

Supplier Manual

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1. INTRODUCTION

Our customers expect us to meet and exceed their expectations. In order to do so, we need competitive, reliable and innovative suppliers, committed to our common goals.

The Suppliers' manual defines expectations and requirements of the MAHLE Electric Drives Slovenija group towards its suppliers and practical instructions for their implementation.

This document is controlled and maintained on our website www.mahle.com.

By issuing a quotation or signing the Supply agreement, the Supplier undertakes to act in compliance with all indicated principles and processes.

MAHLE Electric Drives Slovenija undertakes to respect all provisions of this manual and to maintain a long-term partnership with the supplier.

1.1. Policy

To ensure a reliable supply and improve competitive advantages in the entire supply chain through:

- continuous improvement of supplied goods and quality of service,
- streamlining of the supply costs
- efficient logistics
- supply risk management

1.2. Vision

From our suppliers we expect competitiveness, reliability, developmental orientation and partnership, which is based upon:

- **»Do it right the first time«**: planning, knowledge, competence and responsiveness
- **»Do it right every time«**: excellence and reliability
- **»Continuous improvement«**: development orientation, enhancement of competitiveness, partnership.

1.3. Purpose

The purpose of this manual is:

- to present to its suppliers the requirements and expectations of the MAHLE Electric Drives Slovenija Group,
- to define mutual obligations and responsibilities,
- to acquaint the suppliers with the supply processes,
- to ensure the right flow of information and efficient communication,
- to successfully manage changes in the introduction of the new products,
- to efficiently implement preventive and corrective measures.

2. GENERAL CONDITIONS AND PROVISIONS

2.1. Confidentiality

MAHLE Electric Drives Slovenija considers operations with suppliers as confidential; such operations are considered as professional secrecy. Similarly, information and documentation originating from such a business relationship are also confidential. Confidentiality also remains after closing the business relationship between MAHLE Electric Drives Slovenija and the supplier. All requirements that MAHLE Electric Drives Slovenija transfers to its suppliers must be in hierarchy downwards to its sub-suppliers and other business partners, with whom they cooperate.

All documents originating and forwarded in a business relationship between MAHLE Electric Drives Slovenija and the supplier are business secret and the property of MAHLE Electric Drives Slovenija. The supplier must ensure suitable storage and availability of these documents to MAHLE Electric Drives Slovenija.

Such documents cannot be forwarded to third parties without MAHLE Electric Drives Slovenija's approval.

The supplier confirms its obligation by signing the **Declaration of Confidentiality or Non Disclosure Agreement (NDA)**. The supplier must complete, sign and return the form or agreement to MAHLE Electric Drives Slovenija.

2.2. Responsibility

The supplier is fully liable in material and moral sense to meet all contractual duties and process implementation, which are described in this manual. He has to ensure that the supplied products and services comply with MAHLE Electric Drives Slovenija's requirements given in the relevant technical documentation and other formal requirements.

MAHLE Electric Drives Slovenija requires from all its suppliers:

- JIT deliveries and
- Supplies without non-conformities.

Suppliers shall follow the provisions of the MAHLE Supplier Code of Conduct – (available at www.mahle.com).

2.3. Legal requirements

The suppliers are responsible for meeting the applicable legal requirements of the countries where they operate.

2.3.1. Environmental requirements

In compliance with the accepted environmental policy, MAHLE Electric Drives Slovenija transfers the environmental requirements to the suppliers by requesting them to consider the valid national environmental legislation and recommendations for certification to the standard ISO 14001. Using the **Environmental Questionnaire** MAHLE Electric Drives Slovenija checks the suppliers' environmental responsibility, which is one of the criteria for selection and approval of every new supplier. Environmental responsibility of the suppliers that are not certified to ISO 14001 is assessed in the same way by MAHLE Electric Drives Slovenija every three years.

Materials and components built in the products of MAHLE Electric Drives Slovenija must be manufactured in compliance with:

- Directive 2000/53/EU of the European parliament and of the Council of 18 September 2000 on end-of life vehicles and its latest valid version of the related Annex II to the European Commission Decision.

- Regulation (EC) No. 1907/2006 of the European parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) and its amendments.
- Directive 2011/65/EU of the European parliament and of the Council of 8 June 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS2) and its amendments.

The Supplier proves the compliance with a **Written Supplier Declaration on the Conformity of Products.**

2.3.2. Environmental requirements regarding packaging

When agreeing demand and/or supply, MAHLE Electric Drives Slovenija and the supplier must define the amount and type of units of packaging. For this purpose, the supplier approves the packaging instructions that show the amount and type of packaging (paper, cardboard, metal, wood, plastics).

The recommended plastic compounds for packaging are:

- high density polyethylene - HDPE
- low density polyethylene - LDPE
- polypropylene - PP
- polystyrene – PS.

The use of other plastic materials is possible only if previously approved by the Environmental Department of MAHLE Electric Drives Slovenija (PVC – Polyvinyl chloride is not acceptable).

The Supplier can change the packaging only after having received written approval from MAHLE Electric Drives Slovenija.

The supplier confirms the conformity of the packaging with the requirements of the applicable EU Directive 1994/62/EC and the related Decisions of European Commission with a **Written Supplier Declaration on the Conformity of Packaging.**

2.3.3. Safety data sheet, declaration on the supplied materials

In compliance with the requirements in the table **Quality and environmental requirements**, the supplier is obliged to deliver with the supplied materials the following:

- Safety data sheets
- Material certificates of conformity
- Requested declarations

2.4. General terms of delivery

General terms of delivery are a constituent part of every Request for Quotation (RFQ) and every Supply Agreement.

The following conditions must be met:

- it has to have arranged and maintained records of technical documentation,
- it has to have an arranged control over its suppliers and incoming materials,
- new materials must be sampled, approved, and appropriately stored,
- it has to make technological-control technical documentation and to use it in production,
- it has to have relevant and capable working tools and equipment
- it has to have all measuring devices, which are necessary to ensure product quality and have them regularly checked in metrological sense,
- implement control over quality in operations of a production system and make records on quality,
- in production, suitable labelling of products has to be used by operations of a technological process,
- at the end of a production process, it has to control the product quality before shipment,
- it has to ensure a working environment, in which the working process suits the conditions required by the product quality.

