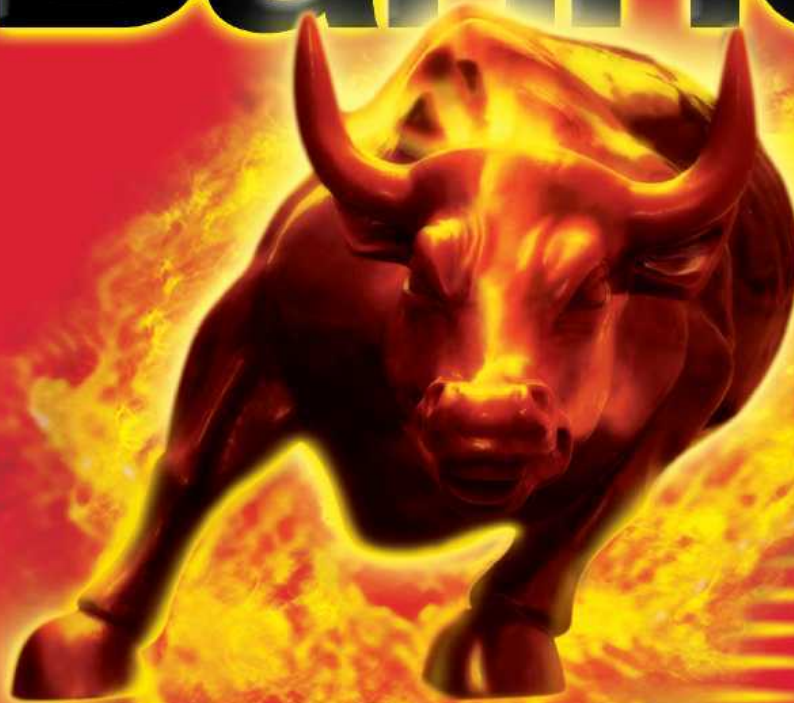





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<b>Prozess:</b>	Ressourcenprozess\Einkauf & Logistik, , , ,
<b>Verfasst:</b>	Thomas Kaminski
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# Banner




**Banner Quality Management**

**Quality Assurance Agreement for Suppliers**

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## 1. Introduction

Changes in customer expectations and global competition demand continuous improvements in all products, services, processes and company procedures.

Customer satisfaction based on quality in every aspect of performance is a decisive factor for Banner's success as an important supplier to the international automotive industry and also for you as our sub-contractor [subsequently referred to as supplier] for items, which are included in Banner products.

The "**Zero defect quality**" of all deliveries is an essential prerequisite in this regard and can only be attained and secured through the joint endeavours of Banner and its suppliers.


The following quality assurance agreement [subsequently referred to as QAA] shows our suppliers the preconditions, methods and information for implementation, which are needed for the realization of our common goals.

The QAA is binding for all products and services provided by a supplier from the date of the signing of a supply or co-operation agreement onwards.

The basis for teamwork is provided by evidence of structured and effective quality management.

We would request you as our partner, to continue to assist us in the achievement of our quality objectives.

Linz, March 2009

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## 2. Areas of validity

The following QAA for suppliers applies to drawn parts, units and components for the starter battery and tyre weight sectors, e.g.

- Casings / lids / handles / plastic screws
- Separators
- Cells
- Additives
- Lead
- Labels
- Electrical parts

The transport and warehousing supplier must also meet the specific, stated requirements for each order.

## 3. Quality Management

The following constitute detailed descriptions of a selection of the most important Banner requirements, which are to met and proven by suppliers from the start of business relations and/or during current transactions.

### 3.1 Quality management system

Unless otherwise stated, the supplier must obtain ISO 9001:2008 certifications for its organization from an accredited body.

The supplier must produce a valid certificate as proof of accreditation.

Additional automotive industry stipulations must be known to the supplier and be met with regard to the products supplied to Banner.

The additional stipulations are laid down in:


- ISO TS 16949:2002 & related valid documentation

or

- VDA 6 Part 1 & related valid documentation
- VDA 5 Part 2 & related valid documentation (service enterprises)

Apart from the listed standards, Banner order documents are binding, e.g.

- Agreed testing instructions and means
- Additional order information, e.g. packing stipulations
- Special legal and technical safety regulations
- Special regulations regarding environmental protection and recycling

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### 3.2 Supplied quality and goods receipt

The goods provided by the supplier must correspond to the contractually agreed specifications and characteristics.

