

# SUPPLIER QUALITY MANUAL

Version 1.0 (05/ 2022)  
L10-100-07 Attachment N

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## **1. Purpose**

To define the minimum Quality System requirements and expectations by directing the supplier to recognized industry standards for quality systems and providing additional or alternative quality system requirements that must be satisfied.

## **2. Scope**

The supplier requirements contained herein apply to all parties who agree to contract to Tadiran Batteries GmbH or FRIEMANN & WOLF Batterietechnik GmbH for the purpose of supplying products or services that will be used in our products.

Existing material and/ or component specific quality requirements remain valid.

## **3. Approach**

The words "shall," "will" and "must" indicate mandatory requirements. Suppliers choosing other approaches must be able to show that their approach meets the intent of the requirement.

Translations of this document, in whole or in part, are intended solely as a convenience to the non-English-reading suppliers. If any questions arise concerning the accuracy of the information presented by a translated version, please refer to the English version which shall be considered as the official document.

## **4. Implementation**

Suppliers are required to implement, maintain and continually improve on all requirements contained herein or referred to in this document. Conformance to such requirements will be evaluated in accordance with a recognized industrial standard (IATF/ISO/VDA) quality system assessment manual.

## **5. Minimum Requirements**

	<b>Minimum Requirement</b>
All components and services for production use	Current version ISO 9001 third party registered by an accredited registrar
All components and services for production use – upon special agreement	2 <sup>nd</sup> party ISO 9001 audit carried out by Auditor/s from to Tadiran Batteries GmbH or FRIEMANN & WOLF Batterietechnik GmbH

## **6. Customer Specific Requirements**

Customer requirements will be transmitted and shall be adhered to as applicable by the supply chain. This includes technical drawings, components, tolerances, timing, processes, changes, legal and regulatory requirements. Suppliers for Tadiran Batteries GmbH or FRIEMANN & WOLF Batterietechnik GmbH are required to convey the requirements to sub-tier suppliers as appropriate to ensure interfaces are identified and secured.

Suppliers are required to adhere to Code of Conduct and Ethics for Suppliers as well as Sustainability requirements as distributed.

Suppliers must also maintain a documented contingency plan to ensure that the supply of components to Tadiran Batteries GmbH or FRIEMANN & WOLF Batterietechnik GmbH is secured.

## **7. Supplier Performance Reporting**

Tadiran Batteries GmbH or FRIEMANN & WOLF Batterietechnik GmbH issues supplier performance reports. The purpose of the reports is to provide suppliers with feedback for continual improvement activities.

The report results will be reviewed periodically and may consist of a rating of “Supplier Delivery Performance” and “Supplier Quality Performance (PPM)”.

## **8. Delivery Performance Ratings**

It is each supplier’s responsibility to establish systems to support 100% on-time delivery and to complete internal corrective actions to improve delivery and communication of delivery problems.

It is each supplier’s responsibility to ship material according to the specified transportation mode, routing, standard pack, container or other to Tadiran Batteries GmbH or FRIEMANN & WOLF Batterietechnik GmbH requirements.

Delivery Performance Ratings will be assigned and may require further actions as below:

- 100% - Meets requirement - no action required.
- 90-99% - An internal corrective / preventive action to be completed and documented.
- 89% and below - A full, completed 8D report shall be submitted to Tadiran Batteries GmbH or FRIEMANN & WOLF Batterietechnik GmbH with dated action plan. This report shall be sent within 10 business days of receipt of the Supplier Performance Report.

Additional corrective actions may be requested for potential or actual issues concerning delivery, transportation mode, routing, standard pack, container type or any other requirements.

## **9. Quality Performance Ratings**

PPM Performance Ratings will be as follows:

- 0 ppm - Meets requirement - no action required
- Above 1 PPM - A 8-D Report is required in response to each complaint issued.
- Suppliers' PPM will be monitored. Suppliers with poor performance in these areas may be required to submit a documented and dated action plan.
- Regardless of the supplier's Quality Performance Rating, the supplier shall be responsible for all quality issues that may arise.

## **10. Process Control/Special Characteristics/Special Processes**

Product characteristics (e.g. dimension, property, function, chemistry, appearance or finish), or process characteristics (e.g. temperature, pressure, force) that require additional control to ensure consistency and compliance to meeting customer / engineering requirements and/or government regulations (e.g. fit, function, performance, noise & vibration, durability, safety, legal).

