VOLKSWAGEN
AKTIENGESELLSCHAFT

Formel Q

Capability Appendix

Appendix of the Formel Q Capability

INTERNAL
INTERN

Editions:

1st Edition – January 2012
2nd Edition, revised edition – June 2015
3rd Edition, revised edition – January 2018
4th Edition, revised edition – December 2022

The German-language edition of Formel Q Capability Appendix is binding. The companies affiliated with Volkswagen AG pursuant to §§ 15 et seq. of the German Stock Corporation Act (AktG) may define a different language version as binding for their contracts with the respective suppliers.

Published by: Volkswagen AG

Group Supply Chain
P.O. Box 1610/0
38440 Wolfsburg
Germany

Contents

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

1.1 General

The Process Audit (VA) or Potential Analysis (POT) is conducted according to VDA 6.3. 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.

1.3 Overall Rating of Process Audit

1.3.1 Reasons for downgrading from A to B even though the compliance level is E_G>=90%

According to VDA 6.3:

- At least one process element P2-P7 or process step E_1-E_n is evaluated as having a compliance level with less than <80%.
- Compliance level for at least one sub-element of P6 (E_{U1}-E_{U7}): 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 evaluated with 4 points or less.
- At least one of the questions from the Process Audit is evaluated with 0 points.

Additional guidelines according to Formel Q Capability version 9 for downgrading from A to B even though the compliance level is E_G>= 90%:

- A System Certification acc. to 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 1st tier supplier to Volkswagen were identified. This will lead to a downgrading of the 1st tier supplier (direct supplier).

1.3.2 Reasons for downgrading to C even though the compliance level is E_G>=80%

According to VDA 6.3:

- At least one process element P5-P7 or process step E_1-E_n is evaluated as having a compliance level with less than <70%.
- At least one *-question evaluated with 0 points.

Additional downgrading guidelines according to Formel Q Capability version 9 even though the compliance level is E_G >=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 1st tier supplier delivered to Volkswagen. This will lead to a downgrading of the 1st tier supplier (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 Application 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 IATF member organization (for example DAkkS).

1.3.3 Reasons for post-audit downgrading to C

- Implementation of the action plan refused or not realized.
- Confirmation of the implementation of the measures of the supplier audit is refused or not realized.
- Quality targets of the Customers not achieved within agreed deadlines (“A”-Rating).
- Supplier Self Audit (SL) with C rating.
- A Supplier Self Audit (SL) is denied or not provided.
- Risks within the Supply Chain identified which will directly impact the Quality of Products from the 1st tier supplier delivered to Volkswagen. This will lead to a downgrading of the 1st tier 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 particular risk of compliance with the law or fulfilment of the required component function is determined by a Volkswagen Group auditor on site at the supplier's premises as part of a method described in Formel Q.
- 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 performing of a scheduled supplier audit is requested to be postponed by the supplier more than 2 times, or 1 time over a period of more than 2 months without any comprehensible reason.

The supplier is informed in writing by the customer's responsible audit department about the rating result.

1.4 Upgrading Criteria

An upgrading can only take place through a Customer Process Audit at the production site of the supplier after the successful and sustainable implementation of the action plan.

An upgrading from C to B will only be established once a "robust B" rating during a Customer Process Audit is reached. (i.e. compliance level is greater than or equal 85% (see VDA 6.3)).

A subsequent upgrade from B to A is possible if a Formel Q Capability Audit has been graded due to a lack of certification of the QM system according to IATF 16949 or VDA 6.1. If the supplier verifies a corresponding certification of the QM system within a period of 9 months, a further upgrade without a new audit can be carried out, provided that the Q performance is positive. The evidence must be proactively submitted to the customer's responsible audit department.

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

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

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 Formel Q Capability (VDA 6.3) (depending on the risk classification of the component and, if applicable, quality framework agreements, see "Formel Q konkret").
5.2	• A Product Safety & Conformity Representative (PSCR) for each individual step in the supply chain must be designated.
5.7	• The audits in the supply chain must by conducted by certified VDA 6.3 auditors. The proof of the "certified VDA 6.3 process auditor" is provided by proof of auditor training according to VDA 6.3 by a VDA approved partner according to DIN EN ISO 17024, with inclusion of the auditor in the VDA-QMC database. • Alternatively, the regulation for "Formel Q Capability" applies to the qualification requirements for auditors for the Supplier Self Audit.

6.2.3	• The supplier is required to include all special features (e.g. 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 define a correlation matrix for the 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. • Including Sub-Suppliers. • Tracking list for all "D/TLD parts of the Customers." • Perform a D/TLD self-assessment at least once a year. The self-assessment must not be longer than 12 months apart. • Compliance of labelling of Products with National and International conformity requirements. (e.g. ABG-requiring components CCC, ECE, DOT...). • Controlling the functional relevant dimensions according to the catalogue for functional dimensions.
6.4.1	• Controllers for process-influencing parameters must be protected against unauthorized interference.
6.4.3	• Suitability of Inspection Processes according VDA Volume 5, unless otherwise agreed with the customer.
6.5.2	• Process Capability review for measurable characteristics (VW10131).
6.5.4	• Product audits according to VDA 6.5, at least annually. Consideration of essential features, main, connection and functional dimensions, marking and packaging. • Compliance of labelling of Products with National and International conformity requirements.(e.g. ABG-requiring components CCC, ECE, DOT...). Proof of valid certificates.
6.6.1	• Outsourced process steps (additional product risks in the transport chain, e.g. through parts handling, transport routes, etc.). • First-In First-Out (FiFo).

7.1	• QM-System Certification IATF 16949 alternatively VDA 6.1, but at least DIN EN ISO 9001 certification by an accredited certification company. • 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 Departments of Volkswagen Group and involved companies. • The self-audit, including product audits, must be carried out using the self-audit report form (available on ONE.KBP). • The current quality performance shall be evaluated in Formel Q Capability Self-Audit report (including Q-performance, customer ratings, "Critical Supplier" program – Level 0...3).
7.2	• Maintaining the supplier database (ONE.KPB - LDB): among others Production Location, Contact data, Performance Range / DUNS No. / Local supplier numbers. Quality Management Certificate (e.g. IATF 16949, DIN ISO 14001, ...). • 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 (HCD) (Manufacturer code). • Initial / Follow-up sampling for each individual location with DUNS No. of the producing manufacturing site. • Obligation to keep the parts history up to date (see VW01155 / VDA Volume 2)
7.4	• The process of Failure Analysis is implemented. Mandatory requirement: VDA Volume "Failure Analysis".
7.5	• External Qualification of at least one Senior Management member for the basics of Product Safety and Product Liability law. • A Product Safety & Conformity Representative (PSCR, see VDA Volume Product Integrity) must be designated for each production site in the LDB and its qualification must be proven in accordance with this VDA Volume. • Knowledge of the function and purpose of use of the product in the vehicle. • Qualification of auditors who carry out Supplier Self Audits.