2.5. Quality system

The suppliers' commitment to supply products in compliance with the quality requirements has to be ensured by a modern and efficient quality management system, which includes the principle "zero nonconformity" in the development, production and all other processes. The emphasis has to be on preventive methods and not on methods of detection of nonconformities.

MAHLE Electric Drives Slovenija requires suppliers to establish, implement and certify the quality management system that meets the requirements of ISO 9001 or the recommended standard IATF 16949. If the supplier does not have the correct certificate, he must obtain the consent of MAHLE Electric Drives Slovenija.

When a MAHLE Electric Drives Slovenija customer requires quality management system evaluation at the supplier, the supplier has to enable it. The same applies for sub-supplier evaluation.

2.6. Technical requirements

Suppliers are obliged to maintain and suitably store all the received documentation. For this purpose, records must be kept of the received documentation and of all changes.

Technical issues must be solved exclusively with the responsible people in the Purchasing Division of MAHLE Electric Drives Slovenija. The technical documentation given to the supplier can only be changed by MAHLE Electric Drives Slovenija by the specified procedure.

2.7. Sub-suppliers

The requirements set by MAHLE Electric Drives Slovenija to its suppliers must be transferred to their sub-suppliers. All manufacturers included in production-supply chain must use suitable quality management systems at their work, as only in this way it is possible to ensure quality of the final product.

Considering the above, MAHLE Electric Drives Slovenija has the right to carry out quality management system evaluation at the sub-supplier on first demand. In this case, the supplier is obliged to organize an assessment and to take an active part in it.

2.8. Special tools, devices and measuring equipment

MAHLE Electric Drives Slovenija is the legal owner of special tools and devices... The suppliers have them only on loan; they are irrevocably property of MAHLE Electric Drives Slovenija. The supplier can under no circumstances use them for production of a third person's products, except in exceptional circumstances with MAHLE Electric Drives Slovenija's written approval.

Special or standard production tools are also the property of MAHLE Electric Drives Slovenija. The same is true of measuring instruments that MAHLE Electric Drives Slovenija lends to suppliers on a short-term basis for faster execution of the order.

MAHLE Electric Drives Slovenija does not allow any unarranged changes on the tools without its approval. A supplier can implement changes to these tools only after written approval by MAHLE Electric Drives Slovenija. The procedures allowed are only those for maintenance, necessary for perfect tool operation and long life. The supplier must keep records of all encroachments into the tools. The maintenance costs are charged to the supplier.

The supplier has to suitably insure all tools and devices that are the property of MAHLE Electric Drives Slovenija against damages of all kinds or loss.

The supplier is also obliged to metrological check the measuring instruments owned by MAHLE Electric Drives Slovenija on a regular basis. For these the same requirements apply as for the tools.

After finishing the contractual work, the supplier is obliged to return to MAHLE Electric Drives Slovenija all the borrowed tools and measuring instruments. He must do this within 14 (fourteen) days after maturity of the contractual relationship. The tools and measuring instruments must be returned in the same condition as they were received, except for normal wear and tear. The supplier is obliged to inform MAHLE Electric Drives Slovenija about tools that are no longer in use and request further instructions. The tools and devices can only be written off after written approval from MAHLE Electric Drives Slovenija. If tools are not the property of MAHLE Electric Drives Slovenija, special arrangement is required.

3. COMMERCIAL REQUIREMENTS

3.1. Purpose

The purpose of the process of supply is to ensure a stable and efficient provision of material needs and services of the MAHLE Electric Drives Slovenija Group by competitive terms.

3.2. Selection of possible suppliers

The suppliers' abilities and capabilities of meeting MAHLE Electric Drives Slovenija's requirements are the main guidance in preliminary selection of a supplier.

At this stage, all potential suppliers are categorized in respect of their ability to meet the requirements regarding:

- quality (PPM, efficient claim solving),
- competitiveness (assurance of target prices, productivity),
- time of delivery (project time table, delivery dates),
- Support in development, innovation and communication) and
- other abilities in compliance with the **self-evaluation questionnaire**

3.3. Demand and supply

In addition to the quality aspect, the supplier must also be price-competitive. For this purpose MAHLE Electric Drives Slovenija will send the supplier the form **Request for Quotation**, which includes **General Terms of Delivery, Customer Special requirements, Feasibility Approval Form** and technical documentation for the enquiry.

MAHLE Electric Drives Slovenija sends the supplier the request for quotation when:

- it is looking for new products,
- it is changing technical requirements for a product,
- it is implementing logistical changes (packaging, transport),
- it is conducting analysis of the supply market.

MAHLE Electric Drives Slovenija will deal only with complete quotations in the form of a Request for Quotation.

The supplier's responsibility is to check all the necessary technical, safety, and environmental data before issuing a quotation and to determine their feasibility and/or confirm it in an appropriate form. Every detail, requirement, dimension etc., which the bidder cannot ensure has to be indicated in the offer.

The supplier has to present suggestions for reducing product prices in the entire time of the validity of the order whereby the functional and quality requirements must remain ensured. MAHLE Electric Drives Slovenija expects its suppliers to meet the annual goals of price reduction through process improvements and successful use of internal reserves.

3.4. General requirements before signing of agreement

A condition of starting business with a supplier is confirmation of this, based on the results of evaluation of commercial conditions and the quality process. This gives MAHLE Electric Drives Slovenija a basis for long-term cooperation.

3.5. Supply agreement

The legal basis for supply is a Supply agreement, which results from a mutual understanding of the business partners. The supply agreement is normally signed in order to make long-term relationships with the suppliers. Approved quotation and written order approval in a broader sense is also considered as a supply agreement.

MAHLE Electric Drives Slovenija and the most favourable bidder bring into line all terms of supply and agreement; MAHLE Electric Drives Slovenija prepares the Supply Agreement and sends it to the supplier for signature.

An agreement is valid when it is signed by the Director of the Purchasing Division and an authorized representative of a supplier.

