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MHM

Supplier Quality Manual

Contents:

Introduction

1.1 General

The supplier quality manual describes the requirements for selected suppliers regarding quality control. The basis of **Musashi Hungary Manufacturing Limited** („MHM") ability to compete is the high quality of the product and services. Guaranteeing a high and uniform quality level assures customer satisfaction and it is also a prerequisite for mutual survival. This document is a supplement to and does not replace or alter conditions covered by the purchase agreement. It shall not be considered to be the desired level, but more as a description of the lowest level of quality assurance that MHM expects from its suppliers.

1.2 Quality requirements

MHM quality requirements stated in this document are general in nature. Quality requirements for specific parts are specified in product specifications and order documents. ISO 9001 certification by an authorized 3rd party is a minimum requirement. When required by MHM and its customers IATF 16949 certification by an authorized 3rd party is also required.
APQP as tool for quality assurance must be used when required by MHM. Refer to latest Edition of AIAG APQP Manual or specific MHM instruction.

1.3 Product Safety

MHM manufactures products for performance and safety in vehicles. It is of outermost importance that our products are reliable in their applications. Product safety must therefore be the highest priority throughout the complete supply chain.
In case of manufacturing raw material for safety products supplier shall have on site Product Safety Representative.

1.4 Applicable statutory and regulatory requirements

MHM demands the supplier to be in compliance with all applicable statutory and regulatory requirements.

1.5 Environmental management system

MHM expects its suppliers to focus on environmental issues by implementing an environmental management system according to ISO 14001 or equivalent standard.
All chemicals included in products delivered to MHM and destined for the European market and All chemicals used in the supplier's manufacturing processes at European sites shall be registered, by the supplier, according to the European Commission REACH regulation. See References.

Prohibited and restricted substances according to IMDS must not be used. If IMDS declaration is required by MHM or its customer, all components and all contained substances must be declared in the IMDS system. See References
Specific requirements concerning environment management shall be regulated in the Business contract.

Any exception must be separately negotiated and agreed between MHM and supplier concerned. Supplier must fulfill requirements according to REACH legalislation and if requested IMDS as well. See references

1.6 Communication

Attaining the appropriate level of quality in terms of communication requires teamwork between the MHM Group and its suppliers. Open communication is essential to achieve the necessary teamwork. Communication shall be channeled through and supported by the MHM purchasing organization.
Changes in the organization or position of the contact person(s) at the supplier shall be communicated to the relevant contact person at the MHM purchasing organization.
MHM Group uses English as its preferred language when communicating both externally and internally. Our suppliers should ensure that they have the adequate language and communication skills for their business to meet our needs.
Supplier shall provide quality contact person with 24 hours availability by phone, who can be available, and have authority in case of any quality problem which may have high potential risk.
Supplier shall respond any written communication within one working day, at least with a confirmation that the request is received and understood.

1.7 Quality objectives

Top management shall define quality objectives and measurements that shall be included in the business plan and used to deploy the quality policy.

2 MHM sourcing process (Principle)

The sourcing process below describes how MHM in principle decides how and where the specific part will be purchased.

2.1 Potential supplier assessment

MHM performs regular searches to find potential applicants for future business collaboration.

2.2 Confidentiality agreement

A potential supplier must sign a Confidentiality Agreement (CA) to regulate the protection of business information before engaging in detailed discussions. Without approved CA; RFQ; with related design and volume data can not be released by MHM purchase department.

2.3 Request For Quotation

MHM’s request for quote constitutes a basis for business negotiation. Suppliers are obligated to fulfill standard MHM RFQ form untill the requested Offer submittion date.

2.4 Supplier assessment

A supplier assessment is performed in order to grade the potential supplier's capability of delivering the requested parts and/or services according to the defined Quality, Cost, Design requirement. Depending on the type of business, MHM can do this assessment so called QAV audits during a visit at the supplier's site, through a supplier selfassessment.

