirement specification of the contracting partners has to be in written form for example as a target specification. The supplier obligates himself already in the planning phase of products, in operations and other trans-sectoral duties to apply project management and to grant examination into the project documentation to the customer by request.

b.) All the technical documents necessary for the support of the standard development like specifications, drawings, parts lists, CAD data must be checked on receipt by the supplier on completeness and consistency. If it is recognizable that the claims agreed upon in the technical documents contain faulty, unclear or incomplete descriptions of the product, these are to be indicated to the customer unsolicited in an adequate form. The same is valid, if product requirements can be substituted with more suitable, more economic and more effective procedures.

c.) For the development stage the contracting partners agree to apply suitable preventive methods of the quality planning.

The experiences (process expiries, process data, ability studies etc.) from similar intentions are to be considered. Features with special demands for the documentation and archiving are to be fixed.

d.) For prototypes and pre-standard parts the production and testing terms are to be aligned and documented between customer and supplier. Aim is to produce the parts under production-oriented conditions.

e.) For the known – regulated or agreed – function-relevant features the supplier must carry out analyses of the suitability of the used production facility and document it. If agreed ability values are not achieved, the supplier must either optimize his facilities and processes accordingly or carry out adequate checks in the manufactured products to prevent defective deliveries.

f.) Before starting serial production and within serial production the supplier has to carry out the process and product release according the guidelines of VDA Band 2 (PPF) or QS 9000 (PPAP). The same approach is valid for:

1. Product changes
2. Tool changes
3. New production of tools
4. Process changes
5. Material changes
6. Drawing changes
7. Production shifting
8. Changes of testing method



Quality Assurance Agreement

- 9. Changes of the manufacturing location
- 10. Shifting of manufacturing facilities in the location
- 11. Engagement of sub-suppliers
- 12. Change of sub-suppliers
- 13. Interruption of the manufacturing ≥ 1 year

If the customer demands a construction release, this has to predate the production process and product release.

g.) The guidelines of the VDA, Band 2, level 2 or PPAP level 3 are valid for initial samples. An initial sample test report has to be provided after presentation step 2 (cover, test results, patterns, released drawing, process flowchart, material proof, confirmation for the observance of the legal regulations regarding environment, security and recycling, IMDS etc.). As far as no other agreement is made, five parts and in case of tools with several cavities, three parts per nest have to be checked each time and documented in the initial sample test report.

The first samples must customer-specific applied to guidelines of VDA Band 2 Level 2 or PPAP Level 3. If no other arrangement is agreed, 5 parts and for multiple cavity tools 3 parts per nest have to be tested and documented in the first sample report.

For standard parts and catalog parts an initial sampling report according VDA Band 2 Level 0 or PPAP Level 0 is necessary.

Initial samples are basically to be made according to the work flow in the serial production and with the machines, tools and facilities used in serial production. Besides, checks are to be carried out in manufacturing and final control with the test facilities and teachings provided for the serial production.

For defined test features the process capabilities are to be determined and documented (see volume VDA 4 "ring book"). The investigation methods and capability indexes should be agreed between MSG and supplier. If no other agreements are made, the following values have to be complied with:

Investigation kind	ability
<i>Short-term process ability</i>	$Cm_K \geq 1,67$
<i>Temporary process ability</i>	$Pp_K \geq 1,67$
<i>Long time process ability</i>	$Cp_K \geq 1,33$

A release as a standard supplier can occur only after a positively judged initial sample test report and the release of the product through the customer.

h.) The customer has to check the product before the beginning of the serial production in the necessary extent and give the release – if necessary taking into consideration the conditions - to the supplier.



Quality Assurance Agreement

i.) Within the process of production and product release the machine ability index and/or the process ability index is to be given for characteristics agreed upon. For function-relevant criteria the supplier will carry out a detailed short-term process capability analysis and document. With non-achievement of a Cmk value of at least 1.67 either machine optimization or 100 % examinations are planned under economic points of view.

Within the serial production process abilities of $C_{pk} \geq 1.33$ are proved in the long term for function-relevant characteristics by means of suitable procedures (e.g., SPC or manual control card technique). For non-relevant characteristics Cpk values of ≥ 1.33 are established as an aim. For the used measuring means the suitable attributive / variable measuring means abilities are to be proved.

If these values are not reached, the supplier must secure his deliveries with suitable test methods and optimize the production process (P-FMEA) by making a supreme effort to reach the required process abilities.

The supplier is responsible for the inquiry and the proper definition of the function-relevant characteristics and perhaps the adequate optimization of the production facilities or the appropriate test methods.

j.) For the subject matter of the contract all the purchase parts and materials used in the production of the supplier have to correspond with the valid legal regulations, e.g., concerning environment protection, electrical system, electromagnetism and security which are valid in the producer and distribution country.

