Hella Quality Management

Guidelines for Suppliers (HP-C-509)

Status: October 2005

HELLA®

Ideas today for the cars of tomorrow

Contents

1. Introduction

Changes in customer expectations and global competition make continual improvement necessary – both of all products and services and all processes and company workflows.

Customer satisfaction through to quality in all aspects is a deciding factor for success for Hella as a supplier of complex products for the international automobile industry and thus for you, too, as our contractor (termed “supplier” in the following text) whose products are integrated in Hella finished products.

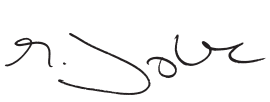
“Zero-defect quality” for all deliveries is an essential precondition that can be achieved and consolidated only by means of common efforts by Hella and its suppliers.

Defect avoidance rather than defect discovery and continual improvements throughout the process chain, customer inquiry, quotation, order, Time to Market, SOP, series supplies and field use are indispensable requirements that we must and want to meet with the active aid of our suppliers.

This guideline lists the requirements, preconditions, methods and implementation instructions necessary to put these joint targets into practice.

The guideline is binding for all products and services supplied by a supplier to Hella KGaA Hueck & Co. or to a company associated with Hella where Hella has the majority share (termed “Hella” in the following text) from the date a contract of delivery or cooperation is signed.

The cooperation is based on proof of structured and effective quality management.



Martin Jungbluth
Head of Corporate Purchase Management

Stephan Skoddow
Head of Corporate Quality Management

2. Quality Management

The correlation of the supplier's organizational and technical preconditions with Hella's quality requirements forms the basis for a successful business relationship. In detail, the following is required from Hella suppliers:

2.1 Quality requirement as a condition for delivery

In order to meet the high expectations of the automobile industry, Hella trusts the performance and commitment of its own employees to a large extent and expects the same attitude toward employees and partners from its suppliers. This is a major precondition for the quality capability which the supplier has to prove.

Quality requirement levels	Actions/preconditions	Methods, documents
Corporate culture	→ Cooperative, target-oriented management style	■ Preparation and follow-up of division-related target agreements
	→ Promotion of initiative and creation of space for personal employee development	■ Delegation of responsibility and competence
	→ Employee qualification and promotion of quality consciousness	■ Training in tools, methods and standards
		■ Support in solving quality-related problems
		■ Use of employees in relation to requirements
Management system	→ ISO 9001:2000	■ Certification by third party
	→ Alignment of a QM system acc. to the requirements of ISO-TS 16949	
	→ QS 9000, VDA 6.1, ISO-TS 16949 ISO 14001	■ Training and application
	→ Further development of an effective organizational workflow	■ Management manual
	→ Creation of organizational and technical preconditions for the mapping and evaluation of quality-related information	■ CAQ system
Quality assurance	→ Avoidance of defects	■ Small Quality circles
	→ Systematic defect processing	■ Problem-solving techniques
		■ Cause and effect analysis
	→ Avoidance of defect repetition	■ Feedback to development and modification process
Audits	→ Regular internal auditing	■ System
		■ Process
		■ Product
Continual Improvement Process	→ Introduction and maintenance for all products, workflows, services	■ Employee training
		■ Programs, objectives and reviews
Supplier development	→ Cooperative partnership	■ Exchange of information
	→ Joint project work	■ Implementation of training sessions, providing methods

2.2 Quality planning and cooperation

Careful advanced quality planning aligned toward avoiding defects during product and process development ensures that only technically mature products are manufactured using capable production processes.

Quality planning levels	Actions/preconditions	Methods, documents
Definition phase	→ Definition of requirements	■ Customer requirement ■ Deadline and cost outline ■ Quotation preparation
Inquiry phase	→ Selection of potential suppliers → Inquiry	■ Meeting minimum supplier requirements ■ System audit if appropriate ■ Assessment of ability
Quotation phase	→ Determination of Hella expectations → Check of specification, deadline and price	■ Analysis of customer requirements ■ Contractual check ■ Check of manufacturability ■ QFD
Concept preparation	→ Drawing up of binding quotation	■ Hella specification/deadline/prices
Sourcing decision	→ Analysis of quotation → Placing of orders with suitable suppliers	■ Checklists ■ Binding order documents, specifications, deadlines, prices
Concept implementation	→ Involvement in the Hella project team	■ Advanced product quality planning ■ Control plan ■ Process audit ■ Product FMEA
Development	→ Estimation of quality risks → Monitoring and evaluation of design drafts and prototypes → Monitoring manufacturability	■ Design review ■ Experiment planning
Production preparation	→ Estimation of possible production risks → Optimization of production methods and operating equipment	■ Process FMEA ■ Operation test run ■ Experiment planning ■ Test planning
Pilot production	→ Monitoring and evaluation of production safety → Minimization of the probability of defects	■ Investigation and proof of ability for testing equipment, machines and processes ■ Plans of action
Series SOP	→ Series release at the suppliers	■ Sequence measurement and SPC ■ Process release ■ Initial sample inspection report/ PPAP
Delivery phase release	→ Release by Hella → Supplier evaluation	■ Release report ■ Q-performance, flexibility, faithfulness to deadlines, cooperation