- QAV0: Initial Site assesment
- QAV1: Systeme Audit
- QAV2: Process Audit (witnessing significant production run, including run at rate)

2.5 Contract review

Contract reviews are carried out between MHM and the supplier in order to communicate requirements and agree upon business terms, including the following:

2.5.1 Commercial agreement

Commercial agreements between the supplier and MHM are specified in a contract following a standard MHM format. The agreement regulates business between the supplier and MHM. The supplier undertakes to manufacture and supply listed parts and/or services to MHM in accordance with clauses in this agreement

2.5.2 Design requirements

MHM product requirements are specified in drawings and technical specifications. All specified properties are essential and must be complied with. The nature of some of the properties is such that if the specification is not met, the reliability and performance of the product may be adversely affected. These properties shall be specified as classified requirements. During manufacturing, the supplier must secure statistical control of these properties and documentation must be available to show that the specified requirements have been met (see 2.7). The supplier can be requested to enclose data in shipments to MHM.
MHM's responsible purchaser shall inform the supplier when there is a new issue of the drawing. The supplier shall always have up-to-date MHM drawings and other technical specifications, and ensure that all affected personnel have the correct drawing and revision of it and correct specifications.
Incomplete, ambiguous or conflicting requirements reflected on drawings and/or specification documents shall be resolved with the responsible MHM purchaser. Where the supplier has design responsibility of purchased parts and/or services, it is responsible for ensuring that parts and/or services do not contain substances that are listed on the REACH "black" list.
See also 1.5

2.5.3 Special characteristics

Special characteristics require special attention, because deviations in these characteristics can seriously affect product safety, product lifetime, assembly capability, product functionality, and/or quality of the following manufacturing operations as well as legal regulations.
They are specified by MHM and/or result from the riskanalysis of the supplier, e.g. from the product and/or process FMEA. As a basic principle, all product and process characteristics are important and must be complied with. Normally, special characteristics are divided up as follows:

- (safety) critical characteristics (characteristics requiring special verification management)
- function-relevant characteristics
- process-relevant characteristics

The table below shows the marking of the special characteristics used by our main customers.

	Safety	Functional / Important
FIAT	PQC-S *	PQC * ; CPC *
AUDI	Ⓓ *	
SUZUKI	Ⓐ *& **	H **; F *& **
Jaguar Landrover	CC* or ▽*; OS*	SC *; HIC *
HONDA	HS** ; HA** Ⓠ*	HB **
ZF	no special id.	FW-/FWD-/KW-/QW-/PW or S-/C-/PTC- P
MUSASHI	HS** ; HA** ☆*	HB **
MAGNA/GETRAG	no special id.	<M>

** Special (or safety) part *Special (or safety) characteristic

If any of these marking is recognized on the drawing provided by MHM, supplier shall contact to MHM to clarify what special treatment is required

2.5.4 Quality requirements

The general quality requirements MHM imposes on its suppliers are stated in this document. Quality requirements for specific parts and/or services are specified in product specifications and order documents.

2.5.6 Purchasing data

MHM's purchase order documents issued to suppliers contain descriptions of ordered products, including part number, description, drawing number, released quantity, delivery date(s) scheduled and other pertinent data.
The supplier shall review and approve purchasing documents for accuracy and adequacy of the specified requirements prior to release for production. Incomplete or conflicting requirements shall be resolved with the issuer prior to release. Upon review and acceptance of the purchase order documents, the supplier, where requested, shall confirm receipt and acceptance of the order to the issuer. The supplier is responsible for outgoing product quality and must verify and document that the product conforms to all MHM standards and engineering specifications as stated on the purchase order with the engineering drawing.

2.5.7 Equipment supplied by MHM

Tools, gauges, patterns, fixtures, package material and machines (named equipment below) supplied and/or paid for by MHM are the property of MHM. After receiving the equipment, the supplier shall in return hand over a notice of delivery to MHM showing that deposition of the equipment to MHM was completed. The equipment remains MHM property and is to be marked according to MHM specification.
Equipment not used in production must be kept in a fireproof location and stored separately from production. The supplier undertakes not to use the equipment for manufacturing on a

third party's behalf. The supplier is responsible for maintenance of all equipment paid for or supplied by MHM.
Measuring equipment supplied by MHM must be included in the suppliers own calibration system.
When the agreement and the manufacturing expire, if nothing else agreed, the equipment must be returned to MHM. The supplier does not have the right to scrap equipment without MHM's permission. If required by MHM, the equipment shall be available for inspection

2.5.8. Manufacturing feasibility

The supplier shall investigate, confirm and document the manufacturing feasibility of the proposed products in the contract review process, including risk analysis.
For documentation of manufacturing feasibiliy can be done in MHM format or in supplier's own format.

3 Production Part Approval Process

The Production Part Approval Process (PPAP) is intended to verify that products made from production materials, tools, and processes meet MHM's engineering requirements and that the production process has the potential to produce products meeting these requirements during an actual production run.

PPAP must be carried out:
- On new parts, unless previously approved by another MHM site.
- On changed parts, controlled by an engineering change order.
- When a new supplier is introduced.
- When the previous PPAP has been rejected.
- When required by MHM.

