Supplier Handbook
BING Power Systems GmbH

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BING Power Systems GmbH

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Preamble

In order to meet the ever-increasing demands for quality and flexibility in the future, we need capable suppliers who are committed to meeting the challenges of the future and the market together with us and go beyond the basic requirements. We strive with our

The company offers a high-quality and long-term partnership with the aim of integrating the business partner into the processes of BING Power Systems GmbH at an early stage. We supply high-quality components and provide services that meet our customers' requirements. Therefore, we place the same requirements on our suppliers to ensure that their products and services also meet this quality standard. We work according to the specifications of IATF 16949 and zero defects is our goal.

This manual is therefore a guide to cooperation between the supplier and us. If you have any questions from this manual, please contact your contact person at BING Power Systems GmbH. We are happy to answer your questions.

Content

1. Scope

1.1 Subject matter and scope of application

This manual specifies the minimum requirements that must be met by suppliers of production goods who deliver to BING Power Systems GmbH at regular intervals and under series conditions. It shall apply together with all purchasing contracts concluded between BING Power Systems GmbH and the supplier, unless otherwise stipulated. It is already valid for the inquiry stage.

This manual replaces all previous editions of the Supplier Handbook and the revised versions.

1.2 Code of Conduct and ESG Sustainability Requirements

The Code of Conduct represents a binding framework for action for our company's suppliers and is intended to help:

- To create trust and transparency
- To put honesty and fairness in the foreground
- To act in accordance with the law
- to improve living and working conditions for all
- To convey social responsibility
- Respect and strengthen the rights of individuals and society
- To act in a future-oriented and sustainable manner
- To protect our environment
- To reconcile economy and ecology

In doing so, we are guided by the principles of the United Nations Global Compact, among other things. The latest versions are available at https://www.bingpower.de/b2b .

1.3 Procurement and quality policy

Our goal is "quality at fair prices". Our procurement policy is geared against this background. Together we want to achieve the following goals:

- Building a long-term customer/supplier relationship
- Safeguarding joint competitiveness
- Best communication
- Minimization of storage and transport expenses for the benefit of both sides
- Creation of prerequisites for the supplier to be able to optimally assume quality responsibility
- Quality assurance before and during series delivery
- Continuous improvement in the spirit of Kaizen

1.4 Purpose

The purpose of this manual is to communicate in detail the requirements that BING Power Systems GmbH places on the quality and environmental management systems of its suppliers, who continuously make deliveries and provide services.

1.5 Background

Our requirements are based on the rules and standards of IATF 16949, as well as DIN EN ISO 14001 in the current version. Furthermore, the terms and conditions of purchase of BING Power Systems GmbH apply in their current form. These requirements are a legally binding contractual component of all supply and service contracts concluded between BING Power Systems GmbH and the supplier.

2. Supplier Management

3.1 Supplier self-disclosure

The supplier self-assessment summarizes the most important information for the first general assessment of the supplier. The supplier receives the form at the first contact with the enquiry documents. It must be completed in full and returned to the responsible buyer with the offer at the latest.

2.1 Supplier selection process

In the first step, the responsible BING buyer decides which supplier will be included in the supplier selection process and obtains offers from the selected suppliers for the respective components or services.

The decision to include a supplier in the supplier selection process is made on the basis of the following information:

1. Supplier self-assessment
2. Certified QM system of the supplier (minimum requirement ISO 9001)
3. Results of supplier audits or potential analyses
4. Audit results from customer

In the supplier selection process, the existing risks of the suppliers in the supplier selection process are assessed with regard to a continuous and error-free supply of our products to customers.

For each potential and existing supplier, BING creates a risk assessment model in which the minimum development level of an ISO 9001 is specified according to the current status. The target development stage is the proof of the IATF 16949 standard according to the current status and the fulfilment of customer requirements.

Service providers who have a direct influence on product quality are also subject to supplier management. These include testing institutes and measurement laboratories, as well as calibration companies. They must provide proof of accreditation according to ISO17025 or a comparable standard.

Furthermore, this also includes all personnel service providers who provide temporary production personnel. These fall within the remit of HR.

