SUPPLIER MANUAL

Revision 03, March 2021

Content

Preamble

To permanently meet the increasing requests of our customers for quality and flexibility in the future, we need outstanding suppliers facing future challenges together with us in a dedicated way beyond basic demands.
Together with partners, able and willing to bring in their product and process specific know-how for a mutual profit, ambitious quality aims can be reached. This manual represents a guide for a cooperation in partnership between our suppliers and PREH, including all affiliates and associated companies.

Based on the purchasing and quality policy, the demands of PREH for warranty and assurance of a perfect product quality are herein described.

The supplier manual is a mandatory document. It is part of the contractual agreement between PREH and the supplier and is already valid in the pre-contractual inquiry phase.

1.0 Purchasing and Quality Policy

We aim for long term relations with our suppliers in a partnership. Continuous improvement of cooperation in processes and systems at the suppliers accounts for profitability, delivery reliability and improvement of quality.

Rapidly changing and increasing customer requirements to PREH also require highest flexibility and the desire from our suppliers to support a creative and fast problem solving. So the suppliers' deliveries and services have to fully meet all stipulated and legal demands. A strict quality planning and effective production control is indispensable to achieve zero defects. The focus in this has to be on defect avoidance.

The suppliers commit themselves, to deliver only products without failures.

Together we intend to achieve following aims:

- Reaching a long term partnership
- Assure a joint competitiveness
- Clear and fast communication
- Minimization of storage and shipping costs for a mutual profit
- Establish guidelines for the supplier, to account for quality responsibility in the best manner
- Assure quality before series delivery
- Assurance and continuous improvement of quality in production

2.0 Requirements for the Supplier Management System

The suppliers commit to install and certify a QM system, which at minimum meets the requirements of **DIN ISO EN 9001** in its latest version.
The suppliers' aim must be to arrange and verify the QM system to the latest version of **IATF 16949**. If there are requirements for other management systems from PREH-customers, they have to be defined in the quality assurance agreement (**QAA**).
Environmentally compatible and sustainable production processes and products are demands we all have to meet. For this, we request our suppliers to establish an environmental management system according to **DIN EN ISO 14001**.

We demand the compliance to effective laws and guidelines at the suppliers as well as for customer sites they deliver to.

3.0 Process for Supplier Selection

„Pre(h)mium“-quality at a fair price is the principle of PREH supplier selection.

3.1 Supplier-On-Boarding-System P4T

Each supplier which is interested in or requested to becoming a supplier of the PREH Group can register on the PREH homepage (www.preh.com, section Purchasing). Each supplier has to be approved by the P4T workflow.
After the registration, the supplier has to add detailed information (e.g. contact persons, online questionnaire, in total 6 steps) before the PREH internal workflow starts. Different departments can contact the supplier to ask further information, schedule an on-site visit at the supplier and close different contracts that are mandatory for starting a business relationship with PREH.

3.2 Supplier Quality Evaluation – SOQ/Potential Analysis/Audit

PREH reserves the right to perform an SOQ, a Potential Analysis or a Process Audit according VDA vol.6 part 3 at the supplier. If needed, PREH will also perform system audits according VDA vol.6 part 1. The suppliers will support PREH in this audit at their best.
Motivations for an audit especially can be:

- Selection/assessment of new suppliers
- Requests from our customers
- PREH internal requests

The suppliers obligate themselves to work on and solve the deviations listed in the audit report in a timely manner.

PREH reserves the right to perform a value analysis on the processes and procedures (see 3.7 Continuous Improvement (CIP)).

3.3 Approved Supplier List

With completion of the supply contract, the suppliers are registered in the approved supplier list. Precondition is a visit with positive results (SOQ/Potential Analysis).
Reasons for a complete or partial vendor suspension can be:

- Insufficient implementation of the system requirements
- Significant non-compliance with agreed terms
- Deficient reaction time
- Extensive decline of part quality
- Non-compliance with PREH requirements

3.4 Supplier Nomination

The nomination decision is made within the project team by the Purchasing, Development, QM and if necessary Tool Engineering departments. Basis for the business relationships are the contracts concluded with the Purchasing department.