Prior to any change the supplier must inform MHM and secure approval from MHM if changes affecting process or product are considered. MHM decides if proposed change can be implemented and determine the conditions regarding quality assurance and initial sampling.
Such changes can be:
- When significant changes to the manufacturing process are planned, which may affect the properties and quality of the part.
- When a change of materials supplier is planned (applies to parts which require traceability).
- When a change of subcontractor is planned (for example heat treatment, surface treatment).
- When their own production equipment has broken down and manufacturing has to be transferred to another company.
- When equipment is transferred within your own facility.
- When production equipment is not used for more than 12 month.

PPAP must be performed in accordance with PPAP level 3 requirement table below unless otherwise noted on MHM instructions and/or order documents. If submission of a sample product is required, the supplier shall send marked sample(s) to MHM with inspection and test records. The sample(s) shall be sent as a separate shipment and with a separate delivery note. The package and documents must always be marked "PPAP", and addressed to the attention of the person at MHM who ordered the PPAP. Regular production part deliveries are not permitted before approval has been granted by MHM.

This approval is sent to the supplier via a returned and signed Warrant stating if the PPAP is approved or rejected.

PPAP requirement table.						
		Submission level				
	Requirement	1	2	3	4	5
1	Design Record (drawing)	R	S	S	R	R
2	Engineering Change Documents, if any	R	S	S	R	R
3	Customer Engineering Approval, if required	R	R	S	R	R
4	Design FMEA	R#	R#	R#	R#	R#
5	Process Flow Diagram	R	R	S	R	R
6	Process FMEA	R	R	S	R	R
7	Control Plan	R	R	S	R	R
8	Measurement System Analysis Studies (MSA)	R	R	S	R	R
9	Dimensional Results	R	S	S	R	R
10	Material, Performance Test Results	R	S	S	R	R
11	Initial Process Study (Capability Study, Cpk)	R	R	S	R	R
12	Qualified Laboratory Documentation *	R	S	S	R	R
13	Appearance Approval Report (AAR), if applicable	S	S	S	R	R
14	Sample Product	R	S	S	R	R
15	Master Sample	R	R	R	R	R
16	Checking Aids	R	R	R	R	R
17	Records of Compliance With Customer-Specific Requirements *	R	R	S	R	R
18	IMDS report	S	S	S	S	S
19	Part Submission Warrant (PSW)	S	S	S	S	R

S = Submit to MHM. Retain copy at manufacturing location.
R = Retain at manufacturing location; readily available for MHM representatives upon request.
# = Applicable if the supplier has design responsibility.
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PPAP requirements, brief explanation:

1. **Design Records**

A copy of MHM's drawing for the submitted part must be included with submission when requested.

2. **Engineering change documents**

ln case of design and/or drawing changes the Engineering Change Order (ECO) shall be submitted. In case of change in process at supplier (not affecting design or drawing) and PPAP required by MHM the Engineering Change Order (ECO) shall be submitted.

3. **Customer engineering approval, if required**

In cases when design change or drawing change have been made pertaining to the supplier's proposed change, Engineering Change Order from MHM will be enclosed.

4. Design FMEA

Design FMEA is required if the supplier is responsible for design. Refer to latest Edition of AIAG Potential Failure Mode and Effects Analyses reference manual.

5. Process flow diagrams

Flow chart describing the production process for the part.

6. Process FMEA

Refer to latest Edition of AIAG Potential Failure Mode and Effect Analyses reference manual.

7. Control Plan

The Control plan should minimum describe operations steps, classified requirements, tolerances, measurement technique, sample size and frequency, records and reaction plan when nonconformity occurs.

8. Measurement System Analysis (MSA)

A measurement system analysis must be performed to understand how measurement error is affecting the measured values. To be done for the measuring, gauging or test equipment, used to produce the Process Capability Studies. Refer to latest Edition of AIAG Measurement System Analysis Manual.

9. Dimensional Results

Dimensional inspection must be done for all parts and product materials (see “sample products” below) with dimensional requirements to determine conformance with all design record specifications. It is the supplier’s responsibility to provide dimensional measurement results. If a third party inspection service has been used, this must be stated on the result sheet. Any compensation for costs using external services will not be accepted by MHM if this was not included in the quote.

10. Material, Performance Test Result

All performance, durability and material tests specified on drawings or technical requirements must be performed and recorded by the supplier if not otherwise agreed upon with MHM. This clause includes results from material analysis documented in a *Material certificate*.