In addition, all materials and material groups according to VDA 232-101 "list of materials subject to registration" have to be mentioned in the initial sample test report as far as they exist in the products or can be released. Furthermore the supplier is obliged to put all materials and material groups into the IMDS data bank.

k.) The supplier must comply with dates of delivery to 100%. The customer delivers planning information and shopping obligations within the scope of his possibilities, so that the supplier can fulfill these demands.

l.) All deliveries are to be marked in such a way that is appreciative for the customer, it concerns, e.g., pre-standard parts, changed parts etc.



Quality Assurance Agreement

2.2 Serial production, retraceability, identification, notice of defect

a.) By process disturbances and quality divergences the causes have to be analyzed, improvement measures have to be initiated and their effectiveness must be checked. If specification-appropriate products are not to be delivered in the exceptional case, a special approval of the customer needs to be obtained before. Also the customer has to be informed immediately about divergences recognized afterwards.

b.) The supplier undertakes to guarantee the retraceability of the products delivered by him according to his risk evaluation. In case of an ascertained mistake a retraceability must be possible in a way that a containment of the amounts of damaged parts / products can be carried out. The customer will inform the supplier about the data required for the retraceability.

c.) Basically the supplier must carry out a labeling of overpack and individual packagings. Therefore, the following least information is required: Customer article number with change index, article name, filling amount / quantity unit, supplier's name, material number of the supplier, load number, optional production date, dispatch date or expiry date. Additional information by changes in signal color, e.g., "Attention! Change".

d.) With deliveries ex work the supplier is obliged to guarantee the quality until the destination. According to this demand the forwarding agencies are to be included in the quality management system of the supplier. Means of transportation and packaging must have been coordinated with the customer. The packaging must protect the product against damages and reductions in quality (e.g., soiling, corrosion, chemical reaction). Every smallest packaging unity is to be marked according to point 2.2 c.

2.3. Inspections, complaint, remedial actions

a.) The supplier shall be entirely responsible for formulating an inspection concept or at least however, the examination characteristics displayed on the MSG drawings, to fulfill the agreed aims and specifications. Both parties to this Agreement are committed to the zero defect strategy.

b.) With the running series the supplier has to prove process capability during the entire production time for all function-relevant features by means of appropriate procedures (e.g., statistical process regulation or manual control card technique).

c.) If the required process capability is not reached, the quality has to be proven by adequate examination methods; the production process has to be optimized to be able to reach the required ability.



Quality Assurance Agreement

d.) The client checks the products received by the suppliers after their delivery for compliance with amount and identity as well as for externally recognizable damages (receiving inspection). For the rest, the client is excluded from the investigation and rebuke duty (§377; 378 HGB).

e.) Defects in a delivery have to be indicated by the client immediately, as soon as they were ascertained within the circumstances of a proper course of business. In case of a defect rebuke (test report) the customer is entitled to charge 150 euro against the supplier for the complaint processing.

f.) The client makes dropped out parts available to the supplier for analysis.

g.) In the case of bad delivery, the supplier has to take actions to minimize the damage and to prevent the cause of error in the future. (replacement delivery, sorting-, reworking measures) For all additional costs caused by bad deliveries the supplier agrees to indemnify MSG and hold it free and harmless. The supplier has to send an immediate measures plan within 24 hours (3) after the problem becomes known. Within 10 days after the problem becomes known the supplier is obliged to send a 5D-report according VDA to MSG, describing cause of error and error elimination measures. Within 15 days after the problem becomes known or additionally with ending of complaint the supplier has to send a 8D-report.

3. Requalification test

The supplier submits all products at least once a year if not agreed otherwise, according to the production guidance plan an entire size and functional test taking into account the customer default to be applied for material and function according to the requirements IATF 16949:2016.

On inquiry, MSG is to be granted examination into the test documentation.



Quality Assurance Agreement

4. Supplier escalation process

Reasons for starting a supplier's escalation procedure:
repeated quality and logistic problems, deviations from targets, complaints, delays in delivery and result of supplier assessment C (B).

Aim of this procedure is, to implement appropriate actions at the supplier's side, that the delivered products and materials meet the agreed requirements again.

Depending on the duration and severity of the problems, the classification is done into one of three escalation levels.