2.1.1 Risk assessment in the supplier selection process

The assessment of the risks existing with the selected suppliers with regard to continuous and error-free supply to our customers is carried out as part of the supplier selection process in a multidisciplinary team consisting of purchasing, quality management, R&D and production control.

The following criteria are assessed in the risk assessment:

- Supplier's experience in the product category
- Country-specific risks (e.g. forces of nature, political situation)
- Delivery time as per quotation
- Delivery (expected risks during transport, delays due to customs clearance)
- Costs / Offer Prices
- Capacity of the supplier (e.g. there are enough alternative machines available)
- Communication (availability, quick answers can be expected, fixed contact person, etc.)

According to the weighting of the individual criteria, the individual scores are added to the expected total risk.

3.2 Supplier audit

The audit is intended to identify potential for improvement and weaknesses in the supplier's processes and organization. The audit team of BING Power Systems GmbH usually consists of employees from the areas of quality, purchasing and logistics and, if necessary, production. Which suppliers are audited depends largely on the supplier's evaluation and delivery performance. However, we intend to conduct an audit of all relevant suppliers. Other reasons for conducting an audit can be current quality problems in series delivery and demands from our customers.

The supplier agrees to enable customers of BING Power Systems GmbH to participate in these audits as well. A supplier is audited in accordance with VDA 6.3. The audit is carried out as a process audit and is agreed in good time before the planned implementation.

The supplier assures its support in the implementation. The result of the audit is communicated to the supplier in writing. If deviations are detected, the supplier undertakes to draw up a coordinated action plan with a schedule and to implement it on time.

3.3 Escalations

If problems arise repeatedly in the course of the business relationship or if the supplier's performance continuously decreases, BING will initiate various activities according to the escalation model. This includes, among other things, discussions at the quality, purchasing and management level, action plans, workshops, special tests, special audits, etc. The escalation levels can lead to the termination of the business relationship.

3. Quality

4.1 General requirements for quality management

We expect all series suppliers with whom we already work or will work in the future to operate a comprehensive quality management system. The supplier must confirm this to us in writing by submitting a copy of its certification certificates. This must at least meet the requirements of ISO 9001, but the aim is for all suppliers to align and demonstrate a QM system in accordance with IATF 16949. Our suppliers, in turn, oblige their suppliers in the same way.

4.2 Quality Assurance Agreement

A quality assurance agreement regulates the quality-relevant relationships between the supplier and the customer. This agreement is obligatory for us and applies in addition to the existing terms of delivery. The quality requirements essentially regulate the following points:

- Quality
- Audit and documentation responsibility
- Audits
- Product Resume Agreements
- Traceability
- Complaints
- Product liability

In some cases, we also create a part-related quality agreement that describes specific criteria for a product. The currently valid version is available at https://www.bingpower.de/b2b

4.3 Advance quality planning

Advance quality planning is the basis for potential error prevention and continuous improvement. The quality advance planning process covers the steps from development to series production. It requires an interdisciplinary team that includes all main departments, such as sales, development, production planning / work preparation, production, purchasing and quality assurance.

A plan must be developed that shows the individual steps, the corresponding completion date and the responsibilities for the necessary actions.

Before an order is awarded to a supplier, manufacturability must be proven. By submitting the offer, the supplier confirms that the requested part can be manufactured without restrictions/changes. For this purpose, the "Feasibility Analysis" form must be completed and submitted to us together with the offer.

The currently valid version is available at https://www.bingpower.de/b2b .

Without completion of the advance quality planning, the initial sample test reports are not valid. Standard parts (standard/catalogue parts) can be excluded from this.

Usually, advance quality planning is carried out in collaboration with the supplier's interdisciplinary team and progress is regularly reviewed. However, if BING does not participate, the supplier must carry out this on its own responsibility. Advance quality planning can lead to a part-specific quality agreement that defines the key features and determines how they will be reviewed, evaluated, and documented during series production.

4.4 FMEA

The FMEA helps to avoid errors through a structured analysis of the potential failure possibilities. FMEA's must be performed both during development and during process planning. They are required for all new or modified products and processes. FMEA's are "living documents" that need to be constantly updated with regard to development, process and product use.

