

## Supplier Manual

### 1. General

#### 1.1 Business Policy

The BH SENS-Group, as a supplier for the automotive industry, is exposed to competition with its locations worldwide.

This is why Huf Baolong Electronics Bretten GmbH („**BH SENS**“) is well as the other entities of the BH SENS-Group relies on quality-conscious and reliable suppliers as partners who support us in the consistent pursuit of a ZERO defect strategy, as well as 100 % delivery reliability with maximum commitment and maximum flexibility. So that we can continue to meet or even exceed the high expectations of our customers in the future.

For us, fairness, sustainability and a cooperative partnership are important values in a business relationship, which we also expect from our suppliers. Our suppliers should go beyond the basic requirements such as quality, reliability and compliance with the requirements and regulations mentioned below, for environmentally friendly and sustainable technologies towards our society and environment. Furthermore, we are committed to the secure handling of data and information in accordance with the protection goals of confidentiality, integrity and availability.

Similarly, we require a continuous improvement strategy from our suppliers so that potential problems are identified and eliminated at an early stage.

The rights and obligations of this Supplier Manual apply to all members of the BH SENS-Group, regardless of whether BH SENS-Group or Huf Baolong is mentioned.

##### 1.1.1 Compliance

Compliance with legal regulations and ethical standards is an absolute must for the BH SENS Group. We have summarised our concrete ideas in a Code of Conduct for Suppliers, which can be viewed on our website. We expect our suppliers to commit themselves to similar regulations and to demand corresponding obligations from their sub-suppliers.

In addition, we expect our suppliers to comply with specific legal requirements, such as the handling of conflict raw materials, regardless of whether or not they are directly affected by such legislation. Depending on the significance of these requirements, we reserve the right to mark them as special characteristics within the meaning of chapter 3.3.



### 1.1.2 Corporate Responsibility and Sustainability

We are aware that our company bears responsibility for its impact on society. As part of our corporate responsibility (CR), we integrate not only economic but also ecological and social concerns into our corporate management and activities as well as into our interactions with our stakeholders. In this context, sustainable action is the basis of all further considerations and the foundation for the implementation of CR.

We also expect an analogous understanding from our suppliers. We would like to emphasise at this point that the degree of compliance with sustainability requirements can be relevant for the awarding of a contract.

We will observe regulations on the disclosure of social and ecological information and on their reporting, and we expect our suppliers to do the same.

### 1.2 Scope of Application

This guideline applies to all suppliers of production materials or services on these materials, as well as suppliers that have an indirect influence on product quality and the satisfaction of BH SENS customers. This also applies to suppliers within the BH SENS Group. This guideline is not a limitation of other BH SENS regulations. It also does not replace the requirements of the currently valid version of DIN EN ISO 9001, QS 9000, VDA volumes, EAQF, AVSQ, IATF 16949 and other customer standards, but is a customer-specific requirement in the sense of the aforementioned standards.

In addition to the specifications in this manual, further specifications on detailed processes are stored in specific regulations.

Deviations from the guidelines in this manual are only possible in exceptional cases and must be approved in advance by BH SENS.

This manual as well as further documents and information can also be found in our partner portal.

## 2. Supplier Management

In principle, the responsibilities for supplier management lie with the relevant purchasing department of the BH SENS-Group.

BH SENS strives to have a mutually agreed contractual basis with the supplier within the framework of a partnership relationship.

Thus, a confidentiality agreement is concluded at the very beginning of the business relationship.

In the further course, corresponding supplier contracts are negotiated, which include, among other things, regulations on development and work results, warranty and liability as well as indirect deliveries, quality assurance topics and equipment regulations. These can be supplemented or extended by project-specific agreements.

In this context, we would like to point out that powers of attorney at BH SENS only apply to



the respective functional area. Agreements with suppliers therefore only become legally binding when signed by the relevant functional area.

Supplier management includes in particular:

1. Feasibility/capacity check

By submitting an offer, the supplier confirms that he has checked the capacity and feasibility.

2. Orders/delivery plans which are not issued by the purchasing department or scheduling department require the written approval of BH SENS's purchasing department to become effective.