11. Initial Process study (capability study, Cpk)

Process capability studies must be carried out on the classified requirements specified in MHM’s drawings as well as on the critical process parameters identified by the suppliers’ Process FMEA.
For critical measures marked on the drawing or properties obtained in the process FMEA evidence is required that the selected process and equipment is capable of fulfilling these. It is the supplier’s responsibility to state a scope, which guarantees the selected process capability.
Special processes, which cannot be verified by means of control and testing afterwards, should be tested, documented and controlled in order to guarantee that the specifications are being fulfilled.
MHM requires a minimum of 1.67 Cp and 1.33 Cpk for the initial process study approval of process. If the obtained Cpk is less than 1.33, a 100% inspection of parts is required.
If nothing else stated, capability study shall be performed from minimum 125 pcs.
Refer to latest Edition of AIAG SPC Manual.

12. Qualified Laboratory Documentation

Laboratory scope is a quality record containing:

- the specific tests, evaluations and calibrations a supplier laboratory has the ability and competency to perform
- a list of the equipment which it uses to perform the above
- a list of the methods and standards to which it performs the above

13. Appearance approval report

Applies only to parts with appearance requirements stated in the drawing.

14. Sample products

The supplier is to provide production level parts as requested on the order. Parts must be manufactured according to the methods and with the equipment intended for future serial production. PPAP samples shall be submitted free of charge.
Unless otherwise agreed upon, the supplier must perform inspection and testing on 5 different parts, marked 1, 2, 3, 4, 5. If there are unique molds/cavities, the submission should include three samples per each unique mold/cavity. Parts must be from a production run unless otherwise agreed upon with MHM.
Master Sample is the sample that is going to be retained at the supplier for referral.

15. Master sample

The supplier should save parts as reference samples from the initial sample submission of injection molded or molded parts.

16. Checking aids

Description and verifying documents covering the measuring devices or measuring units to be used for verifying purposes.

17. Records of compliance of customer specific requirements

Documentation of compliance of customer specific requirements.

18. IMDS report

Unless otherwise stated by MHM, the part (or substance) shall be registered in the International Material Data System (IMDS) before delivery of samples to MHM. A signed document verifying this shall be included in the delivery of the samples.

19. Part Submission Warrant

The Part Submission Warrant (PSW) form shall correspond with AIAG PPAP-manual model or MHM template and be signed by MHM before production and deliveries to MHM take place.

3.1 Production Test Run (Run At Rate)

MHM reserves the right to request and attend a full production test run prior to serial release of the production. The Production Test Run is conducted to assure the capability and capacity of the specific production line. The scope and extent of the Production Test Run is decided for each specific case.

4 Manufacturing Process

General conditions and terms for production of MHM parts and final supplier approval (Part assurance):

4.1 Incoming inspection

The supplier shall have a process to assure the quality of purchased product.

4.2 Verification of job set-ups

Job set-ups shall be verified whenever performed, such as an initial run of a job, material changeover or job change. Work instructions shall be available for set-up personnel. The organization shall use statistical methods of verification, where applicable.

4.3 Work instructions

The supplier shall prepare documented work instructions for all employees having responsibilities for the operation of processes that impact conformity to product requirements. These instructions shall be accessible for use at the work station. These instructions shall be derived from sources such as the quality plan, the control plan and the product realization process.

4.4 Training on the job

The supplier shall provide on-the-job training for personnel in any new or modified job affecting conformity to product requirements, including contract or agency personnel. Personnel whose work can affect quality shall be informed about the consequences to the customer of nonconformity to quality requirements.

4.5 Process control

The supplier must establish and maintain manufacturing documentation adapted to their manufacturing process. The supplier must document the inspection and test results, which show that the classified requirements meet the set requirements. This may be in the form of minutes and reports from process control, quality inspection, tool inspection, etc.
Manufacturing must take place under controlled conditions. Capability studies must be performed for machinery and processes using statistical methods, such as SPC. Processes must show capability, Cpk > 1.67 during the life of product. If capability is between 1.33-1.67, corrective actions must be planned and implemented. Cpk <1.33 may be accepted in exceptional cases and approved by MHM on the condition that all parts are inspected and sorted.
The use of statistical control measures by the supplier shall be performed on classified requirements as per MHM's drawings (see 2.5.2), and on requirements identified by suppliers' Process FMEA. Documentation must be traceable to the actual products shipped.

The supplier shall, unless otherwise agreed, perform and document at least once a year a layout inspection and a functional verification, including inspection of packaging and labeling according to MHM requirements. Results shall be available for MHM review.