Supplier activity | Hella activity | Obligation of proof to Hella

2.3 Quality control in series production at the suppliers, conditions for delivery

The quality assurance measures in series production are based on knowledge gained during the development phase and observation of field use of comparable products, and are used to consolidate and continually improve the level of quality achieved.

Self-regulating processes and automated tests should be used wherever it makes technical and economical sense.

Employee quality responsibility must be further developed in line with technical progress and customer expectations.

Quality control areas	Actions/preconditions	Methods, documents
Purchasing	→ Securing of quality of delivered goods	■ Evaluation of quality performance ■ Acceptance test certificates in compliance with DIN EN 10204 ■ Evaluation of faithfulness to deadlines
Production	→ Mastering of machine parameters	■ Process data sheets ■ Self-regulating processes
Tests	→ Continual monitoring of process ability	■ SPC/control chart technique
	→ Quick detection and elimination of deviations	■ Worker self-tests
	→ Mapping and evaluation of quality data	■ Results through suitable data processing programs ■ Pareto analysis
	→ Ensuring machine availability	■ Preventative maintenance
	→ Ensuring correct packaging	■ Packaging plan
	→ Clear marking of all parts and containers	■ ERP system
Complaints procedure	→ Cause and effect analyses	■ Problem-solving techniques
	→ Corrective and preventative measures	■ 8D report
	→ Avoidance of repeated defects	
Storage and transport	→ Correct and defect-free handling, storage and transport	■ Computer-supported forced workflows
	→ Observation of manufacturing data and expiry dates if appropriate	■ FiFo principle

Supplier activity | Hella activity | Obligation of proof to Hella

3. Implementation of basic requirements

The most important Hella requirements from the quality management process which have to be met by the supplier before the beginning of the business relationship and/or during current business have been lifted out and will now be described in more detail.

3.1 Quality Management System (QM system) and quality capability

The supplier has effectively introduced a QM system in his company and thus proves his quality capability.

The system complies at least with the requirements of standard ISO 9001:2000.

As proof, the supplier has to present the valid certificate of an accredited certifying company (3rd party audit). Exceptions are only possible after consultation with Hella Purchasing.

The supplier must be familiar with the following additional requirements for the automobile industry and meet these with regard to products delivered to Hella.

The additional requirements are defined in:
- VDA 6 Part 1
- QS 9000 series of standards

or summarized in
- ISO/TS 16949

Hella recommends 3rd party certification in compliance with the standards/documents quoted. Environmental standard DIN EN ISO 14001 must be taken into consideration.

The supplier must ensure that his sub-suppliers also meet the above requirements. As proof, the supplier must be in a position to present the valid certificate of an accredited certifying company (3rd party audit).

3.2 Further quality basics

In addition to the standards listed, Hella ordering documents are binding, e. g.
- Order drawings including the requirements these specify such as DIN standards, Hella standards, technical conditions of delivery, data sheets etc.
- Agreed test instructions and testing equipment
- Additional order details e. g. packaging regulations
- Special legal requirements
- Special requirements dealing with environmental protection and recycling

3.3 Delivered quality and incoming goods

The products may not have any design, material or processing defects and must comply with the contractually agreed specifications and properties. The supplier has to bring proof of composition of the materials used and their individual components as well as environment-related aspects connected with this. All the materials must be proved to be registered in the IMDS system (International Material Data System).

A quality control report is used to inform suppliers about nonconforming deliveries. The costs incurred to Hella for this report are to be borne by the supplier. In the case of defects of low value and minor importance, Hella works with specified flat rate amounts. Scrapping and reworking costs are recorded by Hella and charged to the supplier.