3. delivery schedules of BH SENS shall be binding unless the supplier objects in writing within five (5) calendar days.

4. Within the scope of feasibility, BH SENS may demand that the supplier makes changes to the delivery item in terms of design, execution, quantity and deadline. In this context, the effects, in particular of the additional or reduced costs, shall be settled by mutual agreement.

5. BH SENS has the right to adjust dates and quantities to its actual requirements at any time.

6. If a contracting party ceases to make payments or if insolvency proceedings are instituted over its assets or judicial or extrajudicial composition proceedings are applied for, the other party to the contract shall be entitled to withdraw from the part of the contract not with draw from the contract for the unfulfilled part.

7. The stated delivery dates are arrival dates at BH SENS.

## 2.1 Supplier Release

### 2. 1.1 Supplier Release - Requirement for the QM System

To be included in the supplier list, suppliers must go through the following process.

1. The supplier provides BH SENS with a self-assessment including required verification documents (e.g. certificates) based on the BH SENS questionnaire.

2. A confidentiality agreement is signed by both contractual parties.

3. The submitted documents are checked by BH SENS.

4. Contracts submitted by BH SENS are to be checked and signed.

5. If necessary, a potential analysis is carried out by BH SENS, depending on the result of the self-disclosure as well as the importance and complexity of the product portfolio.

6. BH SENS decides on the release of the supplier on the basis of the self-assessment, the contractual situation, the economic stability of the supplier, known risks and, if applicable,



the potential analysis.

The corporate language in the BH SENS-Group is English. International projects in particular are documented in English. Therefore, we expect our suppliers to be proficient in written and spoken English in all communicative areas such as sales, quality, development and logistics.

### **2.1.2 QM System Supplier for direct materials or services performed thereon**

The supplier shall maintain a quality management system certified by an accredited certification body in accordance with IATF 16949. He shall maintain and further develop this system according to the state of the art and in accordance with the requirements of the automotive industry. If the supplier cannot provide evidence of a certificate in accordance with IATF 16949, he must at least have a certificate in accordance with DIN EN ISO 9001. In this case, BH SENS reserves the right to carry out an additional audit in accordance with VDA 6.3 or other customer-specific regulations to ensure that automotive-specific requirements are met, with the aim of achieving an A rating. The costs for this higher qualification through BH SENS audits are negotiated with the supplier. Existing audit results from other automotive manufacturers and/or Tier1 suppliers can be taken into account. Through these audits, BH SENS verifies that the supplier can ensure compliance with the requirements of IATF16949 within a manageable timeframe.

Certificates are only valid for a limited period of time (usually 3 years). The supplier must send BH SENS new and extended certificates without being asked to do so. The revocation or change of a certificate must be reported immediately. Missing certificates lead to a loss of release at BH SENS in the medium term and immediate blocking for new orders.

The supplier is committed to the zero-defect target and must continuously optimise its services to this end. "Zero defects" means: no incidents (complaints) and no defective parts. When developing and implementing measures for the continuous improvement of processes, the following aspects must be taken into account:

- Increasing the process capability by reducing the variance
- Increasing productivity
- Centring of the processes
- Reduction of the inspection frequency
- Avoidance of rework and rejects
- Analysis of complaints

### **2.1.3 QM System Sub-Supplier**

The supplier undertakes to define a management for his sub-suppliers in his QM system and to commit them accordingly. This applies to the sub-suppliers of all products analogously to the specifications for suppliers. The minimum requirement for sub-suppliers should be a QM system in accordance with the currently valid version of



DIN EN ISO 9001.

BH SENS may demand documented evidence from the supplier that the supplier has satisfied himself of the effectiveness of the quality management system at its sub-suppliers. Likewise, BH SENS may require the supplier to provide written audit and other quality evidence from its sub-suppliers.

## **2.2 BH SENS Tools, Production and Testing Equipment**

If BH SENS provides the supplier with tools and testing equipment, these must be included by the supplier in its quality management system as if they were its own resources, unless otherwise agreed.

## **2.3 Product Safety Representative**

The supplier must nominate a product safety representative and name him to BH SENS upon request. Similarly, the supplier must request the appointment of a product safety representative in its supply chain.