4.6 Supplier final quality inspection

The supplier shall maintain procedures to ensure that the purchased product conforms to and is certified to the specified requirements, if necessary by conducting a final quality inspection. It is the supplier's responsibility to ensure that all parts shipped to MHM meet specified requirements. Acceptance of a product by a sampling plan (either by the supplier or by MHM) does not relieve the supplier of the responsibility to meet specified
requirements for all parts. MHM reserves the right to verify the purchased product at the supplier's premises. In such an instance, the supplier will be notified and given sufficient preparation time.

4.7 Identification and traceability

The supplier shall identify the product by suitable means throughout product realization. The supplier shall identify the product status with respect to monitoring and measurement requirements throughout product realization. Where traceability is a requirement, the supplier shall control the unique identification of the product and maintain records.

4.8 Control of reworked product

Instructions for rework, including re-inspection requirements, shall be accessible to and utilized by the appropriate personnel. Rework and/or repair processess shall be performed only with MHM's approval.
Rework processes shall be included in the process flow diagram.

4.9 Preventive and predictive maintenance

The organization shall identify key process equipment and provide resources for machine/equipment maintenance and develop an effective planned total preventive maintenance system. As a minimum, this system shall include the following:

- planned maintenance activities;
- packaging and preservation of equipment, tooling and gauging;
- availability of replacement parts for key manufacturing equipment;
- documenting, evaluating and improving maintenance objectives.

The supplier shall utilize predictive maintenance methods to continually improve the effectiveness and the efficiency of production equipment.

4.10 Part assurance

Regular production deliveries can only begin after PPAP/PSW is signed/approved and MHM has ordered parts.

5 Nonconformity Product handling

5.1 Handling of nonconformities

In this context, nonconformities do not only refer to products that do not conform to specification, but also to alternative supplier process or nonconformities in supplier processes or breached agreements with respect to delivery dates and size of delivery as well as packaging instructions that have not been followed.
When nonconformance in product or process is detected at the supplier's facility, the supplier must determine immediately the extent of the problem and take prompt corrective action to prevent shipment of any nonconforming material. All suspect material shall be handled and contained as nonconforming material. The supplier must immediately notify MHM of any suspected quality problems in shipped products and the corrective action being taken to eliminate the condition for future shipments. If the problem cannot be corrected immediately, shipments must be held pending specific instructions from MHM.

5.2 Supplier request for deviation

Supplier communications notifying MHM of nonconforming conditions or requesting deviation approval shall be directed in writing to the appropriate MHM contact. After internal investigation, MHM can, in exceptional cases, approve a deviation of product or process. This approval is valid for a limited number of parts or a limited time, and a reduced price. Approval of Deviation with specific instructions is sent in writing to the supplier. The material involved must be retained by the supplier pending receipt of specific instructions from MHM. Deliveries with deviation approval are identified in accordance with instructions in the remitted deviation approval.
The supplier confirms restored quality by returning a signed deviation approval to MHM.
Deviation permission can be requested only if it does not affect any safety, homologation, functional characteristic or legal regulation.
The cost of the justified deviation request process is 150 Euro/request.

5.3 Handling of claims

If MHM receives a delivery with nonconformities, the supplier will be informed of this through a nonconformity report. The supplier must implement immediate short-term actions and describe these in 8D report and send to MHM within 24 hours. The supplier can be required to do sorting and remedy the nonconformity at MHM. If the supplier is not able to do sorting, without delay after notification from MHM, MHM may do the sorting and invoice the cost to the supplier.
A corrective action plan (8D) listing the root cause and corrective and preventive actions must be sent to MHM no later than ten (8) calendar days after receipt of the nonconformance report. An analysis of the cause always needs to be carried out using suitable problem-solving methods. If required by MHM, more extensive, detailed analyses (such as Ishikawa, 5 why, error simulations, etc) are to be provided.
Unless otherwise agreed, 8D report shall be completed in MHM format.

5.4 100% Certified delivery

Subsequent deliveries from warehouse and work in progress which have been subjected to 100 % testing due to a previous fault must be clearly identified with certification label.

The type of marking needs to be agreed with MHM

5.5 Error-proofing

The supplier shall use error-proofing methods in their corrective action process.