The QM system introduced at the suppliers and the quality assurance process derived from this form the basis for the ability of the supplier to achieve freedom from defects in all the products and services the supplier delivers or which are delivered in the supplier's name (zero-defect quality).

On account of the achievement of such a high quality standard, there are practically no defects to be discovered in random sample testing of incoming goods. For this reason and deviating from the legal regulation, Hella restricts the incoming goods inspection to transport and packaging damage that can be recognized externally as well as checking quantities and identity on the basis of the delivery papers.

The revision status according to the Hella drawing must be indicated on the delivery note and on the packaging. If there is no revision status noted on the drawings, the issue level must be quoted.

To ensure the quality of its own products, Hella also has a QM system which complies with the requirements given under section 3.1. Within this context, Hella carries out device-specific tests accompanying production in compliance with the requirements of the QM system in order to guarantee the earliest possible detection of defects in its products including the integrated delivery and performance scopes of the suppliers.

Hella will notify the supplier of any defects in the delivery in writing, by fax or electronic data transfer (e. g. e-mail) without delay as soon as they have been discovered. In as far as Hella meets the obligations above, the supplier will not complain about a delayed defect complaint.

3.4 Complaints procedure, 8D report

The supplier has to reply to every complaint received within 10 working days using a meaningful 8D report. **This period can be shortened if necessary.** Intermediate reports must be presented if requested. Hella must be informed in writing of any deadline delays. The supplier must examine the products complained about carefully (defect-cause analysis). He has to summarize the results and planned corrective measures including the schedule for their implementation in an 8D report without delay (example: VDA-QMC form at http://www.vda-qmc.de) and forward this to Hella. The effective implementation of the corrective measures must be proved to Hella.

Hella reserves the right to carry out an audit at any time on the supplier's premises in the case of problems caused by the supplier and/or unacceptable supplier reaction time and to charge the supplier accordingly.

3.5 Quality documentation

The results of the quality tests carried out at the suppliers and the audits must be documented including planned and effectively implemented corrective measures and provided to Hella or Hella's customer on request at any time. Any deviations from this procedure must be agreed between the partners at the time the contract is concluded.

For parts with increased documentation requirements (refer here also to VDA Volume 1), quality records must be stored at the suppliers and his sub-contractors for at least 15 years after SOP.

3.6 Quality agreements and ppm management

Hella and the supplier are to agree measurable targets for the quality upon delivery (ppm target agreements) for the operative implementation of the strategic "zero-defect quality" target.

The target value is specified in

$$ppm = \frac{\text{Defective parts}}{\text{Number of delivered parts}} * 10^6$$

(ppm = **p**arts **p**er **m**illion/number of defective parts for every 1 million parts delivered)

To make communication easier, and if technically sensible and reasonable, only one target value should usually be agreed for each of the product families delivered by the supplier, or for all products delivered if possible.

The ppm results are recorded at Hella, communicated to the supplier and integrated in the supplier evaluation. At the same time they form the basis for specific measures for continual quality improvement.

The agreement of ppm values does not mean this is a quality level accepted by Hella. None of the parts recognized as defective will be accepted and will always be at the supplier's own cost.

3.7 Basics of ppm calculation and evaluation of logistic complaints

The defect quantities are calculated under the following basic conditions:

Parts complained about in the incoming goods and production departments as well as by customers will be recorded. No extrapolation or estimation of defect quantities takes place from the testing quantity to the delivered quantity.

Exception: In the case of logistic complaints which lead to production problems or defective products, the “external defect quantity” is equal to the processed quantity. These complaints are evaluated as technical complaints, i. e. the “external defect quantity” is included in the ppm statistics.

If the supplier asks for the goods to be sent back before they are processed (due to a defect he has recognized), the defects are not included in the ppm statistics. (External defect quantity = 0).

If the supplier or Hella sorts the parts, the non-conform parts are included in the ppm calculation.

In this context, sorting can mean:

- Sorting at Hella by Hella, by the supplier or by external reworking companies.
- Processing in production with determination of defective parts.
- At the suppliers with notification of the actual number of defective parts. In this case the Hella Purchase Parts employee has discretionary powers of including the non-conform amount notified by the supplier or 100 % of the returned goods/quantity as non-conform in the system.

In the case of logistic complaints, the non-conform parts (external defect quantity) are not included in the ppm calculation.