## **2.4 Supplier Portfolio**

In the supplier portfolio, BH SENS Purchasing determines for each material group which released suppliers BH SENS wishes to work with in future business. Important criteria here are the supplier's performance in terms of development, production, purchasing, its international orientation, its economic stability and its ongoing performance. Special attention is paid to unique selling propositions that represent a particular value for BH SENS.

## **2.5 Audits at the Supplier's and Sub-supplier's premises**

BH SENS will conduct system, process and product audits at the supplier's premises on a case-by-case basis, subject to prior notice. The supplier undertakes to implement the measures defined and agreed upon in the course of an audit. BH SENS reserves the right to check the implementation.

Furthermore, BH SENS reserves the right to audit the supplier's sub-supplier together with the supplier after scheduling an audit, especially in the case of quality slumps caused by the sub-supplier.

In special cases, e.g. due to a customer complaint, these audits can also take place with the participation of our customer.

In these cases, however, the supplier is not released from his responsibility towards BH SENS and the sub-supplier. It is the responsibility of the supplier to determine the necessary quality assurance measures with its sub-supplier and to monitor their effectiveness. If requested, BH SENS will provide the supplier with technical support.

Reasonable restrictions of the supplier to safeguard its trade secrets are accepted.



## 2.6 Award of Contract

In order to prepare the awarding of the contract, the purchasing department usually conducts an enquiry. BH SENS expects its suppliers to provide confirmation of manufacturability, proposals for price optimisation and measures to increase robustness when submitting an offer. Likewise, the supplier will point out possible risks from the supply chain to BH SENS in advance, submitting potential improvements.

The long-term availability of components and assemblies, especially electronic components and assemblies, must be checked in advance by the supplier. Unless otherwise specified, the following periods can be assumed: 7 years of series use + 15 years of spare parts supply.

The supplier must take into account the specifications from the Logistics Manual of the BH SENS Group (CLM 001). After receipt of the corresponding offers (incl. confirmation of manufacturability) and any clarifications and negotiations, the purchasing department shall decide on the award of contract. The following criteria will be given priority:

- The offer must be competitive and meet the requirements.
- The supplier must be released and part of the supplier portfolio.
- The supplier must not be classified as a "new business hold" in the supplier monitoring.

The degree of fulfilment of sustainability requirements may also play a role in the award of the contract.

The supplier shall provide BH SENS with the respective production location for its own production as well as for subcontractors, if applicable, after receipt of the order.

## 2.7 Supplier Monitoring

The performance of suppliers is monitored by the purchasing department and evaluated and documented on a monthly basis. The following criteria are monitored:

- Logistics (e.g. delivery reliability, special transports, etc.)
- Quality (e.g. delivery quality, number of complaints, complaint handling).

The individual criteria result in a traffic light rating (green, yellow, red) and signal satisfaction with the supplier.

The results of the evaluation are communicated to the supplier on request and in case of deviating performance. They are also the basis for required supplier development activities.

## 2.8 Escalation Procedure

Within the framework of supplier monitoring, BH SENS has established an escalation



procedure, so that different reactions can be taken in relation to the supplier performance and the significance of an incident for BH SENS or the customer.

The escalation levels are structured as follows:

**Level 0**

Normal performance

**Level 1**

Warning, further escalation imminent if no improvement occurs.

**Level 2**

Deviation requires a process audit or other measures.

**Level 3**

Supplier development, signs of failure of the supplier's QM system, (e.g. defects over several products, repeat defects...)

**Level 4**

Top Management Meeting, serious errors, severe disruption in cooperation, involvement of supplier's management required.

**Level 5**

New Business Hold, the supplier is blocked from all new orders from the BH SENS-Group.

Levels 0-3 are site-related performance indicators. Escalation levels 4 and 5 have a group-wide effect.

## 2.9 Supplier Development

BH SENS's performance is highly dependent on the performance of its suppliers. BH SENS therefore expects improvements on the part of its suppliers and supports corresponding measures and programmes. In individual cases, BH SENS also initiates such activities itself after recognising and identifying potential for improvement. This applies in particular to suppliers who have attracted attention in the monthly evaluation. BH SENS will initiate the following process.