### **"SPC Characteristic" S-Cone**

Definition: A variable characteristic subject to in-process variation. The anticipated variation within specification could significantly affect customer satisfaction with a product (i.e. fit, function, performance)

The following specifies the minimum requirements for any dimension designated as an SPC Characteristic.

Must be statistically monitored using an appropriate control chart method (e.g. X-Bar and Range (R) chart).

Gauge capability (R&R) must be demonstrated per current AIAG MSA or VDA 5 manual.

Capability Index (Ppk) must be equal to or greater than 1,67 for short term studies, (e.g. PPAP submission), unless otherwise specified.

Capability Index (Cpk) must be equal to or greater than 1,33 for long term studies (e.g. mass production), unless otherwise specified.

If capability is not met, 100% inspection is required until the process is stabilized and capability can be met.

Sample size and frequency of inspection must be documented on the Control Plan.

For multiple cavity tools, measurement data from all cavities must be combined for the capability analysis, unless otherwise specified.

SPC records and documents are to be made available upon request.

### **"Major Characteristic" M-Cone**

Definition: A variable characteristic not subjected to major in-process variations. The customer is equally satisfied across the entire specification, with high customer dissatisfaction immediately outside of the specification.


The following specifies the minimum requirements for any dimension designated as a Major Characteristic:

Dimensions must not exceed engineering specification limits on any part. Dimensions should have the tendency to be mean centered.

Sample size and frequency of inspection must be documented on control plan.


Records and documents are to be made available upon request.

Where required, error-proofing methods must be implemented to ensure that major characteristics are monitored and are compliant.

A major characteristic symbol may be used with an additional note indicating 100% verification of conformance to requirements (e.g.  100% inspection required).

### **"Pass Through Characteristic (PTC)" M-Cone PTC** **PTC**

Pass Through Characteristics are defined as product characteristics for features of parts supplied to or by Tadiran Batteries GmbH or FRIEMANN & WOLF Batterietechnik GmbH that are not controlled or functionally verified by Tadiran Batteries GmbH or FRIEMANN & WOLF Batterietechnik GmbH and/ or are not controlled by subsequent processing of the customer (i.e. defective PTC's may affect the fit or function at the customer's assembly plant).

The following specifies the minimum requirements for any dimension designated as a Pass Through Characteristic  PTC:

Where required, Pass Through Characteristics are evaluated jointly between the customer Tadiran Batteries GmbH or FRIEMANN & WOLF Batterietechnik GmbH and the sub-supplier (if applicable) during the development process.

Where required, error-proofing methods are implemented to ensure that PTC's are monitored and are compliant.

Records and documents are to be made available upon request.

## **11. Component/ Material Specifications**

The supplier is required to ensure that all components meet all specifications that are indicated on the drawing.

Conformance to all specifications must be verified by the supplier annually at minimum. A record of this conformance must be maintained by the supplier and provided to Tadiran Batteries GmbH or FRIEMANN & WOLF Batterietechnik GmbH upon request.

## **12. Component/ Raw Material Handling**

### **Component Handling/ Preservation.**

All parts, including those dropped on the floor or those removed from the normal process flow must be scrapped.

The supplier must ensure that all raw material, components and packaging material is stored in an appropriate location while in their facility and are protected from damage or exposure to negative environmental conditions such as humidity.

The supplier is responsible for the preservation and lot control of all Tadiran Batteries GmbH or FRIEMANN & WOLF Batterietechnik GmbH owned products that are in their possession.

If any product has a shelf life, this must be described and communicated to Tadiran Batteries GmbH or FRIEMANN & WOLF Batterietechnik GmbH.

## **13. Lot Traceability**

All suppliers must have a robust lot traceability system in place as per IATF 16949/ ISO 9001/ VDA requirements:

- The system must effectively record all appropriate production information regarding the component including raw material, processing parameters and inspection records (including sub-components).
- The lot size must be appropriate to allow for effective containment should a quality issue arise.
- The supplier must ensure that all sub-suppliers also maintain an effective lot control system.
- All records must be filed so that they can be quickly and accurately accessed. Once a component non-conformance is identified, a response to Tadiran Batteries GmbH or FRIEMANN & WOLF Batterietechnik GmbH identifying all suspect material is required within 24 hours.
- The record retention requirement for lot control documentation is 20 years

## **14. Nonconforming Product/ Preventive and Corrective Actions**

When parts are declared defective by Tadiran Batteries GmbH or FRIEMANN & WOLF Batterietechnik GmbH's Quality Assurance Department, a Supplier Corrective Action Request will be issued. The defective material may need to be replaced.