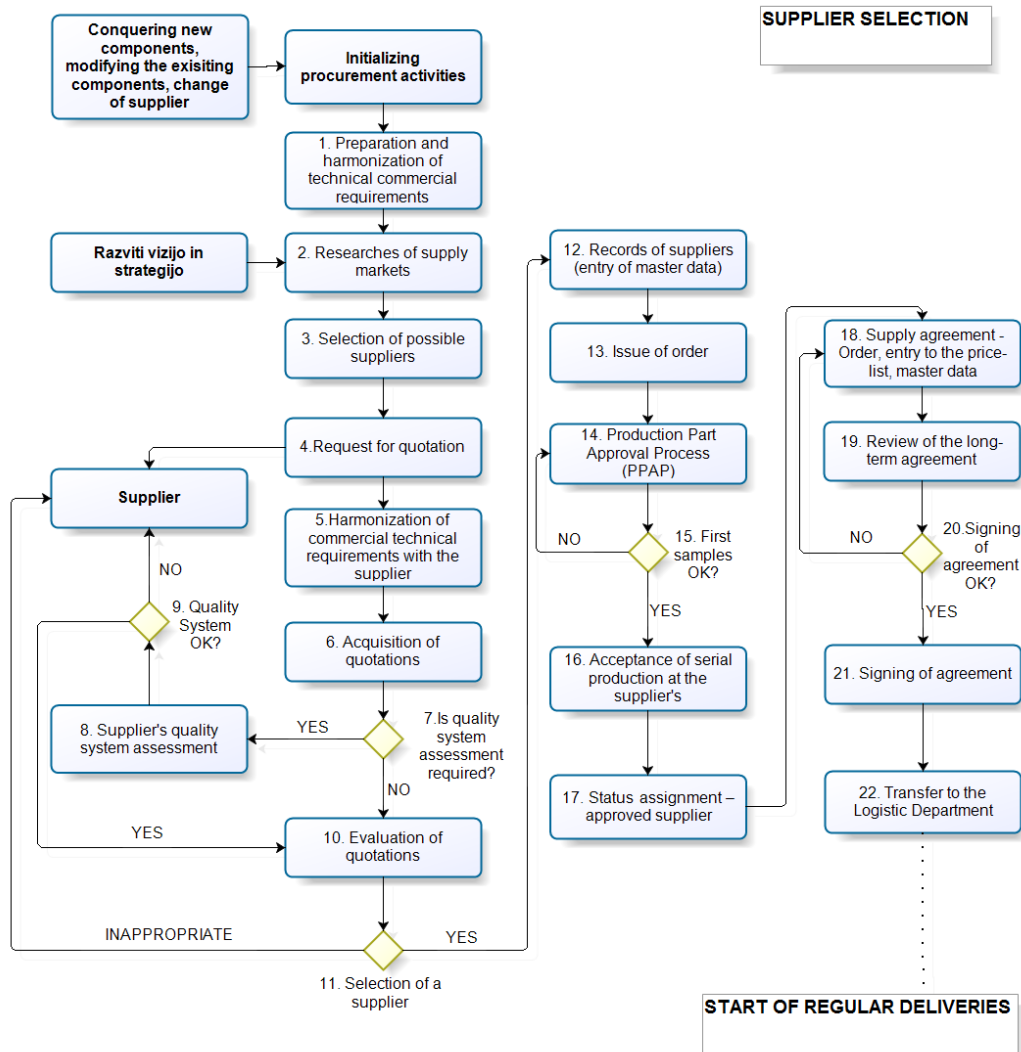
The prices and terms of delivery written in the agreement refer to all deliveries during the validity of the agreement. The invoices and requirements of the supplier which are not based upon a written order of MAHLE Electric Drives Slovenija will be turned down.

The goal of MAHLE Electric Drives Slovenija is to make a long-term supply agreement with the supplier, which gives a legal basis for development of a long-term partnership.

4. SELECTION AND APPROVAL OF SUPPLIERS

4.1. Selection and approval of new suppliers

The process of selection and approval of a new supplier is shown in the following diagram:



4.2. Self-presentation

Self-assessment is the first step to the process of approval of a new supplier. In this way MAHLE Electric Drives Slovenija wishes to acquire new data on the producer. For this purpose MAHLE Electric Drives Slovenija sends the supplier a **Self-assessment questionnaire**, and Environmental **Questionnaire**, which must be completed and returned to MAHLE Electric Drives Slovenija.

4.3. Supplier evaluation

4.3.1. Supplier evaluation

MAHLE Electric Drives Slovenija can, if necessary, implement its own evaluation of the quality management system at the potential supplier by if previously announced. The evaluation shall be performed according to VDA 6.3. principles.

After the evaluation, MAHLE Electric Drives Slovenija determines any further measures, which may be necessary to eliminate detected nonconformities. MAHLE Electric Drives Slovenija sends the supplier a common evaluation in which the recognised nonconformities are listed. The supplier shall make a Plan of corrective measures and return it to the auditor by the set time limit. MAHLE Electric Drives Slovenija has the right to check efficiency of the implemented corrective measures any time on first demand.

4.3.2. List of approved suppliers

Any supplier, which meets all conditions and criteria of MAHLE Electric Drives Slovenija, becomes an approved supplier.

5. QUALITY REQUIREMENTS

5.1. Purpose

A supplier's commitment to provide products in compliance with the quality requirements has to be supported by a modern and efficient quality management system, which includes the principle "zero nonconformity" in development, production and all other processes. The emphasis has to be on preventive methods and not on detection of non-conformities.

5.2. Specific requirements of MAHLE Electric Drives Slovenija for the automotive industry (CSR)

For supplied parts to be used in products for the automotive industry, the supplier is expected to meet the provisions of this manual and the **specific requirements of MAHLE Electric Drives Slovenija for the automotive industry (CSR)**, (appendix 1).

5.3. APQP Planning

On MAHLE Electric Drives Slovenija's request, the supplier shall make a project plan for new product industrialization. This has to include elements of advanced product quality planning (APQP), time plans, activity reviews, control points, target dates and a list of responsible people. The plan's objective is to meet the quality requirements in respect of a product and to implement the project in time.

5.4. FMEA

The suppliers must make an FMEA of the process (PFMEA) for all parts subject to regular supplies to MAHLE Electric Drives Slovenija. When a supplier is responsible for product planning, he/she shall make an FMEA for the construction (DFMEA).





An FMEA can be made for parts families, where the same processes, joint tools and the same control plan is used.

On MAHLE Electric Drives Slovenija's request, the supplier will provide copies of documents from the FMEA for the revision of the SQE (Supplier Quality Engineer). A copy must be provided in the language of the local supplier and also in English. If a document is considered confidential, the supplier can make available only certain chapters and/or offer technical support to the SQE in explanation of the FMEA, without submitting an entire copy of the FMEA. The correspondence that states confidential data is included in the certificate of the process PPAP.