Logistic defects are such defects that mainly refer to the delivery quality in terms of quantity, deadline, packaging and processing.

The evaluation of logistic complaints is made using the key performance indicators:

Log. compl.: Number of complaints

$$\text{Log. compl. \%} = \frac{100 \times \text{compl. Log}}{\text{Number of batches delivered}}$$

3.8 Change management/ Q-problems

The supplier is obliged to inform Hella about any quality problems or blocking of products or processes immediately and in writing, usually before the products are delivered, and to agree the necessary corrective measures with Hella.

The supplier must inform Hella as early as possible, but 9 months before introduction of the change at the latest, of any technical changes he intends to introduce for the delivery of released contractual objects.

The supplier informs Hella before carrying out all the planned changes in products and processes, both before and after SOP, e. g. in the case of

- design, specification or material changes,
- the use of new, modified or replacement tools,
- manufacturing methods or production processes
- relocation of production within a manufacturing location or to other locations,
- changes in product, component, material, services or software suppliers
- new SOP of production equipment after a standstill of more than 12 months.

The supplier is also obliged to inform Hella if one of the above points refers to a sub-supplier.

The supplier agrees the scope of the necessary repeat release tests (initial samples) with Hella. He makes sure that no series deliveries are made to Hella until the new initial samples to be presented have been released by Hella (see section 5.6). The changes carried out must be documented in a history of the part.

If old versions still exist at the time the change is made, Hella must be informed of the quantities in order for a decision to be taken about their use.

After changes, the first deliveries must be specially marked on delivery note, containers and parts themselves, if appropriate. Details of this must be agreed in writing between Hella and the supplier before the parts are delivered.

If this procedure is not followed, Hella reserves the right to charge any related costs incurred to the supplier.

3.9 Continual improvement process

The supplier has introduced a structured process of continual improvement for all products, processes, company workflows and services in his company and can prove it is used for the products delivered to Hella and the activities connected with this business relationship. Its effectiveness is proved by continual improvement of the quality performance, prices, delivery performance, flexibility and cooperation. Hella will be shown the respective programs and measures for continual improvement on request.

4. Methods of quality assurance at the suppliers

4.1 Escalation process for suppliers

If quality or logistics problems occur repeatedly at the suppliers, they are included in the Hella escalation process. The aim of the process is to implement suitable measures at the suppliers so that the products and materials delivered meet Hella requirements again. Depending on the duration and seriousness of the problems, they are classified in one of three escalation levels.

The procedure of each level is as follows:

- **Analysis** of the cause of escalation and of the problem.
- **Agreement of an action plan** to eliminate the causes of the escalation in order to bring the quality back in line with the targets.
- **Implementation** of the action plan.
- **Monitoring/following up** the action plan.
- Depending on the effectiveness of the measures, either **escalation or de-escalation** to the next level takes place.

Escalation level 1: In the event of supplier defects, the supplier is confronted with these problems on the basis of details about quality problems, deviations from targets, repeated complaints and delays in deliveries. During the complaints process the supplier should initiate an effective problem solution and document this in the 8D report or action plan, for example.

Escalation level 2: In escalation level 2 the action plan is monitored on site at the suppliers to make sure it is adequate and effective. This can also take place within the context of quality and/or logistics audits. The results of the on-site analysis are documented in an action plan. The supplier is responsible for implementing the measures and has to report to the positions responsible about the respective status at regular intervals.

Escalation level 3: If the quality requirements in escalation level 2 are not fulfilled, the supplier is classified under escalation level 3. This means the supplier is blocked for new inquiries and placement of orders for all Hella companies world-wide.

At escalation level 3 the existing problems are analyzed by a Hella team on site. The supplier must be prepared to support all activities of the Hella employees. The supplier's general management must ensure the agreed measures are carried out.

In order to guarantee the implementation or effectiveness of the planned measures, progress is monitored and documented by means of regular reviews.

Escalation level 3 ends with de-escalation. If a supplier support project is not successful and the reason for this lies with the supplier, the supplier affected is re-positioned in the portfolio of Hella Purchasing.

4.2 Additional Control Level

The “additional control level” is an additional inspection of purchase parts. The purpose of this process is to implement a filter which avoids defective purchase parts due to poor supplier quality performance reaching the Hella production line.