The product characteristics and process parameters recognized by the FMEA's as "significant" or "critical" become essential features of the Production Control Plan (PLP). The supplier must make the process FMEA available for inspection by BING Quality Assurance at any time upon request. The measures from the FMEA's must be implemented before the initial sampling.

4.5 Special characteristics

Special features are product characteristics or production process parameters that have an impact on:

- safety or
- Compliance with government regulations,
- the fit,
- the function,
- the power or
- Further processing of the product

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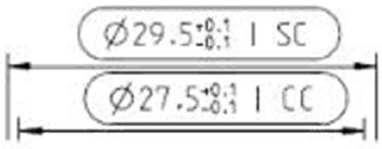
On all newer drawings, a special feature specified by BING is marked as SC or CC with the following symbol:



The special features should not tempt you to distinguish between the drawing entries into important and unimportant. In principle, ALL features must be within tolerance.

However, the characteristics defined as special characteristics have a significant influence on the points mentioned in the definition.

For this reason, we expect at least for these features

- A Machine Capability Assessment (MFU) when setting up the machine
- SPC recordings during series production
- Alternatively, a 100% exam

The evaluations of the machine and preliminary process capability must be enclosed with the initial sampling.

According to IATF 16949, special characteristics in product control plans, process flow diagrams, work instructions and other related documents must be identified and treated separately. The special features identified as such by us are identified as such in the drawings/specifications or in another separate document. The supplier is obliged to inform himself about the further use of his product and, if necessary, to identify the special characteristics. The supplier must also ensure that its subcontractors also know, understand and monitor the relevant special characteristics in an appropriate manner.

4.6 Safety

Product safety is defined at BING Power Systems GmbH in BING SOP 40.006 and explains the importance of product safety testing to avoid product liability cases. This BING SOP applies specifically to all safety-related products and processes and can be requested if required. Important terms and abbreviations on the subject of product safety are e-discovery (disclosure of documents for evidentiary proceedings in the event of liability), and CC (safety-relevant feature).

If you have any questions, please contact the product safety officer at BING Power Systems GmbH.

In the case of safety-relevant products and processes, it is also important to determine the legal and official requirements by means of feasibility and risk assessment and customer notification, as well as the determination of the characteristics and control measures and to take into account previous experience (lessons learned).

There is a separate release of the design, process FMEA and production control plans. In addition, the requirements for product safety are transferred to the subcontractors. Training of employees involved in manufacturing is imperative.

4.7 Initial sampling requirements (PPAP or VDA2)

Initial samples are the first parts in series production and must be clearly marked as such and delivered separately from series deliveries. The approved parts submitted must come from a representative production run. For each initial sampling, at least 5 sample parts must be submitted.

In the case of multiple moulds or moulds, 5 sample parts per cavity and tool/mould must be supplied with a measurement report. In the case of new parts, all dimensions and functions must be documented, in the case of modifications, only the changed dimensions/functions.

The initial sampling must be carried out in accordance with PPAP level 3 or VDA 2, unless special specifications have been agreed.

The delivery packaging must be clearly visible with a sticker "First sample". The sticker shall bear the following information:

- Part designation
- Part number with drawing index
- Production date
- manufacturer information

Initial samples are required before the first delivery of products in the following cases:

- For a new part that has not yet been delivered
- For modified products, regardless of the reason for the change
- When correcting errors in previously submitted parts

Furthermore, the submission of initial samples is necessary for:

- Modified materials or constructions
- new or modified tools, fixtures, machines
- Modified or new manufacturing methods or processes
- Relocations of production or relocation
- changed upstream suppliers

An EMPB must be enclosed with each initial sampling. Without our written consent, part changes may not be introduced.

The initial sample test report shall have at least the following scope:

- Cover sheet according to VDA Volume 2 or PPAP PSW (Part Submission Warrant)
- Measurement report of the individual components
- Process Flow Diagram
- Control plan / production control plan
- MFU for the special features
- Factory test certificate of the materials used according to DIN 10204 3.1
- IMDS entry in the "International Material Data System" (www.mdsystem.com), or REACH and RoHs verifications

A rejection (complaint report) of an initial sample will be made in the following points:

- Missing or incomplete documentation
- Deviations from the target to the actual state according to the drawing (dimensions, material, etc.)
- Incorrect change or drawing index
- Missing IMDS entry

The full payment of the tool costs will only be made after the initial sampling has been approved.

