

# VOLKSWAGEN

AKTIENGESELLSCHAFT



**Formula Q**

*Capability Appendix*

**3rd Edition January 2018**

1. Edition January 2012
2. Revised edition June 2015
3. Revised edition January 2018

This part of the contract will only be available to suppliers in the current version electronically through the Volkswagen Group Business Platform under [www.vwgroupsupply.com](http://www.vwgroupsupply.com).

Up to date valid and binding documents are generally available on the aforementioned Group Business Platform.

The German language edition of the Formel Q Capability is binding.

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# 1 Supplier Process Audit (VA) and Potential Analysis (POT)

## 1.1 General

The Process Audit is used to evaluate the Quality Capability of Suppliers. The Process Audit is conducted according to VDA 6.3, the appropriate Questionnaire Catalogue Potential Analysis (POT) or Process Audit (VA) is used.

For the each question it is defined in point 2 **"Additional requirements of "Formel Q Capability" which go beyond the requirement of VDA 6.3"** are to be taken into account.

## 1.2 Evaluation of the Process Audit Results

The Evaluation is described in VDA 6.3 for each Product Group. Additional results from the Product Audit conducted at the same time will be taken into account. The Grading rules must be applied to determine the overall result (per Product Group) for quality capability.

### 1.2.1 Overall Rating of Process Audit

Grading guidelines for Quality Capability with Product Groups EPN are according to VDA 6.3.

#### **Reasons for Grading from A to B, despite grade of fulfilment EG $\geq$ 90%:**

- At least one Process Element P2-P7 or Process Step E1-En is rated with less than <80%.
- Grade of fulfilment for at least one Sub-element of P6 (EU1-EU7): Process-Input, Operations content, Work Content, Personnel Resources, Material Resources, Efficiency, Process-Output, Transport and Parts Handling is < 80%.
- At least one of the \* - questions is rated with 4 points or less.
- At least one of the questions from the Process Audit is rated with 0 points.

Additional guidelines according to Formel Q Capability version 8 for downgrading from A to B, despite grade of fulfilment EG $\geq$  90%.

- A System Certification acc. to either ISO/TS 16949 / IATF 16949 or VDA 6.1 is not available.

- During the Product Audit a B-class fault or a systematic C class fault was identified.
- Yellow classification of an Applications Review.
- Risks within the supply chain which will have an impact on the quality of products of the direct supplier to Volkswagen were identified. This will lead to a downgrading of the direct Supplier.

### **Reasons for Grading to C, despite grade of fulfilment EG $\geq$ 80%**

- At least one Process Element P5-P7 or Process Step E1-En are rated with a grade of fulfilment <70%.
- At least one \*-question rated with 0 points.

Additional downgrading guidelines according to Formel Q Capability version 8 despite grade of fulfilment EPN  $\geq$ 80%:

- A-class faults or systematic B-class faults were identified during Product Audit.
- Identified Risks within the Supply Chain which will directly impact on the Quality of Products from the Direct Supplier delivered to Volkswagen. This will lead to a downgrading of the Direct Supplier. An indicator for such a risk could be a "red" rating of the Sub-Supplier, e.g. during a Sub-Supplier Audit.
- Red classification of an Applications Review.
- The certification of the QM system (at least according to DIN EN ISO 9001) is not available or has been withdrawn. The certification body must be accredited by an IAF member organization (for example DAkkS).

### **Reasons for post-audit Grading to C**

- Implementation of the Improvement Programme refused or not realised.
- Self Audit with C rating.
- Quality targets of the Customers not achieved within agreed deadlines ("A"-Rating).
- Risks within the Supply Chain identified which will directly impact the Quality of Products from the Direct Supplier delivered to Volkswagen. This will lead to a downgrading of the Direct Supplier. An indicator for such a risk could be a "red" rating of the Sub-Supplier, e.g. during a Sub-Supplier Audit.

- A Supplier can also be rated as “C”-rated after any Audit, if there is a negative rating, or a Special Product Risk identified during a TRL, D/TLD, Problem Analysis, or a visit by a VW-Auditor.
- Access to the factories and all manufacturing steps for the performance of VW supplier audits (e.g., VA, TRL, AR) is denied.
- The certification of the QM system (at least according to DIN EN ISO 9001) is not available or is withdrawn.

The Supplier is informed in writing by the Customer Audit Department about the rating result.

### **1.3 Upgrading Criteria**

In addition to the "Formula Q Capability", the following upgrading option applies:

A subsequent upgrade from B to A is possible if a Formula Q Capability audit has been graded due to a lack of certification of the QM system according to ISO / TS16949, IATF 16949 or VDA 6.1. If the supplier verifies a corresponding certification of the QM system within a period of nine months, a further upgrade without a new audit can be carried out, provided that the Q performance is positive.

## 2 Additional Formel Q Capability Requirements that go beyond VDA 6.3 Requirements

These requirements are additional to the questions of VDA 6.3 and must be taken into account for the assessment.

In the process audit, the component and process-specific requirements of Volkswagen AG must be taken into account (including technical drawing, TL, PV, TLD, Q-Specifications).