3.5 Product Specific Quality Requirements

The product specific quality requirements define the demands for the submission procedure, delivery, special quality requirements or customer specifications for the relevant material/part.
They are located in the upper right corner on every PREH drawing as well as on every CTS.
This procedure shall assure that all product relevant requirements are known to the supplier with acceptance of order.

3.6 Warranty

The details for warranty are defined in the General Conditions of Purchase and Order of PREH.
PREH points out that the suppliers will be debited for the associated costs determined by our common customer in case of a field claim, according to their responsibility. For this, the suppliers will be informed directly about their assigned charges.
The accounting follows the customer billing procedure.
Damage pictures or samples – as far as the customer made them available for PREH – are available for inspection at PREH quality and will be provided to the supplier for analysis, if required.

3.7 Continuous Improvement (CIP)

Continuous improvement has to be a part of the quality strategy of any supplier. PREH expects the active cooperation of the suppliers on the continuous improvement of flows, processes and products, with the aim to permanently improve the system. The effects of CIP are to verify cost savings or quality improvements. CIP projects are supported by PREH supplier development, if necessary.

3.8 Quality Standard Purchased Parts (PQSP)

PREH has fixed quality standards for PREH specific

- Mechanical parts
- Electromechanical parts
- Electronic components
- Packaging (see 7.2. Packaging)

which the suppliers have to abide to in the project phase as well as in production. They are generally valid for all parts and are supplemented by the product specific quality requirements if required. Not meeting the PQSP demands leads to special actions and can end in cancellation of the contractual relationship.
The relevant PQSP is defined in the appropriate product specific quality requirements or specification.
The PQSPs can be found on the PREH homepage.

4.0 Advanced Quality Assurance

4.1 General

Development projects are to be timely planned together with the Forward Purchasing department of PREH according to the particular requirement of the common customers with regard to deadlines.
Suppliers have to provide qualified employees in sufficient numbers.

4.1.1 Feasibility Study

PREH designed a blank form with the key items for planning and development of projects. This blank form shows the minimum requirements for the project realization. It must be filled in by the supplier to his best knowledge and confirmed to PREH.

4.1.2 APQP

PREH assures a customer-oriented and effective development of components with its suppliers. Therefore, PREH defines dedicated purchased materials for APQP activities, which can be triggered by:

- New or existing development-/system-suppliers for PREH
- New or critical technology for PREH
- Development of new parts and processes
- Team decision

PREH SQA will perform the APQP with the supplier. Main part of this is the filling, updating and completion of the APQP-template according to the defined process.

4.1.3 Specifications/Drawings

The suppliers commit themselves to:

- Provide and follow lawful provisions, all specifications, contract documents and norms in updated versions.
- Evaluate, attune to and follow the requirements in the contract documents.
- Define and follow special characteristics, essential parameters for process capabilities (if necessary in coordination with advanced quality planning at PREH).
- Indicate missing information (such as specifications, norms ...).
- Indicate discrepancies in the documents to the responsible person of the purchasing department.

Further requirements, which exceed the requirements on the drawing, are defined in a separate technical specification if necessary.

4.1.4 FMEA

The Failure Mode and Effects Analysis (FMEA) is a tool for a systematical analysis and identification of potential failures that may exist within the design/function of a product or process.
A Design FMEA only has to be prepared if development responsibility exists. The need has to be agreed to with the responsible PREH Purchaser.

A Process FMEA must be created before production ramp up and be updated with changes or complaints.

The preparation has to be according to the guidelines of VDA vol. 4 part 2 (Product- and Process FMEA) or AIAG Potential Failure Mode & Effects Analysis Manual. The FMEAs have to be shown to PREH on demand. If required, Interface-FMEAs to the customer or sub-supplier have to be performed by the supplier.