ACL 1 (Additional Control Level 1): ACL 1 requires an additional one hundred percent check of the material to be provided by the supplier. The appropriate testing station must be separate from Production (minimum distance 10 m). The test results must be documented every day at the testing station. The marking of the purchase parts checked by the supplier must be agreed between Hella and the supplier.

The supplier must report the test results regularly to Hella in compliance with the ACL report (Hella 1280).

ACL 2 (Additional Control Level 2): In the case of ACL2, this additional monitoring of the purchase parts is carried out by an independent service provider representing Hella interests. The costs incurred for this test are borne by the supplier. The selection of service provider must be agreed with Hella, since customer requirements (OEM) must be taken into account.

A weekly report of the test results must be sent to Hella by the service provider in compliance with the ACL report (Hella 1280).

To revoke ACL1/ACL2, the following conditions must be met:

- Preventative measures must be implemented and their effectiveness proved.
- At least four weeks of defect-free additional 100 % test.
- Or at least as many defect-free parts during additional 100 % testing as would make up 5 delivery batches.
- Written permission through Hella.

5. Further quality assurance requirements

Alongside the specified general requirements and obligations of the Hella suppliers, the following must be proved or presented in detail:

5.1 Check of manufacturability

In submitting the quotation, the supplier confirms manufacturability according to the specifications and properties defined in the Hella inquiry.

The obligation to "zero-defect quality" as a major part of the contract applies without exception.

5.2 Advanced quality planning

In order to secure "zero-defect quality" in all phases of cooperation, the supplier commits himself to preparing a binding advanced quality plan for prototypes, pilot series samples and series deliveries, to documenting this in the test flow plans (control plan) and agreeing details with Hella. It must be agreed in advance whether the advanced quality plan should be carried out in compliance with the requirements of VDA Volume 4, Part 3 or the QS 9000 documents.

5.3 Product and process FMEA

Taking the application of his products at Hella and Hella's customers into account, the supplier carries out preventative risk analyses (FMEA) for all products delivered to Hella and the processes linked with these, and updates the FMEA whenever deviations of product and/or process quality occur as well as when changes are made as described in section 3.8. All the parameters affecting product safety must be integrated in the analysis. Points evaluated as critical must be improved in the short term by means of suitable corrective and preventative measures to enable specifications, properties and product safety as well as capable manufacturing to be guaranteed.

Details are specified in VDA Volume 4, Part 2 as well as in the QS 9000 documents. See section 3.5 for details of the results.

5.4 Capability of testing equipment, machines and processes

The supplier uses suitable statistical methods to make sure the machines, tools, measuring and testing equipment used, as well as the processes these are used in, are suitable and capable for manufacturing the products supplied to Hella.

The properties for which proofs of capability must be brought are agreed between Hella and the supplier.

The minimum requirements are as follows:

Method 1
Testing equipment capability index: $C_{gk} \geq 1.33$

Here, 50 repeat measurements are made at short intervals at the measurement standard, carried out by the same tester.

Condition: the resolution of the measuring instrument has to be less than 10 % of the tolerance bandwidth.

Method 2 (with operator influence)
Repeat and comparison precision (%R&R): ≤ 20 % for new testing equipment
≤ 30 % for testing equipment already in use

Usually 2 testers, 10 parts with 2 measuring sequences per tester are planned.

Method 3 (without operator influence)
Repeat precision (R): ≤ 20 % for new testing equipment
≤ 30 % for testing equipment already in use

In this case, two measurements with 25 parts each are usually planned.

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

Here, a large number of spot checks is made and evaluated within a short time.

Temporary process capability index: $\mathbf{P_{pk} \geq 1.67}$
Process capability index: $\mathbf{C_{pk} \geq 1.33}$

Here smaller numbers of parts are removed and evaluated over a longer period. Details of the procedure are specified in VDA Volume 4, Part 1 as well as in the QS 9000 documents.

If the minimum requirements are not met temporarily, 100 % tests must be carried out as long as necessary until capability is achieved through corrective measures.

Definition:
Machine = Individual component within the production sequence
Process = Regulated value-creating and repeatable sequence with measurable input and output, e. g. interaction of staff, machines, material, methods, equipment, working environment in a group of related tasks.

5.5 Process and product audit

The supplier carries out internal planned audits (e. g. VDA Volume 6 Parts 3 and 5) for all the products delivered to Hella and all the processes linked with their development and production at regular intervals. This is based on contractually defined product specifications and properties as well as further agreements affecting the deliveries, e. g. logistics and packaging. In the event of deviations, the supplier initiates all the corrective measures necessary and ensures their effective and long-term implementation.