When preparing an FMEA, the supplier must use principles and evaluation in compliance with the last valid AIAG reports (FMEA manual), if not these must be otherwise agreed with MAHLE Electric Drives Slovenija.

5.5. Key characteristics

Key characteristics or product properties, which are closely linked to safety aspects, legal regulations and product quality, are marked on MAHLE Electric Drives Slovenija's drawing with symbols according to MAHLE Electric Drives Slovenija's requirements.

Focus Features	Symbol	FMEA (severity - s, occurrence - o)	Minimum Cpk Requests	Criteria	The control method of manufacture	Examples of control (for reference)
Security		S≥9, O≥1	Error-free Error Proof (Poka Yoke) ali 100% check (automatic or GO/NO-GO criteria)		Poka Yoke	
Double						
Key function		7≤S≤8, O≥3	≥1.33	Variable or attribute	Statistical method (SPC) or 100% Control milestones	SPC in Cpk>1.33 Preliminary process capability analysis
Key process						
Standard	Without tags		≥1.0	Variable or attribute	Sampling	Overview 1/100 samples of the tolerance

In all cases MAHLE Electric Drives Slovenija expects "zero defects" in all supplies.

Key characteristics are already established in the planning process (DFMEA) in MAHLE Electric Drives Slovenija, in order to guarantee special attention in establishing process abilities and control. It is important that the supplier includes all key characteristics in its FMEA and control plan and makes sure that all suitable controls are carried out. Key characteristics require special treatment in the PPAP, implementation of the measuring system analysis (MSA Gage R&R), and statistical process control (SPC).

5.6. Control plan

The last valid version of instructions AIAG, i.e. APQP with instructions for the control plan, must be used as a basis for development and maintenance of the control plan (e.g. prototype, pre-series & production).

MAHLE Electric Drives Slovenija reserves the right to approve the supplier's control plans.

The supplier must make control plans for all products or families of products. The plans for individual families can be used for products with common or similar processes.

In products and process controls, it is necessary to focus on prevention rather than detection of faults and subsequent correction. Special attention has to be paid to finding the correct input control parameters.

The suggested corrections or product reworking defined in the control plan must be submitted for approval by MAHLE Electric Drives Slovenija as part of the initial PPAP or through a later request for change or submission of PPAP from the supplier.

A corrected or reworked product must be checked again according to the requirements set in the control plan and suitably documented.

The control plan must contain at least the following:

- consecutive number and operation name

- quality characteristics of a product or a process, which need to be checked
- sample size
- measurement frequency
- inspection or measurement method
- specification designation and/or the measure manner in case of nonconformities

5.7. Implementation of quality control

5.7.1. Series production control

The supplier must control their working process in respect of the given requirements so as to ensure the required quality.

Therefore the supplier makes and maintains technological, control and other necessary documentation for individual operations of the production process. Also MAHLE Electric Drives Slovenija checks part of this documentation in the PPAP.

Similarly, the supplier is obliged to use statistical tools for process control by implementing appropriate corrective measures.

The supplier is obliged to provide all measuring and testing equipment foreseen in the control plan.

The supplier has to record the measurement results for each operation in a final product; MAHLE Electric Drives Slovenija has the right to review these records. On MAHLE Electric Drives Slovenija's request the supplier has to deliver measurement results from output control (final control) and/or material certificates of conformity upon every delivery. The records are kept by the supplier for at least ten (10) years for the ordinary and fifteen (15) years for safety critical products. This also applies after the order has been cancelled.

5.7.2. Control before shipment

Before shipment, the supplier is obliged to recheck the product compliance in respect of the requirements. This control must be included in the quality documents as an obligatory operation of the production process.

The supplier has to inspect every delivery, regardless of the number of products included.

The control before shipment consists of:

- control of compliance of product packaging
- control of accuracy of the indicated amounts
- control of placing of the record labels and their correct completion
- control of inspection of implementation of all the specified production operations in a product
- control of implementation of all measurements and tests required by the inspection plan for production process and compliance of results

In case of complete conformity, the supplier approves the equipment.

In this case, he:

- confirms the decision by date and seal on the measuring report
- imprints the same seal on every identification card of the packaging units.

6. LOGISTIC REQUIREMENTS

6.1. Packaging cartons

MAHLE Electric Drives Slovenija and the supplier make an arrangement about the type of packaging, carton and manner of labelling of packaging units before the agreement is signed. The arrangement applies to an individual product and is a component part of the supply agreement.

In this, general principles and obligations apply:

- packaging must comply with MAHLE Electric Drives Slovenija's requirements and the valid international environmental standard,
- The packaging must protect products against general impacts of storage and transportation; it has to make sure that the products reach the final spot, where they are put into use, undamaged.
- The packaging has to enable removal of samples, storage and further transportation, and it has to be adjusted to delivery at the point of supply.
- every packaging unit has to be marked with transportation labels,
- all transport units must enable machine operation,
- the packaging shall not constitute a hazard for the workers,
- delivery of full packaging units is recommended,
- every packaging unit must keep its initial form until the place of use,
- packaging unit dimensions must be consistent with the way of storage,
- a packaging unit has to contain the goods:
 - of the same manufacturer,
 - of the same part number or code,
 - of the same date of manufacture (in principle)
 - of the same batch (in principle).

6.2. Package labelling

Every packaging unit of a supplier has to be labelled in compliance with MAHLE Electric Drives Slovenija's requirements. The supplier is liable for additional costs or material loss, which results from deficient labelling, packaging or transportation.

Every unit of packaging and transportation has to have a label. If not otherwise agreed by MAHLE Electric Drives Slovenija and the supplier, labelling by the ODETTE or VDA standard is used.

The label has to indicate the following data:

- manufacturer's name,
- goods name,
- order number,
- identification number of a product of MAHLE Electric Drives Slovenija,
- quantity in units,
- batch number,
- date of manufacture (of packaging),
- a stamp of the supplier's outgoing inspection,
- bar code

If a packaging unit consists of smaller packaging units, there should be a label with the same data placed to each of them. All chemicals shall have on every packaging unit data that are required by the Chemicals Act and the Safety Data Sheet.

The contents of the waste label shall be in compliance with the applicable waste legislation.