4.1.5 Control Plan

The control plan is an overview of all quality requirements, their verification and the test criteria of the parts. It must be prepared for prototypes, pre-series and production phase. Updates during project progress have to be agreed to with PREH SQA responsible.

The control plan contents:

- control of incoming goods,
- production and final parts,
- product audit
- and requalification tests.

Characters, which are recognized and evaluated as quality relevant in the FMEA, have to be mentioned in the control plan.

4.1.6 Capability Studies

Process capability studies provide the verification of quality ability of the processes. Suppliers have to provide capability verifications for all testing and functional characteristics on their own. Additional capability studies have to be agreed with the responsible PREH SQA. Calculation and execution of process capabilities have to follow VDA vol. 4 or AIAG guidelines, as long as there is no superior request existing from the customer.

Capability studies are free of charge for PREH, have to be handed out on demand and also have to be proved for the serial production.
If the above mentioned capabilities are not reached, a 100% check of the concerned characters is mandatory and the results have to be documented until the process capability is reached or recovered.

4.1.7 Process Approval/Run&Rate before Serial Delivery

The product and process quality as well as the confirmation of reaching the series time cycle (capacity confirmation) is to be verified by the suppliers with a process series. PREH individually decides on behalf of an own process approval at the supplier.
Changes of the production process are not allowed between 6 month before and after the SOP of the PREH Customer.

Process approvals by PREH because of complaints are associated with costs and all effective costs will be charged to the supplier (see 5.4 Sorting Activities).

4.1.8 Submissions/Samples

Detailed requirements are defined in the PREH standards PQSP MP.03/EP.03.

4.1.8.1 Initial Samples with ISIR

Submissions from suppliers to PREH have to comply with VDA (PPA) or AIAG (PPAP). **Standard request is level 2**.
Deviations to this are directly defined by PREH SQA responsible.
The production of initial samples has to be with serial tooling and under series production conditions. If several tools or molds of the same part number are used or if the parts are from different cavities, at least 1 part of each tool, mold and cavity has to be measured and sampled separately. The submission procedure also includes the verification of the mentioned test requirements and specifications on the drawing. The raw materials used have to be verified with the material certificates and in IMDS (see 4.1.8.4 IMDS-Data).
Resubmissions have to follow the same procedure as initial submissions.
After serial approval a written acceptance by PREH is obligatory in advance to any product, tool or process change.

Submissions have to be presented according to PREH SQA request. Initial sample parts and PPA/PPAP documentation have to be prepared and sent to PREH SQA responsible free of charge and labeled as “initial sample” (see 4.1.9 Packaging Labeling of Prototypes and Pre-series Parts). Additional documents can be demanded later on at any time by PREH SQA responsible.
Submission documents must be presented digitally and in English language.

Examples for rejection of a PPA/PPAP submission:

- Missing or incomplete documents and verification.
- Value deviation without approval.
- Submitted parts do not meet valid design.
- Missing or wrong IMDS data.

Attention: **PREH has to be compensated for the real costs of resubmission (hourly rate x working hours) for any failed submission in the responsibility of the supplier.**
Other samples shall not to be labeled as initial samples.

4.1.8.2 Submission of Prototypes and Pre-series Parts/other Samples

Contact person for the sampling quantity, date for prototypes and pre-series parts/other samples is the responsible part developer or PREH SQA. Suppliers commit to create, evaluate and document a measurement report of prototype and pre-series part samples, according to the current drawing specifications. During prototype and pre-series phase preliminary process capability studies have to be generated.

The samples, together with the measurement report, have to be sent, accordingly labelled and free of charge, to the requesting department.

4.1.8.3 Reference and Limit Samples

reference sample: sample, which represents the allowable variation and value of characters.

limit sample: sample, which typifies the limit of a quality character.

Reference and limit samples have to be agreed with the PREH SQA responsible, correctly labelled, protected from environmental stress and stored during the complete production time. They have to be provided to PREH on request. “Master samples” for chrome, painting, color, grains etc., which are indicated in the technical documents, have to be organized by the supplier himself for ramp up and series production. They are binding as reference.