Once Tadiran Batteries GmbH or FRIEMANN & WOLF Batterietechnik GmbH's QA has informed the supplier about the rejected material, the supplier shall provide a delivery schedule for replacement parts. After the schedule has been received and agreed upon, Tadiran Batteries GmbH or FRIEMANN & WOLF Batterietechnik GmbH will issue the appropriate release.

Suppliers shall ship the replacement material to Tadiran Batteries GmbH or FRIEMANN & WOLF Batterietechnik GmbH at their own cost.

Suppliers can contact the buyer to request authorization to ship replacement material, or to have defective material returned, using the pre-scheduled delivery Route. If approved, freight charges may not apply.

Where Nonconforming Product has been identified, part replacement costs will be recovered and all indirect cost will be tracked by Tadiran Batteries GmbH or FRIEMANN & WOLF Batterietechnik GmbH. The amount of supplier charge back will be negotiated prior to a debit memo being issued.

The supplier must follow the individual instructions from Tadiran Batteries GmbH or FRIEMANN & WOLF Batterietechnik GmbH in regard to sorting parts or supplying certified replacement components.

Where defective material has been identified either internally or by Tadiran Batteries GmbH or FRIEMANN & WOLF Batterietechnik GmbH's customer, a detailed written corrective action report must be submitted.

The initial corrective action report, identifying the containment actions must be submitted in writing within 24 hours of receipt of the notification of nonconformance.

In addition to the formal written initial report, the supplier is expected to use any other form of communication necessary to ensure that appropriate containment activities are implemented as soon as possible.

The final report must be submitted within 15 calendar days unless otherwise agreed with QA department. The final report must include a detailed description of the corrective actions, including targeted completion dates for any actions that are not yet completed.

The supplier must provide updates describing the status of the completion of the corrective actions.

## **15. Production Part Approval Process**

The request for PPAP's will be issued by Tadiran Batteries GmbH or FRIEMANN & WOLF Batterietechnik GmbH Purchasing department, who will also supply an approved drawing. This drawing shall be used to produce the PPAP parts and all subsequent production components.

PPAP samples to Tadiran Batteries GmbH or FRIEMANN & WOLF Batterietechnik GmbH are to be submitted in accordance with the requirements as stated in the latest edition of the AIAG or VDA PPAP manuals. Unless otherwise stated, the default PPAP submission is Level 3 or VDA Band 2 Vorlagestufe 2.

A Tadiran Batteries GmbH or FRIEMANN & WOLF Batterietechnik GmbH approved drawing must be included with all sample submissions unless specifically waived (in writing) by Tadiran Batteries GmbH or FRIEMANN & WOLF Batterietechnik GmbH's Quality Manager.

Reference the drawing title block for identified special characteristics.

Material and finish certifications must be submitted with each sample submission as per the AIAG or VDA PPAP Manual, and shall be supported by inspection and test data for specifications covering raw material,



processed material, plating, finishing, heat treating, etc.

Thereafter, all material certifications must be made available within 24 hours, upon request. All Material Certifications must be no more than 1 year old.

A certificate of Origin must also be submitted for the sample part.

Each sample submission must be packaged separately and identified as "Sample Submission for PPAP Approval".

All submissions shall provide an IMDS number on the PSW.

Material compliance - chemicals or substances (including recyclability) as related to parts / components supplied must fulfill the latest End of Life Vehicle Directive (ELV). Specifically, all delivered parts/components shall not contain any prohibited substances as deemed to be banned by the ELV.

Any presence of restricted materials or substances must be declared and will require phase-out plans to meet specific compliance deadlines as indicated in the ELV Directive 2000/53/EC, for the latest specific environmental requirements.

All materials and substances must be in compliance with REACH Requirements as per (EG) No. 1907/ 2006.

After an electronic drawing for a new or revised part has been issued to the supplier, a reply e-mail is required to verify acceptance.

All Tadiran Batteries GmbH or FRIEMANN & WOLF Batterietechnik GmbH owned tools must be identified with a "Property of Tadiran Batteries GmbH or FRIEMANN & WOLF Batterietechnik GmbH" tag.

The supplier is responsible for the preservation and secure storage of Tadiran Batteries GmbH or FRIEMANN & WOLF Batterietechnik GmbH owned tools or gauges.

No tools are to be disposed of without written authorization.

## **Language**

Tadiran Batteries GmbH or FRIEMANN & WOLF Batterietechnik GmbH reserves the right to determine the language to be used on correspondence and documentation. In most cases the language will be English or German.