6.3. Transport

The supplier has to come to an arrangement with MAHLE Electric Drives Slovenija regarding product transportation. The arrangement shall be an integral part of the supply agreement. In this, transportation requirements and product specific characteristics must be considered.

6.4. Orders and calls-off

MAHLE Electric Drives Slovenija orders goods and services by two types of supply orders;

- Supply order (type 15, 19)
- Order with call off (type 16)

For planning of material requirements, MAHLE Electric Drives Slovenija uses the system SAP MRP, which is the basis for issuing supply orders.

An order with a call off consists of a fixed part and a forecast. The fixed part of a call off is conditional with the supplier's time of delivery therefore both data are as a rule the same. MAHLE Electric Drives Slovenija uses 5 types of supply plans; i.e. daily, weekly, monthly weekly-monthly combination, and daily-weekly-monthly combination.

The supply of the ordered quantities is delivered to the central warehouse or directly to production in compliance with the agreed parity from the supply agreement. Within the method of ordering with call offs, the times of delivery and manner of supply for the supplier are obligatory and do not allow delays or early deliveries.

MAHLE Electric Drives Slovenija has the right to deny or store products delivered before the agreed term at the expense of the supplier.

In the case of failed deliveries (except in cases of force majeure), MAHLE Electric Drives Slovenija has the right to:

- require from the supplier the entire or partial delivery and charge them for the incurred costs in compliance with the official **Price-list** for the costs of elimination of consequences resulting from nonconforming deliveries, if not otherwise agreed,
- order products from another manufacturer at the expense of the supplier.

The supplier is obliged to ensure buffer stock and keep it in their warehouse in compliance with the agreement and/or at least thirty per cent (30%) of the monthly needs (based on average of the last three months). The supplier must allow the customer inspection of the buffer stock on first demand.

MAHLE Electric Drives Slovenija and the supplier may make an arrangement to use a consignment warehouse at the customer's locations to ensure in time supply.

In case of force majeure, MAHLE Electric Drives Slovenija and the supplier must make a special arrangement on new terms of delivery. A basis for such an arrangement is a written supplier's note to MAHLE Electric Drives Slovenija regarding the impossibility to deliver the good in the originally agreed time period.

7. PRODUCTION PART APPROVAL PROCESS (PPAP)

7.1. Purpose

Quality planning is essential for quality assurance, continuous improvement, prevention of nonconformities and process optimization.

PPAP (Production Part Approval Process) is a process that enables the supplier to start manufacturing products so that they prevent any kind of risk and guarantee long-term quality assurance.

By PPAP MAHLE Electric Drives Slovenija checks if:

- the supplier understands all its requirements,
- disposes with all required documentation,
- has a process that is fit enough,
- the first parts, made under the conditions of serial production, actually comply with all the set requirements.

The samples are free of charge, unless otherwise agreed.

7.2. PPAP requirements

MAHLE Electric Drives Slovenija requires from its supplier written proofs (submissions) for implementation of this inspection. A successfully closed PPAP and approval of the part from MAHLE Electric Drives Slovenija is a condition to start regular deliveries.

A required level of submission is Level 4 defined in PPAP AIAG Manual, unless otherwise agreed. In the case of the automotive industry requirements, Level 3 is required.

A normal volume of production for implementation of PPAP is at least 30 (thirty) parts consecutively manufactured using a series process, environment, measuring instruments, tools and staff, unless otherwise defined.

Requirements of PPAP:

- Drawing (last valid issue)
- Document changes (approval of changes before issuing)
- Approval of documentation from the customer (if necessary)
- FMEA constructions
- Process Flow Chart
- FMEA process
- Dimensional measurements
- Test results
- Process abilities (key characteristics)
- Measurements system analysis (MSA) (analysis of measuring tool capabilities foreseen in the control plan)
- Documentation regarding suitability of laboratories
- Control plan (control plan for all operations of the process)
- PPAP requirements form – sampling (PSW)
- Appearance Approval Report (AAR)
- Control list bulk material
- First samples (first samples from serial production)
- Reference sample (a sample that is used as a quality standard, approved by MAHLE Electric Drives Slovenija)
- Measurement instruments (a list of the necessary measurement instruments)
- Records on conformity with special customer requirements

The supplier is obliged to carry out all the necessary processes and prepare suitable documents for the indicated items.

The Purchasing Division of MAHLE Electric Drives Slovenija forwards to the supplier the **PPAP requirements – sampling** form, including all requirements, the level of submission and statement of documentation that needs to be submitted.

7.3. Submission and forwarding information to MAHLE Electric Drives Slovenija

The supplier must inform MAHLE Electric Drives Slovenija before any change is made to a product, process or production location. Based on the notices and approval of a suggested change by MAHLE Electric Drives Slovenija's representative and implementation of a change, submission of a PPAP is necessary, unless otherwise defined.

The supplier shall provide MAHLE Electric Drives Slovenija with information in the following cases:

- use of different construction or material as was used in the previous confirmation
- production on new or changed tools, models, templates, including added or interchangeable tools (applies to tools which with their shape or function affect to completion of final product)
- Updating or rearrangement of the existing production devices (improved capacities, Cpk, change of a process flow chart)
- change of production location with the same tools and equipment
- replacement of sub-supplier for parts or services that affect the product form or function
- for production by tools or equipment which has not been used for more than 12 months (except in small non-regular series production)
- changes of products or processes of internal suppliers or sub-suppliers, which affect the form, reliability or function of a product
- Changes of testing methods (a new method must ensure the same results as the old one)
- change of products or internal processes at suppliers or sub – suppliers, that affect the form, stability or function of a product
- change of test methods (new method must ensure the same results as the old one)

A PPAP must be submitted in the following cases:

- new supplier,
- new products,
- design change,
- material change,
- technology change,
- tool renewal or replacement,
- change of production location,
- replacement of a sub-supplier or a source of supply,

7.4. PPAP Procedure

PPAP procedure is performed based on the "PPAP manual" following the AIAG Manual.