4.8 IMDS (International Material Data System)

All components must be entered into the IMDS database system as part of the initial sampling. Only data that meets the following requirements will be accepted.

- Entries according to the current IMDS recommendations
- Entries bilingual German / English
- Our company number is 325.

4.9 Special approvals, test exceptions, limit samples

Deviations from the drawing or delivery specification are generally not permitted. In exceptional cases, however, after consultation with our quality management and product development, a temporary release for deviations in terms of time and/or quantity can be granted. As a matter of principle, this must always be done in writing in order to ensure traceability at a later date. The same applies to boundary or reference patterns. These are jointly defined with regard to the quality characteristics and marked as such.

A test exception can be created that is only valid for the delivery in question or a permanent test exception that is permanently valid. It is important to note that the special releases only apply up to the stated or agreed value. Deviations in excess of the approved measure are treated as normal deviations.

4.10 Complaint processing and claims for defects

Suppliers must react promptly and appropriately to quality problems. In the event of a complaint, the suppliers are informed immediately after the determination in the form of a complaint report. Suppliers are requested to analyze the errors immediately, determine suitable remedial measures, carry them out and also monitor them. We expect a corresponding statement in the form of an 8D report for each complaint report. An initial response must be provided to the clerk (usually the issuer on the form) within 24 hours of receipt of the test report.

Each complaint report is included in the periodic supplier evaluation and thus contributes to the calculation of the quality figure.

In the event of delivery of defective products, BING Power Systems GmbH is entitled to assert the agreed warranty claims.

The additional expenses caused by defects are recorded and charged to the supplier. Depending on the effort incurred, the following types of costs may be charged:

- Sorting actions
- Rework costs
- Production disruptions
- Testing effort
- Processing costs of our customers

5. Logistics

5.1 Terms of delivery (Incoterms)

The current INCOTERMS apply to the establishment of the business relationship. In principle, we expect deliveries from CPT or DDP Nuremberg. If otherwise agreed, it is our responsibility to appoint a forwarder / carrier and to inform the supplier of this. In the event of deviations from this, we reserve the right to charge the freight costs incurred by us to the supplier.

5.2 Delivery parameters

We expect a ZERO defect delivery. As part of our incoming goods inspection, a pure quantity and identity check is carried out as well as for obvious transport damage. By concluding a supply contract, we conclude a "ship to stock" agreement with the supplier. If an incoming inspection for quality is nevertheless carried out, this is limited to a pure random inspection. Defects that were not apparent or were not detected in the course of the incoming goods inspection will be reported to the supplier after they become known or during collective reject acceptance. If the

If the transmission of factory test certificates, SPC records or other documentation is required, the lack of the corresponding documentation will lead to a negative evaluation within the supplier evaluation.

The missing documents must be submitted immediately upon request. Until the subsequent documents are received, the delivery remains blocked.

5.3 Delivery times

Our delivery times for goods deliveries are as follows:

Monday to Thursday	from 7.00 a.m. to 3.00 p.m.
Friday	from 7.00 a.m. to 2.00 p.m.
Breaks:	from 9.00 a.m. to 9.15 a.m.
	from 12.00 p.m. to 12.30 p.m.

Outside these hours, goods can only be accepted after prior consultation with us. In such cases, please contact the purchasing clerk or dispatcher responsible for you.

5.4 Labelling and documents accompanying the goods

Every delivery must always be accompanied by delivery documents in the form of a VDA delivery note or, alternatively, VDA goods consignment notes, and transport containers (load carriers) must be accompanied by goods tags in accordance with VDA 4902.

The supplier must ensure that duly completed delivery documents are available. Deliveries without the required information cannot be booked and lead to a rejection of the delivery, also with negative consequences for the supplier evaluation.

All containers and packages such as load carriers (KLT), pallets and cartons, etc. must be labelled completely, clearly visible and durable in order to enable clear and immediate identification of the goods.

5.5 Over- and under delivery

Any over or under delivery with a deviation of more than 10% leads to a negative evaluation in the supplier evaluation with regard to quantity fidelity. We expect the order quantity to be adhered to to the exact piece. If partial deliveries are delivered, this must be expressly shown on the delivery documents as partial delivery.