5.6 Field Claims

Supplier shall put every effort into investigating the returned units, providing analysis report to MHM, and supporting any discussions with OEM as final customer, therefore parties herewith declare cooperativeness & willingness of negotiation to find best solution for minimize losses.
Supplier also declare willingness of compensating MHM for all the costs that are confirmed to be their responsibility through above described activities

5.7 Non conformance costs

In case of quality problem MHM charge the administration cost of the complaining process. The cost of the justified complaint handling process is 150 Euro/claim. Additional cost can be charged, in case of:

- Sorting by MHM
- material handling
- production line stoppage
- excessive tool wear

5.8 Technological scrap

In case of parts rejected after machining, which become from the nature of the product: eg.: casting, or forging, MHM will debit supplier for the cost of the raw material and built part, and also debit the cost of machining. It is recognized by both parties that the eventual goal is a zero reject target, and we will work together in good faith to come closer to this in conjunction with changes to the Engineering Specification of the final customer where necessary. Yearly ppm targets shall be set in separeate agreement will be reviewed annually in order to meet the attitude of continuous improvement.

6 Supplier evaluation

MHM perform supplier evaluation on all suppliers. The assessment evaluates supplier from quality, logistics and purchasing aspects. The evaluation is made according to the previous periode (year / quarter) performance. The evaluation results are communicated to the supplier in written form, by the supplier portal.
The maximum achievable points are 100 in following rate: 40-40 points can be achived for Logistic, and from Quality side respective 20 points for purchasing performance.

6.1 Supplier categories (assement ratings)

Based on the number of points achieved for its performance each supplier in the MHM supplier community is ranked according to one of the three following categories:

- A = High Performance Supplier
- B = Medium performance
- C = Low Performance/ significant improvement required

In the assessment questionary some of the questions are marked with (C). These are critical items. In case the supplier receives 0 points in any of these questions, the rating will be automatically grade "C". If the supplier receive grade "C" in any of the sections, the total rating is automatically going to be "C" as well.

- **A = High Performance Supplier**
  Achieved points: 80-100

A High Performance Supplier is a supplier that is a good fit with MHM's sourcing policy. It shall adhere to or have own policies inline with the social and environmental policy of MHM. The supplier is certified by a recognized auditor from a third party according to ISO 9001/2 or, when required by MHM customer, IATF 16949. It is focusing on environmental issues by implementing an environmental management system in accordance with ISO14001 or equivalent. The supplier performs according to the MHM targets for quality, delivery precision, environment and year on year cost reductions. A supplier can remain High Performance Supplier indefinitely, given outstanding performance.

Receiving grade „A" during the assessment: The supplier has a good performance, no actions required. The comment fields may contain opportunities for improvements. Grade „A" can only be achieved if the performance of all categories is rated „A".

- **B = Medium Performance Supplier**
  Achived points: 50-79

A Medium Performance Supplier is a potential High Performance Supplier. The supplier has good basic level, but some point need to be improved, to achive the higher category

Receiving grade „B" during the assessment: In case of "B" rating a definite improvement is required. The supplier has to put together an improvement plan showing how he intends to improve the performance to achieve a better rating. The supplier has 30 days available to submit a formal report for review & customer approval after receiving the evaluation report. The plan has to be provided to that or those customer department representative (s) who assessed the grade "B".

- **C = Low Performance Supplier**
  Achieved points: 0-49

A Low Performance Supplier / Conditional Supplier is a supplier that is currently used but does not adhere to, fulfill or cannot show plans for rectification within a reasonable time.
A Low Performance Supplier / Conditional Supplier may not be awarded new business.
Quality attack plan (action plan) must be issued by supplier, and the progress need to be re-viewed with MHM quality department regularly.

Receiving grade „C" during the assessment: Grade "C" means poor or unacceptable performance and requires immediate improvement. Customer initiates a supplier visit at MHM premises and/or a supplier audit at the supplier premises to review and validate the corrective actions. If the supplier does not show willingness of cooperation or the supplier's

performance rated with grade "C" at least 2 times in a row, the customer initiates a site audit at the supplier.

6.2 Supplier Quality attack plan

When MHM requires, supplier shall issue a quality attack plan where summarize all planned impovements to achieve the yearly targets. The Quality attack plan shall include the following points.

- Strive for zero defects, or achive the yearly PPM target
- Identify, quantify and eliminate waste
- Improve the product
- Improve the process
- Optimize total procurement cost

MHM quality dept can regularly reqest the Quality attack plan for follow up.

6.3 Sub suppliers

Each supplier to MHM is responsible for the control and continuous improvement effort of its sub suppliers. Suppliers to MHM must require and issue corresponding requirements to sub suppliers.

6.4 Lean Production

In order to secure a long term, successful and profitable teamwork between MHM and the supplier, the supplier is requested to dedicate resources for Lean Production. The supplier shall have an implementation plan for Lean Production that is supported and regularly reviewed by senior management.