7.5. MAHLE Electric Drives Slovenija's decision

After documentation and first sample review, MAHLE Electric Drives Slovenija takes one of the following decisions and communicates it to the supplier:

- **approved:** the supplier fully meets MAHLE Electric Drives Slovenija's requirements and can start with regular production and order deliveries,
- **temporarily approved:** a supplier does not fully meet all MAHLE Electric Drives Slovenija's requirements, MAHLE Electric Drives Slovenija therefore approves only limited amounts of products and requires the following from the supplier:
 - to find out the causes of nonconformities,
 - to prepare and submit a plan of corrective measures,
 - to prepare a new submission of samples or documents to gain a total approval

- **rejected:** a supplier does not meet MAHLE Electric Drives Slovenija's requirements.

MAHLE Electric Drives Slovenija can also reject PPAP documentation and first samples in the cases when:

- documentation and first samples have not been supplied in the agreed time,
- the required documentation or quantity of first samples has not been delivered,
- first samples have not been labelled,
- reports with measurements are not complete,
- first samples have not been made in conditions of serial production.

The approval process of first samples can take plenty of time and expensive endurance tests of final products that must be carried out by MAHLE Electric Drives Slovenija in order to approve the first samples. Thus MAHLE Electric Drives Slovenija has the right to charge for all costs incurred by repeated product samplings (due to the supplier's fault).

A supplier can start with regular delivery of products only after written approval of PPAP. MAHLE Electric Drives Slovenija will settle all the invoices for tools, material and test equipment only after approval of first samples.

7.6. Storage of records and samples

Both MAHLE Electric Drives Slovenija and the supplier must keep records and samples that are subject to PPAP for the duration of the supply agreement and for at least ten (10) years after its termination/expiry. Traceability of document changes and first samples must be ensured.

8. NONCONFORMITIES OF A SUPPLIER

8.1. Nonconformities

MAHLE Electric Drives Slovenija requires all products that it receives from suppliers to be in compliance with the quality requirements. Every received nonconforming product will be rejected. All direct and indirect costs incurred from this shall be charged to the supplier.

These costs are for example:

- transport and handling,
- picking,
- extra work,
- downtimes in production,
- sales shortfall and
- administrative work.

In case of nonconformities of the supplied goods, MAHLE Electric Drives Slovenija retains the payment, calculates account and all incurred costs using the applicable **Price-list** and invoices the supplier.

In the case of hidden nonconformities of the purchased goods, which are found only at MAHLE Electric Drives Slovenija's customer, MAHLE Electric Drives Slovenija has to right to charge the supplier all incurred direct and indirect costs (repair, replacement of products at home and at the customer, call offs etc.).

8.2. The supplier's requirement for non-conformity approval

If a supplier discovers non-conformity of a product during the production process or before shipment, he/she can ask MAHLE Electric Drives Slovenija for an opinion in respect of product acceptability. For this purpose, he/she fills in a form **Request for non-conformity approval** and sends it to the quality engineer in charge for approval. In the case of approval, the supplier can deliver to MAHLE Electric Drives Slovenija only the approved shipment.

The same applies for any other temporary change (related to certain tools or technology).

8.3. Claims

MAHLE Electric Drives Slovenija starts a claim procedure when it finds a non-conforming delivery in respect of the agreed requirements. In such case it sends the supplier a **Claims record**.

Claims can result from:

- nonconforming packaging and designations,
- nonconforming quantities,
- nonconformities of the supplied products,
- the agreed documentation which has not been delivered.

Nonconformities are determined at the stages of:

- shipment acceptance,
- use in production or
- at MAHLE Electric Drives Slovenija's customer.

By signing a delivery note, MAHLE Electric Drives Slovenija confirms shipment acceptance, which does not mean however that the approved shipment conforms in respect of quality or quantity.

With regard to the seriousness of nonconformities and possible consequences, claims can be:

- a reprimand (supplied products are used) or

- rejection (supplied products are not used; they are returned to the supplier).

All further activities must be carried out through the buyer of goods in MAHLE Electric Drives Slovenija.

8.3.1. Claims records designation

Claims designation is information that tells us what kind of claims we are dealing with:

- RZ : goods rejection – from the incoming inspection,
- RRZ: goods rejection – from production,
- RKZ: goods rejection – from a customer,
- RG: reprimand – from the incoming inspection,
- RRG: reprimand – from production,
- RO: claims of casting
- RI: claims of product
- RKG: reprimand – from a customer,
- RP: claims in respect of unsuitable packaging, quantity or product damage during transportation.

8.4. Measures

MAHLE Electric Drives Slovenija expects from the supplier immediate and efficient action to eliminate the causes of nonconformities and prevent their recurrence.

8.4.1. Immediate measures - corrections

In the case of rejections and reprimands MAHLE Electric Drives Slovenija requires the supplier to reply to the sender not later than in twenty four (24) hours from receipt of the **Complaint records** a written description:

- of possible causes for nonconformities,
- suggestion for all possible immediate actions to ensure undisturbed production at MAHLE Electric Drives Slovenija and elimination of nonconformities (sorting, elaboration, replacement of nonconforming products with adequate and other measures).
- Replacement of reclaimed products proceeds on next procedure:
 - for replacement of reclaimed products is needed to submit a supplier a new order,
 - the supplier after the output supply for reclaimed products submits credit note.

If a supplier does not respond to the requirement, MAHLE Electric Drives Slovenija understands this as a breach of the supplier's obligations. In such cases MAHLE Electric Drives Slovenija has the right to trigger claims against the supplier to refund all directly and indirectly incurred costs. In respect of the given possibilities MAHLE Electric Drives Slovenija and the supplier must agree about the most suitable measure and carry it out.

8.4.2. Corrective measures

In cases of non-conformities that lead to higher costs or in cases of non-conformity recurrence, MAHLE Electric Drives Slovenija requires the supplier to prepare a plan of a permanent elimination of non-conformities.

The purpose of the plan is:

- for the supplier to determine the causes that led to non-conformities,
- to prepare contents and a time plan for efficient short- and long-term measures for permanent elimination of the causes of the non-conformity,
- to evaluate, on their own, the efficiency of the implemented measures and,
- for MAHLE Electric Drives Slovenija to evaluate the efficiency of the implemented measures.

After receipt of the claims records, the supplier must:

- deliver MAHLE Electric Drives Slovenija **Improvement Plan-8D Report** in five working days,
- give a perfect report on the efficiency of the implemented measures in the **8D Report** in one month.

If a supplier needs more time to implement and evaluate efficiency of the implemented measures, he/she must make an arrangement with MAHLE Electric Drives Slovenija.