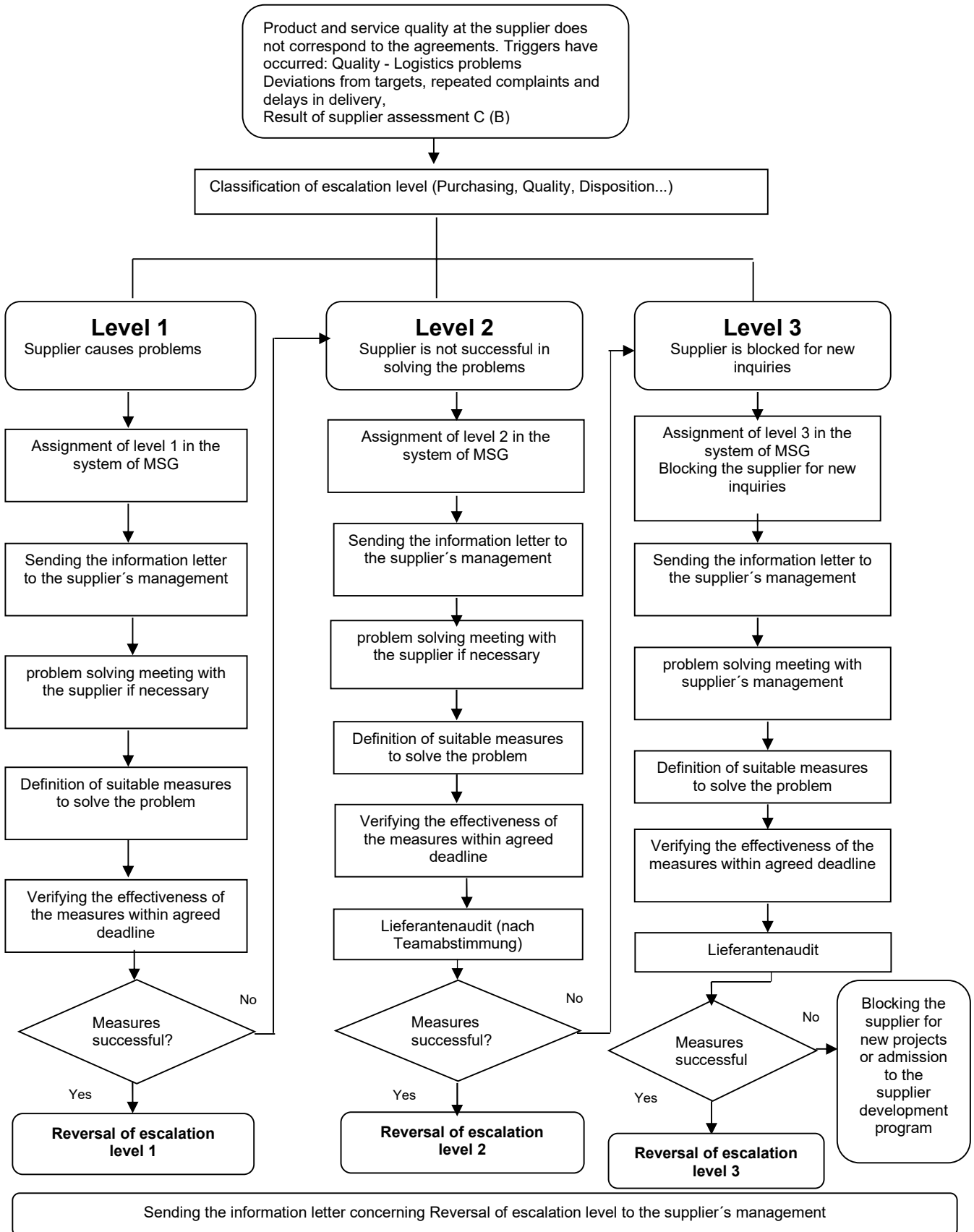
Basically, each level is carried out as follows:

- Classification of escalation level
- Sending the information letter to the supplier's management
- Analysis of the cause of escalation/problem
- Definition of suitable measures to solve the problem
- Implementation of the action- or measures plan
- Verifying the effectiveness within agreed deadline
- Depending on the effectiveness either escalation to next level or de-escalation takes place



Quality Assurance Agreement

Escalation process flow





Quality Assurance Agreement

5. Product liability, product security

a.) The supplier will not be relieved of its liability for any warrant or damage claims which the client might make because of defective deliveries by the fact that quality targets and measures have been agreed and intervention limits formulated (disruptions, statistical ppm targets).

b.) The supplier is obliged to contract a company comprehensive general liability insurance with a cover of 10 million Euro. This is to be maintained during the duration of this Arrangement. The client is entitled to verify this insurance policy.

c.) In order to minimize the risks of product liability, the supplier guarantees that