5.6 Packaging requirements

The type of packaging must be determined in the course of project planning. If BING Power Systems GmbH does not specify by means of packaging regulations, the supplier is requested to develop proposals for solutions and to work towards clear packaging. The type of packaging must be planned on a part-specific basis according to the aspects of logistics, quality assurance, environmental compatibility and cost-effectiveness and must be agreed separately with us in each case.

Regardless of the type of packaging, the following requirements must be met in any case:

- Damage-free parts delivery
- Formation of rational packaging units
- Optimal container utilization
- Reduction of filling material to a minimum or better total avoidance
- Transport securing
- Protection against dust and moisture
- Part-specific corrosion protection to the extent required
- Low flammability or fire loads
- Problem-free unloading and transport by industrial trucks
- Stackability
- Effective structure
- Simple and ergonomic parts removal
- Recyclable packaging materials as pure as possible
- Preference for reusable packaging where possible

- Sufficient material labelling of the packaging materials used
- Disposable and reusable containers should only be used in a clean condition

In the event of unsuitable, dirty, wet or defective packaging, the Supplier shall be liable for any reduction in the quality of the delivered parts.

Packaging provided by us may only be used for our purposes. Any misappropriation is inadmissible.

As a matter of principle, only EURO-Pool flat and lattice box exchange pallets with test marks are to be used as loading equipment. The maximum stacking height including pallet must not exceed 1,200 mm. The use of pallets with special dimensions must be discussed with us in advance and approved by us in individual cases. The maximum weight per pallet may be 1,200 kg. cardboard packaging should not exceed the following maximum external dimensions in order to be stored directly in our high-bay warehouse:

Length 590 mm x width 300 mm x height 140 mm

Please discuss deviating dimensions with us in advance. The weight of the smallest packaging unit should not exceed 15kg. When using reusable packaging, separate regulations are made between the contractual partners.

6. Communication

6.1 Language

The business language is German, English is the business language for foreign-language correspondence. Other languages are not used in communication.

6.2 Data transmission

We work company-wide with SAP ERP as an ERP system and various CAD software. As a matter of principle, data is only transmitted as a written notification by fax, e-mail or dial-up / EDI. The supplier ensures that it can receive data from us at all times. Our suppliers receive the requirements in the form of

- Individual orders based on quantities and dates
- Delivery call-offs based on progress figures with binding dates on the exact day, quantities

The dates mentioned are always to be understood as a date of receipt. The delivery schedules or scheduling agreements are transmitted on a rolling basis. They are updated at regular intervals and usually contain a horizon of 6 months. The last submitted scheduling agreement / delivery schedule is always binding and replaces all previous ones. As a rule, 4 weeks of production approval and a further 4 weeks of material release apply.

6.3 Reachability

The supplier ensures that a competent contact person is always available during normal business hours. We will be informed of a defined contact person before the start of the business relationship. We assume a functioning substitute regulation as a given. In case of emergencies, accessibility is also ensured outside normal business hours.

6.4 Reaction time

We expect a response time adapted to the situation. Clarifications of appointment and quantity requests should be answered meaningfully and bindingly on the same day, and within a few hours in the case of escalation requests, e.g. due to imminent supply bottlenecks or line downtime.

We require an answer to any further correspondence within a week. This applies in particular to the confirmation of orders, call-offs and delivery schedules. In the event of non-confirmation, we assume an acknowledgment. The same applies to technical and commercial inquiries of all kinds.

6.5 Information behaviour

We expect our suppliers to actively participate in the continuous improvement of procedures, processes and products with the aim of permanently improving the overall system. The results of CIP can be proven as cost savings and quality improvements.

We reserve the right to consider the processes and procedures at the suppliers in terms of value and cost analysis. By accepting the order, the supplier agrees to participate constructively in such measures and to release requested information.

6.6 Supplier's declaration

The supplier submits to us unsolicited supplier declarations about the customs origin of the delivery items. A change in the original characteristics of deliverables for which a declaration has already been made by suppliers must be reported immediately and also without being asked.