The plan of immediate measures (24 hours) and the **8D Report**, are not mutually exclusive. This means that MAHLE Electric Drives Slovenija requires both.

If MAHLE Electric Drives Slovenija finds the planned measures insufficient, it will require a new plan from the supplier.

If the implemented measures (in respect of supplies) prove to be insufficient, MAHLE Electric Drives Slovenija will send a quality engineer to the supplier.

The supplier must allow the quality engineer on first demand:

- to conduct an extraordinary audit of a process or a system,
- review the production process as well as the entire documentation in order to prepare a common plan of corrective and preventive measures.

MAHLE Electric Drives Slovenija will monitor implementation of the agreed plan.

9. IMPLEMENTATION OF CHANGES

After product approval MAHLE Electric Drives Slovenija does not allow any changes to be carried out by the supplier. This refers to technical requirements, documentation, own sources of supply, technologies, processes, production location. The supplier can change all the above only by prior agreement with MAHLE Electric Drives Slovenija.

9.1. Product changes by MAHLE Electric Drives Slovenija

MAHLE Electric Drives Slovenija will implement product changes following requests to the supplier. Based on this, the supplier carries out feasibility analysis and evaluation of all costs related to the change; in addition he/she prepares the time plan for implementation.

MAHLE Electric Drives Slovenija will inform the supplier about the planned date of sampling and change implementation. The costs of a change, unserviceable inventories and possible price change are subject to agreement between MAHLE Electric Drives Slovenija and the supplier.

9.2. Changes recommended by the supplier

MAHLE Electric Drives Slovenija expects all of its suppliers to implement continuous improvements in order to improve quality and reliability, and to reduce labour and product costs.

Requests for changes are triggered by submitting **Request for a Change** to the Purchasing Division. After analysing a suggestion, MAHLE Electric Drives Slovenija informs the supplier about its decision. In the case of a rejection, MAHLE Electric Drives Slovenija must give its reasons for this. If a suggestion refers to product requirements, MAHLE Electric Drives Slovenija triggers a change management procedure in respect of the product's documentation.

10. EVALUATION AND DEVELOPMENT OF SUPPLIERS

10.1. Purpose

The purpose of evaluation and development of suppliers is to monitor and enhance suppliers to achieve excellence in operations and in meeting of all MAHLE Electric Drives Slovenija's requirements.

By evaluating deliveries, we continuously control quality of the supplied goods and services for the needs of production. The collected data helps when taking decisions on selection and implementing corrective measures at the supplier. MAHLE Electric Drives Slovenija and the supplier are constantly informed about the level of quality of the goods.

10.2. Evaluation

- **Price:** achieve target prices, reduction of prices with increased productivity and various workshops for cost reduction, self-initiated suggestions.
 - Price level (0.4 weight)
 - Price behaviour (0.4 weight)
 - Payment terms (weight 0.2)
- **Quality:** relation between the supplied and claimed products, responsiveness to nonconformities, 8D reports, PPAP yield
 - PB-checking (weight 0.5)
 - Responsiveness, 8D reports (weight 0.3)
 - First samples (PPAP) (weight 0.2)
- **Delivery:** ensure timely deliveries with correct quantities, suitable packaging, labelling and the required accompanying documents.
 - In-time deliveries (weight 0.5)
 - Accuracy of deliveries in respect of quantity (weight 0.4)
 - Suitability of shipments (weight 0.1)
- **Support:** The support that a supplier offers the customer in the field of logistics, quality, development of new products, suggestions for improvements and rationalization.
 - Support in supply (weight 0.4)
 - Responsiveness and communication (weight 0.3)
 - Technological level and innovativeness (weight 0.3)

10.2.1. Quantity indicators (12 months period/last month)

Quantity indicators (12 months period/last month), where we assess:

- PPM deliveries
- Claims from 0-km (RG, RRG, RZ, RRZ)
- Claims from the market (RK)
- Quality costs

10.2.2. Risk assessment

It is carried out at least once a year for an individual supplier. The treated risk assessments are as follows:

- Financial risks (determined by the purchasing agent, ratings are forwarded by the Finance Department quarterly)
 - New supplier
 - Financial situation (financial indicators, trends...)
 - Level of dependency (% of supplier's production for MAHLE Electric Drives Slovenija)
 - Stability, management (political, safety, social...)

- Technological risks (evaluation by a SQE)
 - Quality system (implemented system, indicators and goals...)
 - New products
 - New processes
- Delivery risks (evaluated by SQE + buyer)
 - Capacities
 - Sub-suppliers
 - Production relocation
 - Consignment

In respect of the acquired evaluations in individual fields, MAHLE Electric Drives Slovenija creates a list of suppliers, to which it advises the results.

Evaluation of suppliers is carried out at least once a year: MAHLE Electric Drives Slovenija sends the supplier evaluation for review.

10.2.3. Supplier classification

In respect of the gained evaluation MAHLE Electric Drives Slovenija classifies suppliers in three groups A, B, C as follows:

Supplier	Points	Rating
A	81 -100	Fit. A supplier who meets and exceeds all of MAHLE Electric Drives Slovenijas requirements (based on supplies, target prices, quality, etc.) for a longer period and is evaluated with a low risk rating.
B	51 - 80	Partially fit. A supplier that meets most of the requirements and expectations of MAHLE Electric Drives Slovenija (supply, target price, quality, etc.)... Supplier classified in class B is financially stable and he has an appropriate level of development, product quality and price competitiveness is evaluated with a moderate risk rating.
C	1 - 50	Unfit. A supplier who occasionally fulfils the requirements and expectations of MAHLE Electric Drives Slovenija. To whom MAHLE Electric Drives Slovenija gradually reduces new orders, the supplier is not included in new projects and is evaluated with as a high risk rating.