1. the goals for the following supplier development process are agreed between BH SENS and the supplier.
2. All activities required to achieve the objectives are jointly defined in an action plan. The definition of measurement criteria enables the monitoring of the achievement of objectives.
3. The supplier is responsible for implementing the agreed measures and regularly informs BH SENS about the degree of implementation based on the measurement criteria.

The process is completed when the targets have been achieved and this has been confirmed by BH SENS.

## 3. Product and Manufacturing Process development



### 3.1 Project Management

BH SENS follows the approach of involving suppliers as early as possible in new projects and requires its suppliers to apply structured project management on their own responsibility in the planning phase of products, processes and other cross-divisional tasks. Upon request, BH SENS shall be granted access to the project schedule.

The supplier and BH SENS shall each appoint a project manager; the contractual partner shall be informed of any change of person.

If the customer requires BH SENS to use certain advance quality planning tools (such as forms, programmes and systems), these shall also be used by the suppliers upon request by BH SENS.

### 3.2 Specifications

As in the bidding phase, BH SENS must provide the supplier with complete product and other specifications in good time, especially when or after the contract is awarded. On the other hand, it is the supplier's responsibility to immediately check all specifications received for completeness and consistency and to notify BH SENS of any defects identified.

If no objection is made, the specifications are deemed to have been accepted by the supplier.

The transmission of specifications is primarily carried out electronically in compliance with our security guidelines.

### 3.3 Special Features

Special characteristics require special attention, as deviations in these characteristics may have a particularly adverse effect on product safety, service life, assembly capability, function or the quality of subsequent manufacturing or assembly processes or may even constitute a violation of legal regulations.

BH SENS determines these characteristics and/or they result from the supplier's risk analysis. The supplier is expressly obliged to actively participate in the selection and determination of the special and, if applicable, safety-relevant features. The special features are to be marked in all relevant product and process documents such as e.g. drawing, FMEA, risk analyses, work, inspection and production control plans.

The representation of the special features in the drawings is described in BH SENS-standards:

- Characteristics with special verification (characteristics requiring documentation): see BH SENS-standard HN 613 "Marking of drawings requiring documentation".
- Features important for function and process: see BH SENS-standard HN 615 "Marking of inspection, capability and SPC features".

For all special features marked in the drawings, a complete record of the required process





capabilities and tests etc. as well as the delivery documents is necessary.

### 3.4 APQP Process or optionally comparable Processes

Placing orders with suppliers and the subsequent product and manufacturing process development at the supplier are usually part of an extensive project at BH SENS and a BH SENS customer. Due to the many interdependencies, it is extremely important for BH SENS and its project management to have an overview of all important steps on the supplier's side and to take corrective action if necessary.

For this purpose, BH SENS uses the APQP, the VDA Maturity Level Assurance or comparable.

In addition, he shall set important key dates and a reporting frequency in line with the project schedule.

The supplier must regularly check the corresponding criteria and submit a status report.

In addition, BH SENS expects to be informed immediately in writing in the event of any problems or deadline postponements occurring in the meantime.

BH SENS will check the supplier's information for plausibility to ensure compliance with BH SENS requirements. If necessary, we will initiate appropriate measures such as process audits for this purpose.

### 3.5 Logistics

The supplier shall ensure that the products are maintained in accordance with the specification during internal processing until delivery at the destination. The requirements regarding labelling, handling, packaging, storage and protection shall also be taken into account.

The supplier shall also plan suitable means of transport to avoid damage during the manufacturing process until the transfer of risk.

In any case, the logistics manual of the BH SENS-Group (Corporate Logistics Manual, available on our website) shall apply, unless expressly agreed otherwise.

#### 3.5.1 Emergency Planning

For processes in which disruptions may lead to an interruption in the ability to deliver, an emergency strategy must be drawn up and submitted to BH SENS as an emergency plan. This applies in particular to machines, tools and equipment that are not available redundantly. Appropriate safety stocks are to be negotiated between BH SENS and the supplier.