- Within the entire company an utter quality consciousness exists
- During the development of components, the required product security is given
- The product security is taken into special consideration in the process of quality planning.
- The quality capability of the production processes can be guaranteed and proven
- The likability of the appearance of deficient products will be minimized through appropriate serial-accompanying quality assurance measures.
- The timely discovering of deficient products in the production process will be guaranteed through adequate measures (minimization of costs/ waste of value added)
- Quality data and lawfully required verification management is documented accurately in order to be able to prove that the production has been carried out in accordance with the laws and security standards.
- A retracing system for material is employed so that the effects of occurred errors can be limited if necessary.
- An extended information and coaching on the topic “product security and product liability” of the responsible staff is guaranteed.
- If the client is engaged on account of liability dependent on a third party, the supplier advocates the client in the same respect as he would towards the third, however, only to the extent which corresponds to his internal compensation duty according to the product liability law (PLL).
- that an on-site product safety representative (PSB) has been appointed for each stage in the supply chain. The name of PSB as well as personal changes referring to PSB have to be communicated to MSG in written form.

6. Confidentiality

a.) Every partner will use all documents and knowledge which he receives in connection with this Agreement only for the purpose of this Agreement and keeps secret with the same care as with his own documents and knowledge towards third parties if the other partner calls them confidential or has an evident interest in its secrecy. This obligation begins from first-time receipt of the documents or knowledge and ends 36 months after end of the Agreement.



Quality Assurance Agreement

b.) The obligation is not valid for documents and knowledge which is known in general or was already known to the partner at the time of receipt, without him being obliged to secrecy, or which were transmitted afterwards by a third party entitled to transfer data.

7. Code of ethics

When selecting our suppliers and assessing new and existing supply relationships, in addition to economic criteria, environmental protection, compliance with human rights, labour and social standards as well as anti-discrimination and anti-corruption regulations are also relevant to us.

Equal fundamental understanding and compliance with the principles are prerequisites for working with our business partners.

8. Conflict minerals

The term "conflict minerals" refers to the minerals columbit tantalite (tantalum), cassiterite (tin), gold and wolframite (tungsten) as well as their derivatives, which are also mined in the Democratic Republic of Congo (DRC) or neighbouring states.

MSG has a rule for the avoidance of "conflict minerals".

The supplier is obliged to ensure that "conflict minerals" in products sold to MSG do not directly or indirectly finance or favour armed groups committing serious violations of human rights in the Democratic Republic of the Congo (DRC) or neighbouring states (see also section 1502 of the Dodd-Frank Wall Street Reform and Consumer Protection Act on the use of conflict minerals).

As part of the due diligence process, the supplier will regularly review its global supply chain with concerning the use of "conflict minerals" with the aim of creating the necessary transparency in the supply chain. Relevant measures must be documented, e.g. using the EICC/GeSI report template for conflict minerals (available at <http://www.responsiblemineralsinitiative.org/>). The documentation shall be made available to MSG on request.



Quality Assurance Agreement

9. Term of Agreement

This Quality Assurance Agreement shall enter into force upon signature by both parties. If there is a difference in time at the time of signing, the later date shall be deemed to be the date of entry into force. The agreement is valid for the duration of the business relationship.

Wies,
City, date

.....
MSG Mechatronic Systems GmbH

.....
City, date

.....
Supplier (legally binding signature)

10. Change history

Revision	Date	Discription	Editor	Checked	Approved
05	13.04.2016	Integration PSB item 5. New: change history. Change in item 2.3g, 2.1, 2.1f	Mrs. Golob	Mrs. Kurzmann	Mr. Gasser
06	04.11.2016	Point 2.1 f – initial sample report for standard parts and catalog parts	Mrs. Golob	Mrs. Kurzmann	Mr. Gasser
07	08.01.2018	Adjustment for IATF 16949:2016 points 1.1, 1.2, 1.5g, 4, 7, 8	Mrs. Golob	Mrs. Kurzmann	Mr. Gasser
08	26.03.2018	Adjustment points, 4, 7	Mrs. Golob	Mrs. Kurzmann	Mr. Gasser
09	10.07.2019	Added Point 8. "Conflict minerals"	Mrs. Kurzmann	Mrs Golob	Mr. Gasser
10	18.06.2020	Added point 1.1. "semi finished goods"	Mrs. Kurzmann	Mr. Fürpass	Mr. Gasser
11	20.08.2020	Added point 1.1. " Surface finishing (for example coating, hardening)"	Mrs. Kurzmann	Mr. Fürpass	Mr. Gasser
12	23.03.2021	Added points 1.1.a	Mrs. Kurzmann	Mr. Fürpass	Mr. Lampl