The legal and technical safety requirements relating to restricted, poisonous and hazardous materials must be adhered to during the production of the goods to be delivered by the supplier. The current stipulations concerning the environment, electricity and electromagnetic fields are also to be observed.

Within the scope of QM, the supplier is obliged to provide zero-defect products and services. Should this contractual obligation be breached, and then the supplier will be subject to measures agreed separately between Banner and the supplier. The supplier must inform Banner immediately as soon as breaches of the zero-defect obligation are foreseeable.

As a rule, our orders demand complete fulfillment with regards to quantity and delivery date. Adherence to this requirement is also a factor in our supplier assessment. Banner is to be informed immediately should delays become apparent. Should additional freight costs occur, the reasons and the amount are to be made known in writing.

In view of the high quality standard required, defects are unlikely to be found during random tests upon receipt of the goods. Therefore, Banner's quality conformance inspection deviates from the legal regulation and is limited to externally recognizable transport and packaging damage, as well as checks on quantity and identity using the delivery papers.

### 3.3 Processing of the goods supplied

The supplier has to examine carefully any goods giving rise to complaint (defect cause analysis). The results and the planned corrective measures, including the scheduling for realisation according to the stipulations contained in ISOTS16949: 2002 must be immediately compiled in an 8-stage plan by the supplier and then passed on to Banner. The Banner 8 stage plan is sent with the complaint. A supplier's 8 stage plan can be used as well. The actions must be implemented within two weeks. Any delay has a negative influence in the supplier classification.

### 3.4 Quality documentation

The results of the quality checks completed by the supplier, as well as audits, are to be documented and include the planned and effectively completed corrective measures. This information must be made available to Banner at any time upon request.

Possible deviations from this procedure are to be agreed by the partners during the conclusion of the contract.


### 3.5 Quality agreement

In order to obtain "zero-defect quality", Banner and the supplier agree measurable targets for the quality of deliveries.

The target value will be **50 ppm**.

$\text{ppm} = (\text{max. number of rejects/number of supplied parts}) \times 10^6$

(ppm = **p**arts **p**er **m**illion / maximum number of rejects per million parts delivered)

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The ppm results will be collated by Banner, who will inform the supplier, and include the figures in its supplier assessment. At the same time, this data also constitutes the basis for targeted measures for continuous quality improvements.

The agreement of ppm values does not represent a quality level accepted by Banner. Any parts recognized as defect will basically not be accepted and will be charged to the supplier.

### 3.6 Quality problems

The supplier undertakes to inform Banner immediately concerning quality problems, product and process stoppages. As a rule, this must take place in writing prior to product delivery and the required corrections must be made in co-ordination with Banner.

### 3.7 Completion of the production process- product release process [PRP process according to VDA2]

The supplier will inform Banner prior to the completion of all planned changes to products and processes and is obliged to complete the PRP process, e.g.


- New parts
- Design, specification or material changes
- The use of alternative materials or designs
- The use of new, modified or replacement tools
- Production shifts
- Changes to the production process
- Longer production standstills [longer than 1 year]
- Use of new sub-suppliers
- Delivery stops caused by quality

Banner will be sent documents and samples in accordance with model stage 2, unless otherwise agreed between Banner and the supplier (see VDA volume 2, "Requirements for production process and product release").

The sample quantity requiring delivery will be made known.

Item	Requirement	Model stage		
		1	2	3
1	Drawsheet initial sample test report (ISTR)	X	X	X
2	Test results (e.g. dimensions, material characteristics, function, optical appearance, weight, reliability, process capability data)		V	V
3	Sample (number and delivery quantity as agreed)	A	A	A
4	Documents (e.g. customer drawings, CAD data, specifications, approved design changes, etc.)		V	V
5	Design, development release		X	X
6	FMEA			E
7	Process sequence diagram (production and test steps)		X	X
8	Production and test plan			E
9	List of testing means (product related)			X
10	Examination of the capability of the testing means, where expedient (result)			V
11	Proof of adherence to legal stipulations where agreed with the customer (e.g. environment, safety, recycling)		X	X

- X Requirement for the respective model stage
- V In individual cases the scope is to be agreed with the customer
- A Number of models ( $\geq 0$ ) is to be agreed with the customer
- E Only for perusal

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## 4. Further quality management requirements

### 4.1 Production feasibility examination

With the provision of the quotation, the supplier confirms the feasibility of supply in accordance with the specifications and characteristics established in the Banner inquiry.