7 Change Management Process

7.1 General

The supplier shall have a process to control and react to changes that impact product realization. The effects of any change, including those changes caused by any supplier, shall be assessed, and verification and validation activities shall be defined, to ensure compliance with customer requirements. Changes shall be validated before implementation.
For proprietary designs, impact on form, fit and function (including performance and/or durability) shall be reviewed with the customer so that all effects can be properly evaluated.
When required by the customer, additional verification/identification requirements, such as those required for new product introduction, shall be met.

Any changes to Supplier-specified product characteristics also fall under this requirement even if they are not shown on the MHM drawing and/or specification

7.2 Customer Notification

The supplier shall notify the authorized customer representative of any planned change to the design process or site. Example:

- Use of other construction or material than was used in the previously approved part or product
- Production from new or modified tools (except perishable tools) dies, molds, patterns, etc. Including additional or replacement tooling
- Production following upgrade or rearrengement of existing tooling or equipment
- Production from tooling and equipment transfered to a different plant site or from an additional plant site
- Change of supplier for parts, non-equivalent materials, or services (e.g. heat treating, plating)
- Product produced after tooling has been inactive for volume production for twelve months or more
- Product and process changes related to components of the production product manufactured internally or manufactured by suppliers.
- Change in test/inspection method – new technique

7.3 Changes requested by the supplier

All requests for changes of product or manufacturing process from the supplier shall be specified on the *SREA* form and sent to the MHM purchasing department.
The request is then investigated internally within MHM.
The supplier is informed about MHM decision in any case, request approved or not.

8 Prototype material

8.1 General

Prototype material is used for development work in order to evaluate and verify that a design meets the requirements made. It is therefore important to deliver parts, which meet the requirements of the technical documentation. Should the requirements according to the MHM technical documentation prove to be difficult or expensive to meet, the supplier should contact MHM's purchasing department and inform them of the difficulties and, preferably, offer an alternative.

8.2 Manufacture

Parts shall be manufactured under controlled conditions. Controls shall be planned and implemented to the extent that all supplied parts meet the requirements made. It is desirable that the prototype is made at the series production site or close to it so that all experiences can easily be transferred.

8.3 Documentation

Unless otherwise agreed, the measuring results from all parts shall accompany the delivery. Prototype material, which has been sent to MHM without documented measuring results, will not be formally approved by MHM and may therefore be returned to the supplier at the expense of the supplier.

8.3.1 Dimensional report

The minimum requirement is a report of measured critical dimensions according to the drawing of all delivered parts. Subject to agreement with the supplier, other requirements can also be included. A complete measurement reports shall be included in each delivery. Parts shall be clearly marked, for reference and tracebility to the reports, to avoid confusion. For every dimension measured, the measuring method must be specified in the dimensional report.

8.3.2 Drawing

A copy of the used drawing shall be enclosed for verification of correct status.

8.3.3 Test results

If required, specific tests shall be carried out. Test results shall be enclosed in the delivery. The MHM project management department define the specific tests.

8.3.4 Specific checking aids

Unless otherwise agreed, if specific checking aids exist, these shall be included in the delivery if they are needed to verify components before assembly.

8.3.5 Deviations

It is not allowed to deliver parts with deviations to MHM without having first been granted a written approval of deviation from the project management department. The supplier shall submit any deviations for approval. (The supplier shall present a plan describing the extent of the deviation, its root cause and what actions are being taken to eliminate the deviation before the next delivery. The project management and purchasing department will together decide if the deviation can be accepted. The warrant will be signed and returned to the supplier).

8.3.6 Numbered parts

Parts shall be numbered with reference to existing dimensional and test reports.

8.4 Delivery

Prototype material shall be delivered separately from other deliveries with a separate delivery note. Address labels and delivery notes shall be marked" Prototype material". The packing shall be marked with a goods label "PROTOTYPE MATERIAL". If the parts are delivered in an envelope or small package, the goods label shall be placed inside the envelope or inside the package. The associated documents shall always accompany the goods in a plastic pocket or envelope and are not to be sent separately.

9 Series deliveries

9.1 General

MHM demands a 100% delivery performance from its suppliers.
In order to minimize the risk of production interruptions, it is very important that the supplier delivers the right quantity at the right time and with the agreed quality. If a deviation occurs in quality, the supplier is to make 100 % control if nothing else is agreed. If a deviation occurs in between the confirmed and the delivered quantity or confirmed arrival time and real delivered time, the supplier shall make extra transports to balance this on his cost, and immediatelly.
Suppliers shall have clear and well-documented routines for FIFO (First-In-First-Out) and the follow-up of delivery precision. In case of deviations, documented corrective actions must be presented. Suppliers will be debited for additional expenses for late or early deliveries and quality defects caused by the supplier. In specific cases logistic agreements are established, which would complement or override these requirements.