In some cases, it will be acceptable to use the suppliers' local language for internal documents. However, Tadiran Batteries GmbH or FRIEMANN & WOLF Batterietechnik GmbH may request that these be translated.

## **16. Supplier Initiated Product or Process Changes**

The AIAG or VDA PPAP manual must be adhered to in regard to customer notification and submission requirements.

Suppliers must notify Tadiran Batteries GmbH or FRIEMANN & WOLF Batterietechnik GmbH prior to introducing any changes including, but not limited to the following:

- Changes to the tooling or machines.

- Additional tooling or machines to increase capacity.
- Relocation or repositioning of machines or assembly lines.
- Changes to an existing process.
- Changes to test or inspection methods.
- Changes to sub-supplier components or processes.
- Implementation of a new ERP (Enterprise Resource Planning) system.
- Relocation of manufacturing facility. (Note, the timing for a plant move must be appropriate to the scale of the risks and complexity).

Any impact that a change may have to the fit, function, performance, durability or appearance shall be reviewed by Tadiran Batteries GmbH or FRIEMANN & WOLF Batterietechnik GmbH's Engineering department. A revalidation plan shall be established and completed prior to implementation.

### **17. Process Audit - VDA 6.3**

A VDA 6.3 Process Audit may be conducted on any new suppliers or on any new or modified parts or processes. An audit may also be conducted on any current part or process at the discretion of Tadiran Batteries GmbH or FRIEMANN & WOLF Batterietechnik GmbH.

The purpose of the audit is to verify that a supplier's quality planning has been successfully executed and that their production processes are capable of producing quality parts in sufficient quantity for production.

A process audit is a systematic review of the supplier's planned and actual manufacturing process at the quoted peak daily line rate, including manpower, facilities, equipment, material, methods, procedures, software level and tooling.

#### **Process Audit Requirements and Documentation**

Audits will be conducted using the VDA 6.3 Audit format. When a supplier is notified that they will be audited to the VDA 6.3 standard, they must prepare for the audit by obtaining the most recent copy of the VDA 6.3 process Audit manual. (available for purchase at (<http://webshop.vda.de/QMC/en/vda-63-analysis-tool>)).

When the supplier is notified of an upcoming audit, they must prepare documentation. The documents shall be compiled in an electronic file with dividing tabs for each checklist element. This file shall be presented to the auditor during the audit.

### **18. Quality Systems Audit**

Tadiran Batteries GmbH or FRIEMANN & WOLF Batterietechnik GmbH reserves the right to audit a supplier's quality system at any time, upon reasonable notice. Tadiran Batteries GmbH or FRIEMANN & WOLF Batterietechnik GmbH reserves the right to audit/ visit supplier related operations with a customer or with a party identified by our customer.

## **19. Potential Disruptions to the Supply of Components**

The supplier shall notify Tadiran Batteries GmbH or FRIEMANN & WOLF Batterietechnik GmbH immediately when there is a potential for any disruption to the supply of components.

Causes for disruption may include, but are not limited to the following:

- component quality issues (identified internally or externally)
- sub-tier supply chain issues
- natural disasters
- line or plant stoppages
- transportation issues
- Widespread pandemics

## **20. Holidays, Vacations & Shut Downs**

### **Holidays, Vacations & shutdowns**

If a scheduled ship day or delivery day falls on any of Tadiran Batteries GmbH or FRIEMANN & WOLF Batterietechnik GmbH's recognized holidays or planned shut downs, suppliers shall contact the Buyer for instructions. The requirements may be brought forward, pushed back, or dropped depending on variables in our production cycle. Do not assume that Tadiran Batteries GmbH or FRIEMANN & WOLF Batterietechnik GmbH will not require parts due to the holiday.

### **Supplier Holidays, Vacations & Shutdowns**

If a scheduled ship day falls on a supplier's non-production day, the supplier shall contact Tadiran Batteries GmbH or FRIEMANN & WOLF Batterietechnik GmbH's buyer at least one month in advance.

When Tadiran Batteries GmbH or FRIEMANN & WOLF Batterietechnik GmbH's normal contact(s) at the supplier is going to be away for vacation or other reasons, suppliers shall provide an alternate contact(s).

All supplier requirements including delivery performance cannot be jeopardized or compromised due to vacations.

Suppliers shall provide dates of holiday shutdowns as soon as they are known so that Tadiran Batteries GmbH or FRIEMANN & WOLF Batterietechnik GmbH may plan accordingly.