### 4.2 Quality pre-planning

In order to secure “zero-defect quality” in all phases of co-operation, the supplier undertakes to prepare binding quality pre-planning for prototypes, pre-series samples and serial deliveries. This will be documented in testing sequence planning (control plans) and discussed with Banner. Either VDA 4 part 3 (Securing of Quality prior to Serial Use), or QS9000 Paper APQP (Quality Preplanning and Production Control Plan), will be employed.

### 4.3 FMEA product process

In view of the use of its products by Banner and Banner customers, the supplier will carry out preventive risk analyses (FMEA) on all the goods supplied to Banner and the related processes. The FMEA will be updated to deal with all deviations from product and/or process quality, as well as changes in accordance with 3.7.

### 4.4 Characteristics of special importance

Characteristics of special importance selected according to internal Banner regulations (e.g. dimensions, density,...) are to be marked on design drawings with the following symbol.




This symbol will designate special characteristics that influence battery function and are determined (regulated) in the process and therefore require the use of SPC in order to establish process stability, capability and control throughout the service life of the component.



This symbol defines critical characteristics. It relates to safety characteristics, which are noted in the technical specifications, product requirements for individual parts, materials or assembly operations, and demand special production controls in order to ensure compliance with the legal stipulations for vehicle safety. The uniform storage period for such documents is 15 years.

If special characteristics are agreed with the supplier, then the latter is obliged to subject the parameters to a risk study (FMEA, changes in the production control plan). This is also to be completed for the agreed characteristic process capability tests.

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#### 4.5 Testing equipment, machinery and process capability

The supplier ensures the suitability and capability of the machinery, tools, measurement and testing equipment, as well as the processes, which are used for the production of the deliveries to be made to Banner, by means of the use of suitable statistical processes.

The characteristics, which are to be provided for the proof of capability, will be agreed between Banner and the supplier.

The minimum requirement to be fulfilled is:

Testing by means of a capability index:  $C_{gk} \geq 1.33$

As a rule, 50 repeat measurements on the normal are completed at short intervals by the same examiner.

Condition: the definition of the measurement device must be smaller than 10% of the tolerance width

Process 2 (with operator influence)

Machine capability index:  $C_{mk} \geq 1.67$

A large sample will be taken over a short period and evaluated

Process capability index:  $C_{pk} \geq 1.33$

A smaller number of parts will be distributed over a longer period and subjected to evaluation. Details concerning this procedure are contained in VDA Volume 4 Section 1, as well as in the QS9000 manual (SPC – Statistical Process Control).

If the minimum requirements are temporarily not achieved, 100% tests must be completed until full capability is achieved through corrective measures.

#### 4.6 Process and product audit

The supplier will carry out regular product audits on all the goods delivered to Banner. In the case of possible deviations, the supplier will immediately initiate all the necessary corrective measures and ensure their lasting effectiveness.

Banner is entitled to examine and evaluate the quality assurance measures of the supplier at any time using a process, product or system audit. Within the scope of its deliveries, in individual cases the supplier must also arrange the auditing of its sub-suppliers by Banner. However, as a rule, the supplier is responsible for the auditing of the sub-supplier.

In addition, Banner customers are entitled to carry out audits of Banner suppliers where this is required.

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#### **4.7 Continuous improvement**

The supplier undertakes to develop and constantly improve a systematic management system throughout its entire organization, with the aim of achieving a high degree of customer satisfaction.

In order to achieve this objective, the supplier must introduce a structured continuous improvement process (CIP) within its company for all products, processes, procedures and services and provide evidence of its employment for all the products delivered to Banner, as well as activities linked to the business relationship. The effectiveness of these measures will be demonstrated by continuous improvements in quality, prices, delivery performance, flexibility and teamwork. Banner will provide the appropriate CIP programs and measures upon request.

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Reply fax

To:

Banner GmbH

Mr. Thomas Schmidt

Fax no.: 0043 732 3888 61307  
or [thomas.schmidt@bannerbatterien.com](mailto:thomas.schmidt@bannerbatterien.com)

From:

Company:

Address:

Fax no.:

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Person responsible

### Recognition of the supplier quality agreement

We hereby confirm recognition of your quality agreement of March 2009

Furthermore, we confirm that we will continue to employ the methods of quality assurance described in our company and that the necessary processes and sequences are, or will be installed, within the framework of our quality management system.

Yours sincerely,

Date: \_\_\_\_\_ Name: \_\_\_\_\_ Company Stamp  
Sign: \_\_\_\_\_