9.2 Delivery instructions

In order to obtain a 100% delivery performance, MHM prepares delivery instructions (DI) containing fixed and forecasted periods. MHM undertakes to purchase all parts during the fixed period. The parts outside the fixed period are only a prognosis (forecast for raw material preparation). The supplier undertakes to deliver all parts in the fixed period and maintain capacity to deliver the parts listed in the prognosis. The delivery instruction are available on the Musashi homepage: *http://www.musashi.hu/en/index.php?p=beszallitok* The supplier shall confirm the delivery instruction (DI) within 3 days, otherwise the delivery instruction will be considered as accepted.

9.3 Deliveries

The material shall arrive at MHM on the date stated in the delivery instruction.
The transport company in question will be informed about pick-up of goods for delivery at the latest 48 hours prior to pick-up.
If the delivery will not be ready for pick-up on the planned delivery date, the MHM production controler and the transport company shall be informed as early as possible but at the latest 48 hours prior to the planned pick-up date.
In case when the supplier shall transport the goods into MHM (based on the agreed Incoterm), the supplier's transportation agency shall allocate „time windor" for the unloading time. To report the accurate arrival time toward MHM is important.
If empties must be transported back to the supplier, „time window" reservation is also requested.

9.4 Quality of delivery

The quality of delivery is measured in On time Delivery (OTD). It is divided in two factors:

- OTD in time
- OTD in quantity
  the calculated value is always in percetage

The delivery performance is taken into consideration at supplier evaluation process.

9.5 Marking

The part shall be marked as per the instructions from MHM. Determinated in the Logistics Agreement.

9.6 Packing

The goods shall be packed as per the packing instructions from MHM. In case of run out of the general packaging material the supplier shall have alternative packaging to ensure the smooth supply chain.
Routines shall be available to guarantee correct unit and total quantity of the delivery.

9.7 Delivery documents

Delivery documents must include all documentation according to MHM Packing instruction. All general delivery documents must be available upon request.

10 Contingency plans

The Supplier shall prepare contingency plans to satisfy MHM requirements in the event of an emergency such as utility interruptions, labor shortages, key equipment failure and field returns.

11 Multidisciplinary approach

The organization shall use a multidisciplinary approach to prepare for product realization, including

- development/finalization and monitoring of special characteristics,
- development and review of FMEAs, including actions to reduce potential risks, and
- development and review of control plans.

12 Customer satisfaction

Customer satisfaction with the organization shall be monitored through continual evaluation of performance of the realization processes. Performance indicators shall be based on objective data and include, but not be limited to:

- delivered part quality performance,
- customer disruptions, including field returns,
- delivery schedule performance (including incidents of premium freight), and
- customer notifications related to quality or delivery issues.

The organization shall monitor the performance of manufacturing processes to demonstrate compliance with customer requirements for product quality and efficiency of the process.

13 Document retention

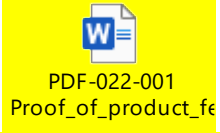
Customer drawings, specifications, PPAP, APQP documents, Control Plans, FMEA, Product audit reports, Lay-out inspection, and final inspection reports must be stored for 15 years at the supplier site. Other documents such as Traning records studies reports, Inspection and

traceability records and certificates shall be stored for 3 years. All documentation must be available for MHM and its customers on request.

14 References

Musashi (MHM) homepage: http://www.musashi.hu/
IMDS: http://www.mdsystem.com/
REACH:
http://eurlex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32006R1907:EN:NOT

- Manufacturing feasibility study



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- Supplier Request for Engineering Approval

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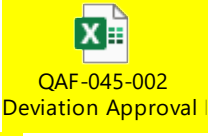
- Deviation Approval Request



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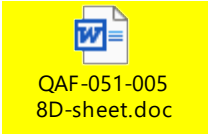
- 8D Report



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Version no.	Content of change	Date.
1.	first issue	2012.08.15
2.	Include customer specific marking for special characteristics (page 6.)	2013.02.21
3.	Changes in the supplier evaluation section (section 6.)	2013.12.19.
4.	Changes in sections: 1.2; 1.3; 2.5.3; 2.5.8; 3; 6; 6.1; 9.4; 14 (highlighted by yellow)	2020.05.05