4.1.8.4 IMDS-Data

Only data achieving the following basic conditions is accepted:

- Compliance with current IMDS guidelines.
- Assembly parts have to be entered including the single parts.
- The drawing number has to be typed in without spacing but with the special signs “-” and “/“ (xxxxx-yyy/zzzz).
- Supplier number
- If a drawing number has to be sent again, it has to be done as new version.

4.1.9 Packaging Labeling of Prototypes and Pre-series Parts

Prototype and pre-series parts have to be clearly labelled on the packing unit with the PREH sample label. The first three deliveries with rework or special approval have to be labeled clearly as such on the packing.

4.1.10 Part History

A part history has to be conducted for all products of the suppliers. In this, all product and process changes need to be documented. It is highly recommended to use the PREH Part history template. Alternatively, other templates can be used as long as they include the guidelines of the PREH Part history sheet.

If needed, the machine setting data sheets will be requested and must be then attached to the part history (only valid for toolmaker).

4.1.11 Documents for Pre-series Parts

Product specific inspection reports have to be added to each delivery according to the requirements in the control plan. Additionally the updated part history has to be within each delivery (see 4.1.10 Part History).

Parts used for non-destructive tests have to be enclosed to the delivery and labeled separately.

4.1.12 Marking of Prototypes, Pre-series and Series Parts

Generally, each part has to be marked. The indication must be as a sticker or a marking in the tool. Following details have to be included:

- Drawing number (partial)
- Production date
- Raw material
- Cavity number

If dimension, function and/or geometry do not allow a labelling, it has to be labelled on the bundle in agreement with the PREH SQA responsible.

4.1.13 Special Approval

Deliveries with deviations from part/component specifications after serial approval are not allowed.

Exception: After consulting the design engineer, exceptional temporarily or quantitatively limited approvals can be given in text form by PREH.

4.1.14 Requalification Tests

Within an at least yearly requalification test of all assembly parts and components supplied to PREH, the requalification relevant characteristics (special function, material and geometry) have to be verified.
The content of the requalification equates the initial submission unless there is no other agreement defined with the PREH SQA responsible and fixed in the control plan.
The verifications have to be supplied free of charge to PREH on request.

4.2 Tool Management

The valid stipulations between PREH and the supplier are also valid for tool purchasing. The suppliers commit to label the tools with the PREH equipment number and to store, insure and maintain them properly.

4.2.1 Tool Design and Manufacturing

The suppliers have to use adequate technical means for design, production (e.g. machine, gripper, cooling) and dimensional inspection of tools and gauges. When subcontracting, these requirements have to be fulfilled in responsibility of the supplier. Tools in property of PREH customers or of PREH have to be labelled clearly visible with type plates.

4.2.2 Tool Check and Approval

The technical tool approval can be done on-site by PREH purchasing (tooling technology) and be part of the overall approval for tool transfer or serial production.

4.2.3 Tool Administration

The suppliers have to arrange and establish a process for tool administration.
This should basically involve the following criteria:

- Tool history
- Proper storage system
- Verification for preventive tool maintenance
- Storage of the production’s last part on the tool until next production’s start.

4.2.4 Testing Gauges/Testing Equipment

Testing gauges and test equipment have to be included in the supplier´s inspection equipment control. They have to be correctly labelled and related to the product. Capabilities of the testing gauges have to be verified within the submission process. The design of gauges and measurement equipment has to be agreed to with the responsible PREH SQA.
Their layout must be designed to cover the whole product lifetime. Costs for gauges, testing equipment and measurement equipment are paid by the suppliers.
For all CC, R and SC characteristics and for the PREH K-dimensions, the required gauge capability studies (MSA) have to be generated by suppliers on their own.
For the used testing aids/gauges, a MSA (acc. current valid version of AIAG/VDA) has to be verified.