For more information on assigning individual points, see this table:

Reference question in VDA 6.3	Evaluation Relevant Requirements
5.1	In the selection of suppliers and the assessment of the quality capability during the project and the series, process audits must be planned and implemented according to Formula Q Capability (VDA6.3) (depending on the risk classification of the component and, if applicable, quality framework agreements, see "Formula Q Konkret", chapter 1.4)
5.2	<ul style="list-style-type: none"> <li>▪ A product safety responsible representative (PSB) for each individual step in the supply chain must be nominated.</li> </ul>
5.7	<ul style="list-style-type: none"> <li>▪ The audits in the supply chain must be conducted by certified VDA 6.3 auditors. Proof of the "certified process auditor" is provided by the VDA auditor card with the inclusion of the auditor in the VDA QMC database or by proof of the auditor training according to VDA 6.3 by an accredited personnel certifier according to DIN EN ISO 17024.</li> <li>▪ Alternatively, the regulation for "Formula Q Capability" applies to the qualification requirements for auditors for the self-audit</li> </ul>
6.2.3	<ul style="list-style-type: none"> <li>▪ The supplier is obliged to include all special features (eg TLD characteristics) specified by the customer in his approach for monitoring special features. Comment: If the supplier uses a different identification for his documents and records, he is required to utilise a correlation matrix for the</li> </ul>

	<p>obligatory identification symbols (e.g. overview matrix with identity symbols for each individual customer and their internal identity symbols); the document shall be kept as a controlled document.</p> <ul style="list-style-type: none"> <li>▪ Including Sub-Suppliers.</li> <li>▪ Tracking list for all “D/TLD parts of the Customers.”</li> <li>▪ Perform a D / TLD self-assessment at least once a year. The self-assessment must not be longer than 12 months apart.</li> <li>▪ Compliance of labelling of Products with National and International conformity requirements. (e.g. ABG-requiring components CCC, ECE, DOT...)</li> </ul> <p>Controlling the functional relevant dimensions according to the catalogue for functional dimensions.</p>
<b>6.4.1</b>	<ul style="list-style-type: none"> <li>▪ Controllers for process-influencing parameters must be protected against unauthorized interference.</li> </ul>
<b>6.4.3</b>	<ul style="list-style-type: none"> <li>▪ Suitability of Inspection Processes – consideration of Measuring accuracy in the Inspection Processes (VW10119).</li> <li>▪ VDA Volume 5.</li> </ul>
<b>6.5.2</b>	<ul style="list-style-type: none"> <li>▪ Process Capability review for measurable characteristics (VW10131).</li> </ul>
<b>6.5.4</b>	<ul style="list-style-type: none"> <li>▪ Product audits according to VDA 6.5, at least annually. Consideration of essential features, main, connection and functional dimensions, marking and packaging.</li> <li>▪ Compliance of labelling of Products with National and International conformity requirements.(e.g. ABG-requiring components CCC, ECE, DOT...). Proof of valid certificates.</li> </ul>
<b>6.6.1</b>	<ul style="list-style-type: none"> <li>▪ Outsourced process steps (additional product risks in the transport chain, eg through parts handling, transport routes, etc.).</li> <li>▪ First-In First-Out (FiFo).</li> </ul>
<b>6.6.4</b>	<ul style="list-style-type: none"> <li>▪ The Quality Performance in series needs to be continuously assessed and documented. Corresponding data Information and experiences are to be used for product improvement, production optimization and supplier evaluation.</li> </ul>
<b>7.1</b>	<ul style="list-style-type: none"> <li>▪ QM-System Certification ISO/TS 16949 / IATF 16949 alternatively VDA 6.1, but at least DIN EN ISO 9001 certification by an accredited certification company.</li> </ul>



	<ul style="list-style-type: none"> <li>▪ Certificates supporting conformity with National and International regulations (e.g. ABG requiring component CCC, ECE, DOT, etc.). Withdrawal of Certificates / Releases must be immediately reported to Customers plants and the responsible people at Purchase and Quality Assurance Departments of Volkswagen Group and involved companies.</li> <li>▪ The self-audit, including product audits, must be carried out using the self-audit report form (available on the corporate business platform).</li> <li>▪ The current quality performance shall be evaluated in Formel Q Capability Self-Audit report (including Q-performance, customer ratings).</li> </ul>
<b>7.2</b>	<ul style="list-style-type: none"> <li>▪ Maintaining the supplier database (LDB-B2B): among others Production Location, Contact data, Performance Range / DUNS No. / KRIAS No. Quality Management Certificate.</li> <li>▪ The manufacturing plant must strictly only have one DUNS no. with respect to Volkswagen AG. According to the drawing, the components must be labelled with the location-specific 3-digit Herstellercode (Manufacturer) code.</li> <li>▪ Initial / Follow-up sampling for each individual location with DUNS No. of the producing manufacturing site.</li> <li>▪ Obligation to keep the parts history up to date (see VW01155 / VDA Volume 2)</li> </ul>
<b>7.4</b>	<ul style="list-style-type: none"> <li>▪ The process of Failure Analysis is implemented. Mandatory requirement: VDA Volume "Failure Analysis".</li> </ul>
<b>7.5</b>	<ul style="list-style-type: none"> <li>▪ External Qualification of at least one Senior Management member for the basics of Product Safety and Product Liability law.</li> <li>▪ Specify the product safety officer (PSB) in the delivery database on the corporate business platform (LDB) for each location. The training of the PSB must have been carried out by a course recognised by Volkswagen AG.</li> <li>▪ Knowledge of the function and purpose of use of the product in the vehicle.</li> <li>▪ Qualification of auditors who carry out self-assessments</li> </ul>