In addition, Hella is authorized to carry out process, product or system audits at any time but with advance notice in order to check whether the supplier's quality assurance measures guarantee Hella requirements.

If quality problems occur which are caused by performances and/or deliveries of the supplier's sub-contractors, the supplier must carry out an audit at the sub-contractors if requested to do so by Hella, with Hella participation if appropriate, and present the results openly to Hella. Refer to section 3.5 on the subject of audit records.

5.6 Product and process release

For product release and before series deliveries begin, the supplier has to present Hella with initial samples which comply with all contractually agreed specifications and properties:

- Dimensions
- Material and processing
- Applications/interface

This enables any deviations to be corrected in good time and thus systematic defects to be avoided in series production.

Series deliveries are not permissible without initial sample release having taken place.

The initial samples and all the individual parts and materials used to manufacture them have to be produced using standard series operating equipment and under series conditions.

The required documentation must be agreed in content and scope according to the specific project concerned with Hella Purchasing.

It must be agreed in advance whether the initial sampling should be in compliance with the requirements of VDA Volume 2 Part 2 or the QS 9000 documents. The respective presentation level must be defined.

The alignment points given on the drawing must always be heeded. If the Hella drawing does not contain this information, the alignment points determined during measurement must be recorded by the supplier in the release documentation.

Hella can check or request the results of the process release if required.

For standard parts and products for the aftermarket, the releases can be agreed on the basis of “supplier data sheets” upon request and requirement by Hella Purchasing.

Hella reserves the right to charge the supplier with any costs incurred if initial sample inspection reports are repeatedly rejected.

5.7 Traceability

The supplier is obliged to guarantee the traceability of the products he supplies.

The products must be marked or some other suitable method chosen to ensure that in the event of a defect being discovered, all other products which could be defective can be identified and blocked until remedial measures have been agreed between the supplier and Hella.

5.8 Re-qualification test

Unless otherwise agreed, the supplier must undertake a complete dimensional and functional test of all products according to the product control plan and in compliance with ISO/TS 16949 or QS 9000 at suitable intervals, usually once a year, taking the respective customer requirements for material and function into consideration.

6. Mutually applicable documents, literature

Details about the standards and methods of quality management mentioned in the guideline can be found in the respective latest edition of the following literature.

Send your request to

Hella, Central Purchasing
Corporate Purchase Management (CPM)
Quality Management
Rixbecker Str. 75
59552 Lippstadt, Germany
Phone: +49 2941 38-0
Fax.: +49 2941 38-6664
Internet: www.hella.com

who will be happy to help with the interpretation and introduction of methods and standard requirements.

■ DIN EN ISO 9001:2000	Quality management system requirements
■ VDA 1	Guide to documenting and archiving quality requirements and quality records
■ VDA 2	Guaranteeing delivery quality
■ VDA 4 Part 1–3	Guaranteeing quality before series application
■ VDA 6 and 6 Parts 1–3, 5	Quality management in the automotive industry
■ QS 9000	Quality system requirements, series of documents
■ ISO/TS 16949	Quality management systems, series of documents
■ DIN EN ISO 14001	Environment standard
■ National legislation of the Directive 2002/95/EC RoHS	Restriction of the use of certain Hazardous Substances in electrical and electronic equipment

7. Terms and definitions

CAQ	**C**omputer **A**ided **Q**uality system
ERP	**E**nterprise **R**esource **P**lanning **s**ystem
FiFo	**F**irst **i**n **F**irst **o**ut
FMEA	**F**ailure **M**ode and **E**ffects **A**nalysis Tool for preventative quality planning (risk analysis)
IMDS	**I**nternational **M**aterial **D**ata **S**ystem
Pareto analysis	Investigative method which uses the arrangement of all the factors influencing the situation to be considered in order of their relative influence with the aim of being able to limit a detailed investigation to the main factors.
QFD	**Q**uality **F**unction **D**eployment
SPC	**S**tatistical **P**rocess **C**ontrol

Hella KGaA Hueck & Co.
Rixbecker Straße 75
59552 Lippstadt, Germany
Phone: +49 2941 38-0
Fax: +49 2941 38-6664
Internet: www.hella.com

Ideas today for the cars of tomorrow