### 3.6 Prototypes

For the development and testing of our products, it is necessary that only parts that meet the requirements and are of perfect quality are used, for which the actual values of the



product characteristics are also known and documented. With this in mind, significant process changes in the manufacture of prototypes must be communicated to BH SENS in advance. In addition, the product characteristics specified in accordance with BH SENS standard HN 615 "Marking of functional dimensions, capability and SPC characteristics" are to be tested 100 % by the supplier in the case of prototypes and pre-series deliveries until the sample release of the purchased part and documented in a test report. If required, BH SENS will agree with the supplier to extend this monitoring and documentation to further features. In individual cases, BH SENS will also request proof of process capability.

The documentation must be assignable to the parts, i.e. it must be comprehensible at any time what the actual status of the delivered parts is. This must be ensured by appropriate labelling of the parts, packaging units, packages and the delivery papers. Any specifications of the recipient plants must be observed.

### 3.7 Tool Releases

The release of tools at the supplier is effected by sampling the sample parts produced with the tool under series conditions.

Tools ordered by BH SENS are to be marked as the property of BH SENS, unless otherwise specified.

BH SENS also acquires the tool design data and other components included in the price, e.g. specific software incl. source code.

### 3.8 Product/Production Release - Initial Sampling

Initial samples are products manufactured and tested under series conditions (machines, systems, operating and test equipment, processing conditions).

#### 3.8.1 Reason for Initial Sampling

Initial sampling is generally required for:

- Initial presentation of a product
- Changes in parts, materials, processes or tools
- Changes to drawings or specifications
- Change of location or relocation of production
- Change of a sub-supplier
- Delivery interruption of more than one year
- Deviations from requalification

In addition, sampling may be required if, as a result of the quality delivered and the extent of the quality deficiencies, BH SENS requires the supplier to provide renewed evidence of the



ability to deliver products that conform to specifications.

### 3.8.2 Standard Requirements

Due to the international nature of its customers and projects, BH SENS generally requires a sampling procedure based on the Production Part Approval Process (PPAP) in English as the standard language.

The scope and type of documentation depend on the submission level. This is communicated to the supplier in the order and also applies to subsequent sampling initiated by the supplier.

Traceability shall be ensured by numbering the samples and appropriately referencing the test results to the drawing characteristics.

### 3.8.3 Initial Sampling Processes

As a rule, the initial sampling process is initiated by BH SENS with the order. This also specifies the type and scope of the initial sampling.

The initial sampling serves to prove the conformity of the delivered products with the BH SENS specifications and is to be presented by the supplier, without deviations, to BH SENS. Necessary activities to achieve all requirements are to be considered in the offer and to be borne by the supplier.

### 3.8.4 Substance Restrictions

It is a goal of environmental legislation worldwide to minimise negative environmental impacts of vehicles along their entire life cycle. For example, the use of various substances in cars and their components is widely prohibited.

In order to simplify the handling of the diverse legal regulations regarding substances, the automotive industry has created the Global Automotive Declarable Substance List (see [www.gadsl.org](http://www.gadsl.org)). BH SENS considers the substance bans and declaration obligations listed there to be binding and also requires its suppliers to comply with them.

Furthermore, the substance restrictions according to EU Regulation 1907/2006 (REACH), Annex XIV, must be observed. These substances must be avoided in new developments. If this is not technically feasible, written information must be provided and the responsible development department must be consulted.

Also for other legal developments (e.g. TSCA from the USA) the supplier has to fulfil his due diligence obligations in order to avoid later material changes. Material discontinuations due to legal requirements must be reported immediately to

[supplier-pcn-bretten@bh-sens.com](mailto:supplier-pcn-bretten@bh-sens.com)



### 3.8.5 International Material Data System – IMDS

The automotive industry has created the International Material Data System ([www.mdssystem.com](http://www.mdssystem.com)) to simplify the corresponding documentation of ingredients. BH SENS requires its suppliers to enter the necessary data directly into the internet-based IMDS according to the part revision status ([www.mdssystem.com](http://www.mdssystem.com)). This should be done as soon as possible. If there are explicit deadlines to be met by our customers for the IMDS entry, our suppliers will be informed of this. In any case, the proper IMDS entry is a prerequisite for release.