5.0 Quality Assurance in Production

5.1 Key Characteristics and Aims

PREH commits itself to zero-failure-target and expects the same from its suppliers. For this, no ppm target values will be fixed. Accordingly PREH is tracking its suppliers' performance via quality and logistic characteristics and informs its TOP turnover suppliers quarterly.

With an ongoing poor delivery performance, an escalation procedure (see 8.0 Escalation Procedure at PREH) will be applied. A substantial supplier rating follows once a year (see 6.0 Supplier Evaluation).

5.2 Incoming Goods Inspections

Independent from outgoing goods control performed by the supplier, PREH performs following tests:

- Identity check
- visual check for directly visible transport damages
- Quantity check
- Characteristics test (spot check)

PREH will advise the supplier in writing about visible defects.
Defects, which were not recognizable or recognized during incoming goods inspection, will be indicated to the supplier after becoming known or with accumulated scrap.
PREH is not obligated to perform any additional incoming tests and is thus released from the remaining immediate duties to examine and object to defects.

5.3 Traceability

The supplier has to assure a traceability of deliveries to PREH to enable, e.g. a fast locating of a lot with scrap parts.
Particularly the supplier has to be able to provide following information to PREH:

- Production date
- Raw material lot and certificate
- ReaCh-Registration (within EU)

5.4 Sorting Activities

If there are confirmed defective parts in the delivery of pre-series or series, the suppliers have the opportunity to promptly sort all suspicious parts upon request at their own cost. If the supplier does not comply with this request, PREH employees or external service providers will be sorting the minimum parts to secure delivery ability, after informing the supplier. Occurring costs must be paid by the supplier (see 5.6 Claim for Defects).

5.5 Complaint Procedure

In case of complaints, PREH will inform the suppliers in the form of a complaint report. The suppliers are requested to analyze the failure and to define, to execute and to monitor adequate containment actions.

The corresponding statement (**8D-Report**) has to be sent to the complaining department within following periods of time:

D1 – D3	**within 24 h**
D4 – D6	**within 5 working days**
D7 – D8	**within 10 working days**

If the analysis of the issue takes a longer time, or a quick statement of the supplier caused by an urgent situation is necessary, the complaining department has to be informed directly. In case of complex failures the intention is to do a common on-site analysis.

5.6 Claim for Defects

In case of poor quality performance caused by suppliers, PREH is entitled to claim for agreed warranties. All costs caused from those defects will be determined by PREH and debited to the supplier. Depending on incidental expenses (local hourly rates, extent, duration) especially following cost types are charged by PREH SQA with dedicated hourly rates:

- Sorting and rework
- Laboratory analysis
- Complaint related process audit
- Production annoyances, blocked storage area
- Resubmissions because of supplier's fault
- …

A handling fee will be debited to the supplier for every complaint. The height is depending on the affected PREH plant.

5.7 Supplier Visits

PREH reserves the right to visit the suppliers' production sites, as well as those of its sub-suppliers, anytime during common working hours.
Motivation can be:

- Performance of process audits
- Performance of process capability studies
- Quality complaints

PREH's customer can also accompany these visits.
The notification of such visits will be given with adequate forecast.

6.0 Supplier Evaluation

Explanations and supplementary information regarding the Preh Supplier Evaluation system are available in a separate document, which can be found on the Preh Homepage (https://www.preh.com/en/downloads/suppliers).

7.0 General Requirements for Suppliers

7.1 Environment

The suppliers have to ensure, that all materials and raw materials, which are applied in the production chain, comply with all legal requests and the demands of PREH customers, particularly for restricted danger and banned substances. **(e.g. EU end-of-life vehicle directive (2000/53/EG), chemicals ban directive (EU76/769/EWG), electronic directive (2002/95/EG), ReaCh (2006/1907/EG), GADSL)**.
The suppliers commit to put material data into **IMDS** starting with the initial submission and they are liable for the accuracy and detailing of their declarations.
The valid environmental guidelines of the production country, customer's country and the Republic of Germany as well as the guidelines of **IMDS** have to be adhered to.