The supplier shall be liable to BING Power Systems GmbH for all damages incurred by BING Power Systems GmbH as a result of incorrect or late supplier declarations.

6.7 Confidentiality obligation

Both business partners undertake to keep secret any information received from each other in connection with the business relationship and, in particular, not to make it accessible to third parties in any way. Before entering into a business relationship, we reserve the right to conclude a separate non-disclosure agreement with our suppliers. However, there is no obligation to maintain secrecy if it is general knowledge or knowledge that was demonstrably already known to the other party beforehand.

7. General requirements

7.1 Contingency plan

We expect our suppliers to draw up an emergency plan in the course of the commission. This is to ensure that deliveries can also be ensured in exceptional cases. This includes

Parameters such as material supply, machine availability, personnel and logistics. The only exceptions to this are cases of force majeure.

7.2 Capacity calculations

Before placing an order, the supplier must submit a meaningful and comprehensible capacity calculation. This should show the cycle time, number of layers, tool compartment / mold nests, etc.

7.3 Requirement and functional specifications

The transmission of our specifications is usually made by e-mail in the course of our written request. In most cases, this request is accompanied by a detailed product drawing. In some cases, reference is made to further documents such as BING standards. These further documents then describe special specifications or technical descriptions as well as further requirements for the product. If you do not have these documents, they must be requested from us. If we do not receive a request, we assume that they are known and have been taken into account in the calculation and tender.

The supplier's offer with any comments, restrictions, changes, etc. (which are checked by us and integrated into the drawing) becomes a functional specification together with our drawing in the event of an order. This specifies all relevant information about the product or the expected performance.

7.4 BING SOP

If detailed information that is not fully available on the drawing, such as specific test methods, is required, these are described in so-called BING-SOP, which are made available to the supplier.

7.5 Project management

The creation of tools must be documented with regular progress reports and submitted unsolicited. A detailed schedule must be sent when the order confirmation is sent. We reserve the right to check the production status on site at the supplier.

7.6 General Subscription Agreements

General requirements for components can be found in BING SOP 20.001 (General requirements for components and porosity standards).

7.7 Parts Resume

All changes to the component, tools, systems, etc. must be documented in a part life cycle so that complete documentation is available, e.g. for error analyses.

7.8 Tool Marking

The provision of tools and moulds is regulated separately in a separate contract (tool loan agreement). Tools, molds, etc. ordered by BING must be provided with appropriate information as described there! After receipt of the tool data sheet and photos, etc., the final invoice is settled.

8. Environment

We expect and require our suppliers to introduce an environmental management system in accordance with DIN EN ISO 14001 or similar.

The current EU environmental legislation is the minimum standard. This regulation applies in particular to the Chemicals Prohibition Ordinance, Directive/Directive 2011/65/EU RoHS2, Regulation EC/EC No. 1907/2006 (REACH) in the current version.

9. Liability and insurance

The supplier is obliged to take out both product liability insurance and recall cost insurance and to adapt it to the current status. In the event of an insured event, BING and the supplier are obliged to inform each other about all circumstances related to the insured event.

Furthermore, we consider it appropriate to take out business interruption insurance.

References + Bibliography

- IATF 16949
- VDA Volume 6.3 - Process Audit
- VDA Volume 2 - Quality assurance before series production
- VDA 232-101 - VDA List of Declarable Substances
- GADSL - Global Automotive Declarable Substances List
- IMDS Guidelines
- DIN EN ISO 9001
- DIN EN ISO 14001

Abbreviations

AS/RS	Automated small parts warehouse
APQP	Advanced Product Quality Planning
DIAL	Remote data transmission
EDI	Electronic Data Interchange
EMAS	Eco- Management and Audit Scheme
EMPB	Initial sample test report
FMEA	Failure Possibility and Influence Analysis
IATF	International Automotive Taskforce
IMDS	Automotive Industry Material Data System
ISO/ TS	ISO/Technical Specification
KLT	Small load carriers
CIP	Continuous improvement process
MFU	Machine Capability Investigation
PA	Audit Exemption
PFU	Process Capability Investigation
PPAP	Production Part Approval Process
QSV	Quality Assurance Agreement
SOP	Standard Operation Procedure
SPC	Statistical Process Control
STPA	Permanent test exception