Please also refer to the BH SENS Corporate Supplier IMDS Manual (CIM), which can be viewed in our partner portal at [Noch zu definieren](#).

## 4. Series Production

### 4.1 Logistics

#### 4.1.1 Storage, Preservation and Transport

Raw parts, purchased parts from sub-suppliers and parts from our own production are to be stored, handled and transported in such a way that damage and soiling (including of packaging) are excluded. If preservation is necessary, the supplier shall coordinate this with the BH SENS recipient plant. In order to avoid batch mixing and to ensure traceability, storage and delivery shall be carried out according to the "first in first out" principle with batch labelling on the container.

#### 4.1.2 Remote Data Transmission (RDT)

BH SENS transmits delivery call-offs and receives delivery and transport data largely by remote data transmission. We would like to expand the use of paperless communication in general and remote data transmission in particular. In this respect, we expect our suppliers to be willing to cooperate actively.

### 4.2 Delivery Quality and Product Reliability

In principle, series deliveries may only be started after successful initial sampling. The supplier is responsible for the flawless condition of the delivered products in accordance with the specifications. BH SENS expects from its suppliers that the series delivery corresponds to the release status of product and process.

The supplier shall test in accordance with the production control plan using suitable quality monitoring methods (SPC). Testing and measuring equipment must be demonstrably suitable for checking the characteristics specified in the production control plan. BH SENS reserves the right to approve the inspection planning at the supplier. All test records, in accordance with the production control plan, are available for inspection by BH SENS upon request.

If proof of process capabilities is required, these are to be reported regularly in coordination



with BH SENS. If a process capability of  $cpk \geq 1.67$  is not achieved, the supplier shall immediately initiate optimisation measures. As long as the process capability is not verifiable, a 100 % inspection of the affected characteristics is to be carried out. Alternatively, additional or other test methods may be used temporarily in consultation with BH SENS.

#### 4.3 Incoming Goods Inspection at BH SENS

BH SENS shall inspect the deliveries received in the incoming goods department exclusively with regard to quantity, identity and externally visible transport damage as well as for the existence of agreed inspection certificates.

If a defect is detected, BH SENS will inform the supplier immediately. BH SENS shall notify the supplier of any defects not detected in the incoming goods department as soon as they are detected in the ordinary course of business.

#### 4.4 Labelling and Traceability

The supplier is obliged to mark the product for clear identification by suitable means during the entire product realisation from the raw material to the delivered product. This requirement also applies to the product status in relation to monitoring and measurement requirements. The labelling of packaged goods must also be recognisable during transport and storage.

The labelling directly on the product are specified between BH SENS and the supplier.

Traceability, down to the raw material, serves to minimise damage in the event of loss. It must be carried out expediently and include production processes at sub-suppliers. A clear allocation of the products, up to the production batches as well as the inspection lots including their verification documentation, must be guaranteed.

Mixing of batches is generally not permitted. In the case of deviations/products not conforming to specifications, it must be possible to limit the quantities of affected parts.

In addition to batch containment, traceability back to the day of production is generally expected.

Especially for products and features with special verification, ensuring traceability beyond the batch limitation down to the production day/shift is even mandatory. Sub-suppliers must also be involved here.

#### 4.5 Deviation Permission

In exceptional cases, BH SENS allows the supplier to deliver products that do not comply with the agreed specification. This deviation permission, which must be documented, always refers to a defined delivery period or a defined number of pieces or batch. In the case of deliveries with deviation permission, the goods must be clearly marked with reference to the deviation permission granted.

In any case, the supplier must submit the application for deviation permission to BH SENS



well in advance of the planned delivery date. A delivery of non-conforming products without a deviation permit is not permitted and will lead to a complaint.

The following conditions are mandatory for BH SENS to issue a deviation permit:

- The deviation must not affect the function and performance. BH SENS must have data and test results confirming this.
- The deviation has no significant influence on sub-processes or subsequent processes, up to and including assembly processes at BH SENS's customer.
- The supplier has initiated measures to prevent the recurrence of this deviation.