7.2. Packaging

The packaging for prototypes, pre-series and series parts, as well as the product specific packaging and its labelling, inclusive the used materials, have to be defined with PREH production engineering, tested and controlled. The suppliers always must refer to the valid PREH packaging standard. The labelling of packaging has to meet VDA 4902.

8.0 Escalation Procedure at PREH

The aim of PREH is to reach a steady optimization of quality and delivery performance. For this, all suppliers are permanently evaluated in aspect of quality (ppm, complaints) and logistics (adherence to quantity and time). A corresponding summary will be distributed quarterly to all portfolio suppliers. All other suppliers get the summary on request.

Suppliers who are not meeting PREH's expectation to quality and/or logistics can be subjected to an escalation procedure.

Escalation level 1 – quality and/or logistics performance insufficient in one quarter

- ➔ Letter to supplier's Head of Quality with demand to create an action plan for optimization of quality and/or delivery performance. The action plan has to be signed by Head of Quality of concerned PREH plant.

Escalation level 2 – quality and/or logistics performance insufficient for two quarters in sequence and/or action plan is not effective

- ➔ Invitation for supplier meeting at PREH by Head of Quality and/or Logistics of concerned PREH plant.
  Copy of this invitation to Executive Director QM and Executive Director Supplier Management of PREH.

Escalation level 3 – quality and/or logistics performance insufficient for three quarters in sequence and/or action plan of level 2 is not effective

- ➔ Invitation for supplier meeting at PREH by Executive Director QM and Executive Director Supplier Management.
  Supplier can be set to NBOH status.
  Optional: Performing a supplier audit.

In case of shortly appearing severe problems, PREH reserves the right to overleap single escalation levels.

Other rights, which apply to PREH per the contractual agreements or the agreed law, additionally apply to the escalation procedure and stay unaffected.

9.0 Declaration of Agreement of the Supplier

This supplier manual is part of the contractual relationship between PREH and the supplier without the need of a signature of this manual. The receipt of this supplier manual and the agreement of the contents result in the acceptance of the contractual relationships with PREH. It applies already with the inquiry.

10.0 Abbreviations

AIAG	Automotive Industry Action Group
APQP	Advanced Product Quality Planning
PPAP	Production Part Approval Process (AIAG)
PPA	Production process and Part Approval (VDA)
MSA	Measurement System Analysis
FMEA	Failure Mode and Effect Analysis
R	Characteristic with Regulatory Requirement
CC	Critical Characteristics
SC	Significant Characteristics
CIP	Continuous Improvement Process
IMDS	International Material Data System (www.mdsystem.com)
ISIR	Initial Sample Inspection Report
NBOH	New business on hold
SOP	Start of Production
SOQ	Supplier on-site Questionnaire
SQA	(Supplier Quality Assurance)
CTS	Component Technical Specification
P4T	Pool4Tool/PREH supplier portal
PQSP	PREH Quality Standard Purchasing
VDA	Verband der Automobilindustrie e.V.
P4T	Pool4Tool (supplier-on-boarding-system)
QM	Quality Management

11.0 Forms

Overview of applicable forms

current version of PQSP's (MP.0x, EP.0x)
Preh packaging standard
PREH Dimensional Report

PREH Label + Part history sheet
PREH Capability Report (Cmk, Ppk, Cpk)
PREH MSA (Method 1, Method 2 - GRR/ANOVA, Attributive)

All listed standards and forms can be downloaded from the PREH homepage and supplier portal P4T. Alternatively contact PREH SQA for more information.

For further inquiries please contact Mr. T. Klahr.
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12.0 Revision Overview

Revision number	Revision date	Change	Created	Released
02	10. Sep. 2017	Release / Old version	-	-
03	*04. Mar. 2021*	*6. Deleted and reference to separate document added* *11. contact changed* *12. Revision overview added;*	*C. Karch*	*T. Klahr*