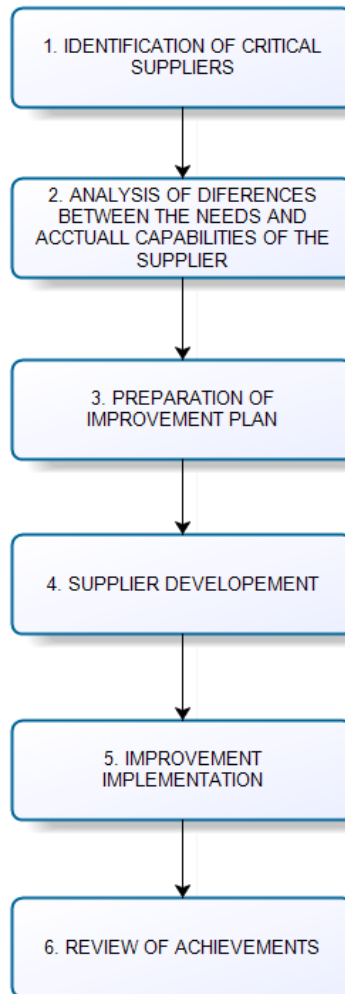
10.2.4. Opportunities for suppliers

The suppliers that are classified in class A can count on advantages in orders, partaking in new projects and acquiring new orders.

MAHLE Electric Drives Slovenija expects its suppliers ranked in the lower classes to prepare an annual plan of progress, which must show areas of progress, with implementation deadlines, and executors in charge.

10.3. Supplier development process

Suppliers' development stages are as follows:



10.4. Supplier development plan

10.4.1. Continuous improvements

MAHLE Electric Drives Slovenija expects its suppliers to follow the principles of business excellence and to continuously improve operations in all areas, especially in those where they do not currently reach the standards required by MAHLE Electric Drives Slovenija. Based on MAHLE Electric Drives Slovenija's expectations, the supplier is obliged to set and monitor the key norms of business operations.

Critical areas of operations are:

- Quality
- Price efficiency
- Supply of material and services
- Research and development, and technological equipment
- Financial stability and efficient cash flow management
- Purchasing logistics
- HRM
- Risk Management

10.4.2. Price efficiency

To stay competitive in world markets, MAHLE Electric Drives Slovenija is continuously forced to reduce its product prices. Therefore MAHLE Electric Drives Slovenija and its suppliers must use a carefully planned approach towards reduction of costs and consequently acquisition prices.

MAHLE Electric Drives Slovenija will reduce purchasing prices through long-term agreements with suppliers, benchmarking and redirecting orders to less expensive suppliers. MAHLE Electric Drives Slovenija believes that suppliers should develop a process of continuous cost reduction with an efficient and successful implementation of programmes of quality improvement, concurrent development and value analysis techniques.

Irrespective of other requirements, MAHLE Electric Drives Slovenija expects every supplier to give at least 3 suggestions for cost reduction every year by submitting the form **Suggestion for cost reduction**. Before implementing the suggestion, the supplier must acquire written approval from MAHLE Electric Drives Slovenija when dealing with a product change. The achieved cost reductions must reflect in the supplier evaluation.

10.4.3. Productivity

MAHLE Electric Drives Slovenija stimulates suppliers to continuously implement operative improvements in their production capacities and to strive for the use of a lean production policy. In this way we will ensure an enduring and competitive business environment in the global market.

10.4.4. Suppliers' training

An important approach to suppliers' training includes:

- workshops, the purpose of which are improvements, searching for and realization of additional savings in the supply chain; workshops can be organized on the initiative of MAHLE Electric Drives Slovenija or the supplier
- conferences with suppliers, the purpose of which is to inform suppliers regarding the business or development trends of MAHLE Electric Drives Slovenija, expectations of MAHLE Electric Drives Slovenija towards suppliers and presentations of new techniques in operations with suppliers
- other ways of training and education

10.4.5. Implementation of improvements and review of achievements

The suppliers are obliged to concurrently check and analyse the effects of the planned measures and goals set in the suppliers' development plan in cooperation with MAHLE Electric Drives Slovenija. After a successful realization of the set improvements, the suppliers shall inform MAHLE Electric Drives Slovenija about their performance at least twice per business year.

10.4.6. Top Focus Supplier Process

MAHLE Electric Drives Slovenija utilizes a Top Focus Supplier (TFS) process to drive sustainable quality system improvement with a select group of suppliers. These suppliers may be key strategic suppliers regardless of performance. Other suppliers may be included because they are not meeting MAHLE Electric Drives Slovenija expectations with regard to overall number of problem cases issued and complaint rate (number of problem cases issued per million parts received (complaints per million or CPM)). This is not punitive; it is a focused effort to improve performance and build a stronger relationship between the supplier and MAHLE Electric Drives Slovenija.

Successful completion of the TFS process requires that a supplier participate in a VDA 6.3 audit activity, complete a quality improvement plan, lead weekly status meetings with MAHLE Electric Drives Slovenija, and provide evidence of 5 Why Analysis training for at least one employee. Additional requirements are defined during the leadership kick-off meeting.

Participation in the Top Focus Supplier process will not negatively impact a supplier's ability to receive requests for quotation. A supplier may participate fully in the MAHLE Electric Drives Slovenija Sourcing process unless the supplier is on formal New Business Hold for some other reason.

11. ATTACHMENTS AND REVIEW OF RELATED DOCUMENTS

Attachments (originals are available on website: www.mahle.com):

- Special demands for suppliers CSR,
- Instructions for suppliers about package management,
- General terms of delivery P279/1,
- General terms of delivery – avtomotiv.

Related documents: (available at your contact person in MAHLE Electric Drives Slovenija):

- Declaration of Confidentiality,
- Environmental Assessment Questionnaire,
- Supplier Declaration on the Conformity of Products,
- Supplier Declaration on the Conformity of Packaging,
- Self-assessment Questionnaire,
- Self-introduction Questionnaire,
- Enquiry – RFQ,
- Team Feasibility Commitment – TFC,
- Quality Evaluation Questionnaire – VDA 6.3,
- PPAP requirements – sampling,
- Request for Nonconformities Approval,
- 8D Report
- Change Preposition,
- Preposition for Cost Reduction.

12. CHANGES AND HISTORY OF THE DOCUMENT

Date of revision	Change note
2013, April	Chapter renumbered and amended the entire contents of the manual
2015, February	Point 6.2 amended with added instructions – packaging for suppliers.
2015, August	Point 8.4.1. amended with added instructions about material replacement.
2015, December	Chapters renumbered, completion of the entire content in the manual.
2016, April	Chapter 5.5 criteria for Key characteristics updated
2017, February	Chapter 6.4 in 11 updated
2017. May	Chapter 2.1, 2.2 in 2.3.1 according to the requirements of the external auditor
2018, April	Change of company name (MAHLE Electric Drives Slovenija)
2020, July	Updated guide to new posting on the intranet app