The granting of a deviation permit by BH SENS does not establish that the products delivered by the supplier are free of defects with regard to the legitimised deviation. In the event of defects occurring, liability claims by BH SENS shall therefore be based on the contractually agreed specification.

#### 4.6 Defective Products

A "defective product" is one that demonstrably does not meet the specified requirements. In this case, a defect exists.

The supplier shall inform BH SENS immediately in the event of detected defects and suspect deliveries by means of a self-notification BH SENS also expects to be informed in advance if agreements made with regard to quality can probably not be met. In order not to disrupt or interrupt the production process BH SENS, the supplier shall ensure timely replacement deliveries in the event of defective or suspect goods.

Immediately after the occurrence of a defect or a complaint by BH SENS, the supplier shall initiate an analysis of the cause of the defect and the resulting corrective measures. If defective products have already been delivered, the supplier has the right to subsequent performance. If requested by BH SENS with the complaint, immediate measures must be taken. In any case, the deadlines communicated by BH SENS must be observed. Otherwise, or in particularly urgent cases, BH SENS may initiate measures necessary to minimise damage and pass on the costs (e.g. for reworking or sorting costs) to the supplier. All recipient plants affected by the defective deliveries shall be informed immediately by the supplier.

The supplier is responsible for immediately checking the suspect stock at BH SENS as well as its own stock. In doing so, the supplier must ensure that only trained personnel are used. Inspected goods must be clearly marked as such.

In the event of any complaint by BH SENS, irrespective of the place of investigation (incoming goods, manufacturing/assembly process, customer), BH SENS expects its suppliers to apply the 8D method for a structured approach to problem solving. Upon request, a 5 Why and Ishikawa analysis shall also be submitted. If possible, rejected parts shall be provided to the supplier by BH SENS. The 8D report shall be submitted on time in coordination with BH SENS. The supplier defines, evaluates and implements the necessary measures to eliminate defects and demonstrates their effectiveness. BH SENS reserves the right to verify the measures with the supplier.



Furthermore, BH SENS reserves the right to demand additional 100 % inspections in Control Shipment Level 1 or 2 from the supplier. This may be triggered in particular by the extent of the complaint or the existence of repeat complaints.

In Control Shipment Level 1 (CSL1), the duration of the 100 % inspections required by BH SENS depends on the measures initiated by the supplier to permanently eliminate defects.

The determination of the type and scope of the inspections as well as the decision on the personnel or external service company carrying out the inspections is made by the supplier in coordination with BH SENS.

In case of serious quality defects or if the supplier could not safely monitor and solve the problem during CSL1, BH SENS requests Control Shipment Level 2 (CSL2) from the supplier. In CSL2, the supplier receives all specifications regarding the duration of the 100 % inspections with type and scope from BH SENS. The additional tests are to be carried out by an external service company, which is specified by BH SENS or must be approved BH SENS if proposed by the supplier.

#### **4.7 Product/Process Changes**

The approval process for product and process changes is basically analogous to the initial sampling. The submission stage required in each case depends on the type, scope and significance of the change and is agreed between BH SENS and the supplier. In any case, the reason for the sampling must be stated on the PPAP documents.

##### **4.7.1 Product/Process change by BH SENS**

In the case of product or process changes requested by BH SENS or by our customers, BH SENS will issue an order. For this purpose, the corresponding specifications are forwarded by BH SENS to the supplier for feasibility testing and quotation preparation.

##### **4.7.2 Product/Process changes by Suppliers**

Product changes can be, for example, further developments of the product suggested by the supplier for quality improvement.

Process changes are understood to be (without claim to completeness):

- Change in the production process
- Changes in the production process, including local relocation of production equipment
- Change or renewal of production equipment and tools
- Change in the test procedure or use of other test equipment
- Relocation of production lines or tools
- Changes in the production location



- Change of sub-suppliers
- Use of alternative materials or components

Product/process changes requested by the supplier must be notified to BH SENS in writing in good time in any case, but at least 9 months before implementation.

