Quality Licence
For Suppliers of the Volkswagen Group

Supplier Excellence

Quality Capability

Dr. Matthias Grupe
Group Supplier Quality Audit

51st EOQ Congress, Prague May 2007
International driving licence

Routine checks

Basic inspection

Practical Inspection

Technical review for suppliers

Certificate

Audit fulfilment level

<table>
<thead>
<tr>
<th>Grade</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>100 - 92%</td>
</tr>
<tr>
<td>B</td>
<td>82 - 91%</td>
</tr>
<tr>
<td>C</td>
<td>0 - 81%</td>
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</table>

Group comprehensive standard (Formula Q Capability)
Guidelines to content and application, monitoring and witnessing by group quality

Penalty points

Monitoring of delivery quality

Rating of the quality performance
A/B/C

No faults detected
Fault, improvement programme required
Serious faults with direct impact on the product

CSC-Veto
Quality Licence for Suppliers of the Volkswagen Group

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- DIN EN ISO 9001:2000 certification
- VDA 6.1, ISO/TS 16949 certificates
- Customer-specific product and process requirements and ongoing improvement process
- Potential analysis / process audit (VDA 6.3)
- Product audit (VDA 6.5)
- Basic requirements of the norm and the car industry
- Practice-related additional requirement
  - Product development / serial manufacturing
  - Customer requirements / service
- VDA-approved certifier
- Car manufacturer / supplier

QM manual for procedure / work instructions, application of QM system
Customer-specific product and process requirements and ongoing improvement process
The evaluation and qualification of the suppliers in terms of product, process and system results in an overall rating (A, B or C) for quality capability and

- Is a prerequisite for all group suppliers
- Is internationally valid
- Has the same requirements for all suppliers and regions
Self-qualification and self-audit according to specifications of the Volkswagen group

VDA Volumes 1 to 6 / TS 16949

Verification, ensuring quality of deliveries and before use in series production, quality management system audit, process audit, product audit

Applicable documents of the Volkswagen group, including

- Formula Q Konkret
- Formula Q new parts integral
- Formula Q Capability

Preparations for the inspection

Basic inspection  Practical inspection  Delivery quality  Duty of care

Self-qualification to an A supplier
⇒ Self-confirmation (audit)
Preparations for the inspection

Basic inspection

Practical inspection

Delivery quality

Duty of care

Basic requirements of the norm and the car industry of quality management

DIN EN ISO 9001:2000 certification

VDA 6.1, ISO/TS 16949 certificates

Quality management is not OEM-specific

=> audit is not performed by OEMs but by accredited certification bodies (3rd party)
Preparations for the inspection

Basic inspection

Practical inspection

Delivery quality

Duty of care

**Quality capability**

Inspecting the suppliers on-site in terms of the suitability of manufacturing processes & operating means, the qualification or personnel and evaluating material flow

**Supplier evaluation & qualification**

Process capability depends on the product and is customer-specific

=> the process audit must be performed for its products and processes by group auditors

Audit fulfilment level

- A: 100 - 92%
- B: 82 - 91%
- C: 0 - 81%
Preparations for the inspection  Basic inspection  Practical inspection  **Delivery quality**  Duty of care

**Quality performance**

Results from initial sample, serial deliveries (warehouse incidents, main feature processing) and field data, basic information on company IT systems (e.g: QUASI, TEVON, MOP/MIS)

Penalty points

A / B / C

If required

⇒ Problem analysis
⇒ Process audit
⇒ Qualification programme
The technical revision for suppliers is an analysis tool with which the VW employee responsible for the component can check if the system, product, product family or the manufacturing process correspond to the requirements of the Volkswagen group at all times.
Trigger

- Frequent customer complaints 0-km/field,
- Continuously bad quality performance,
- Process or product change not reported to the customer/purchase,
- No announcement of production relocation etc.
Questionaire focus

- Technical documentation and releases, product history, revision states,
- Series testing, inspection records,
- Test processes, test equipment, test capacity,
- Process capability, safeguard measures
  Improvement actions from audit, effectiveness,
- Internal audit, requalification test,
- Actions on sub-supplier side,
- agreed test procedure with supplier,
- Personal qualification,
- Safeguarding of TLD.
Escalation scheme

1st Level:
- Quality meeting on group level, involvement of top management and possibly downgrading to C
- Containment actions, quality meeting (within 10 working days) with the responsible department, involvement of management
- Weakness point analysis possible
determination of improvement Actions

2nd Level:
- Quality Licence for Suppliers of the Volkswagen Group
- Duty of care
- Technical Review

3rd Level:
- Escalation levels
- 3rd Level

Routine checks

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Quality capability

Certificate

Process audit

Product audit

Quality performance

Q results from sampling, delivery, further processing, usage

Classification of the quality performance

A / B / C

Target: A-classification in every criterion

Veto right in purchasing process

A  92 - 100 %  quality capable
B  82 - 91 %  limited quality capability
C  < 81 %  not quality capable
Supply Chain

Target: heightened preventive safeguard actions even on sub-supplier side (10% of audit activities in 2007)

The weakest link in the chain determines the quality level!!
Facts and datos for the audit/TRS:

- Number of group serial suppliers world-wide: approx. 7000 with approx. 10000 production units
- Number of actions/year at suppliers world-wide: approx. 3500
- World-wide supplier supervision by audit teams
  in the USA, Mexico, South Africa, China, Brazil/Argentina, England, Spain, Czech Republic and Germany
- With a current total of 100 auditors
- Identical auditor training throughout the group world-wide
  Academic qualification, quality manager and auditor training (VDA & TS)
  and working experience in the manufacturing processes, witness audits by the Group
- Technical Review for Suppliers (TRS)
  - Introduced May 2003 in Germany, since May 2004 world-wide implemented
  - No. of staff currently trained: 170
  - TRS conducted: ~ 800, 02/2007
One further step ...