The supplier agrees with the ordering purchasing department whether the change is permitted and which release requirements must be fulfilled. The minimum requirement is always a cover sheet sample to document the change.

Product/process changes incl. changes at sub-suppliers may only be adopted by the supplier in the series production process when the release procedure previously agreed with BH SENS has been successfully completed.

The supplier shall bear full responsibility for direct or indirect damage to the product in the event of unauthorised product/process changes not agreed with BH SENS or not yet released.

If costs are incurred by BH SENS due to changes initiated by the supplier, these are to be borne by the supplier. In particular, expenses for changing the documentation or testing and qualification expenses incurred by BH SENS for the release of the product.

#### 4.7.3 Product or Raw Material Discontinuations

In the event of discontinuation of electronic components, assemblies or raw materials such as plastics or lacquers (PTN process), BH SENS must be informed as soon as possible, but at least 15 months in advance. This information must be sent in writing, quoting the BH SENS part number, to the following email address:

supplier-pcn-bretten@bh-sens.com

This does not release the supplier from its delivery obligation for the duration of the projects. The supplier shall initiate corresponding hedging measures at its expense in order to meet this delivery obligation. For this purpose, BH SENS may request planned quantities.

#### 4.8 Requalification

The supplier shall ensure the requirements for product-related requalification testing in accordance with the currently valid version of IATF 16949. The product must be subjected to a dimensional and functional test in accordance with the production control plan agreed with BH SENS.

The overall results must be kept on site and made available to BH SENS on request immediately after completion of the requalification. In case of any abnormalities during the requalification, BH SENS must be informed immediately.

#### 4.9 Maintenance and Preventive maintenance





In order to ensure the ability to deliver, the supplier shall develop and maintain a system for preventive maintenance of production equipment. Maintenance intervals are to be defined by the supplier and implemented consistently.

## 5. Risk Management

BH SENS expects from its supplier an active risk management with regard to its own processes and the sub-suppliers involved with the objective of ensuring a smooth production and delivery process. This includes, among other things, the conclusion of suitable contracts with sub-suppliers and knowledge of the supply chain, in particular the production locations of input materials.

As part of the product development process, possible risks in the supply chain are to be identified and, if necessary, measures are to be initiated.

Upon request, this information shall be provided to BH SENS.

Impending disruptions in the supply chain are to be reported to BH SENS immediately to the appropriate logistics and purchasing contact persons.

## 6. Product-specific Software

Suppliers who deliver products or components with integrated product-specific software must have and maintain a process for the quality assurance of their products (e.g. analogous to Automotive SPICE). BH SENS shall be provided with the results of self-assessments upon request.

### 6.1 ERRATA related Electronic Products

The supplier has to inform about known error constellations in typical application cases in form of an "ERRATA SHEET". In case of new findings or revisions, BH SENS expects the supplier to automatically notify the product manager in BH SENS supplier management.

## 7. Retention Periods and Archiving

The retention period for documents, records and reference samples is generally 15 years. The start of the archiving period for specification documents and for records and documents including reference samples for process and product release (e.g. PPAP) is the delivery of the last product described in these documents or after the document has been updated.

For quality records from the production phase, the archiving time starts with the delivery of the product to which the records for product and associated process belong. The archiving period for records from spare parts production after the end of series production begins with the end of spare parts production.

Against the background of the limitation periods for product liability claims, longer retention periods (up to 30 years) are recommended, especially for documents with special record keeping.



Documents with special archiving (DmbA) result from legal regulations (e.g. for safety-critical features) as well as from customer and/or BH SENS specifications in accordance with VDA Volume 1 "Record keeping". All DmbA are marked in the BH SENS drawings in accordance with BH SENS standard HN 613 "Marking of drawings requiring documentation".

These specifications do not replace individual agreements between the supplier and BH SENS or legal requirements.

The archiving locations must be protected against unauthorised access and provide sufficient protection against water and fire. All relevant requirements from VDA volume 1 "Verification" must be taken into account.

## 8. Special regulations - BH SENS-standards

- HN 613 "Marking of drawings requiring documentation"
- HN 615 "Marking of test, capability and SPC characteristics"

