BAYERN-CHEMIE
an MBDA company

# GENERAL QM-REQUIREMENTS FOR INCOMING DELIVERIES

to

## Bayern-Chemie GmbH
## (hereinafter called "Purchaser")

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# 1 General

The deliveries of our suppliers are important contributions to our products and enable us to fulfil our customer's requirements. In this context the quality aspects and the documentation are as important as the delivered hardware itself. They help us to satisfy regulatory and lawful stipulations and our quality standards.

The quality management requirements specified within this document with regard to deliveries to Bayern-Chemie constitute an integral part of the supply contract, unless otherwise agreed.

## 1.1 Change Log

| Version | Date | Cause for Change | Changed Chapter | Author |
|---|---|---|---|---|
| 01 | 30.10.2020 | complete update | all | H. Linner |

**Table 1: Change Log**

## 1.2 Abstract

To be able to accept a delivery as flawless it is essential that the quality of products and services delivered to us can be retraced without any gaps.

The requirements spelled out in this document define the type and degree of detail of information to be exchanged with regard to the evidence of the quality of the delivery.

Unless otherwise agreed this set of requirements is a firm part of the purchase order and applies in general together with other specific quality requirements, specifications, statements of work or other stipulations.

Conformity of the delivered products is the sole liability of the supplier.

The supplier is responsible for the quality evidence of all products and services procured from lower tier suppliers including sources specified by the purchaser.

All efforts to achieve the traceability of product quality are part of the supply contract between Bayern-Chemie GmbH and the supplier.

## 1.3 Referenced Documents

Unless otherwise stated the up-to-date issues shall apply.

| Doc. No. | Title |
|---|---|
| EN 9102 | First article inspection requirements |
| EN 9136 | Aerospace series – Root cause analysis and problem solving (9S-Methodology) |
| EN 10204 | Metallic products – Types of inspection documents |
| EN ISO 14405-1 | Geometrical product specifications (GPS) - Dimensional tolerancing – Part 1 Linear sizes |
| EN ISO 8015 | Geometrical product specifications (GPS) – Fundamentals - Concepts, principles and rules |
| SAE AS 13000 | Problem Solving Requirements for Suppliers |
| ISO 2859-1 | Sampling procedures for inspection by attributes – Part 1 Sampling schemes indexed by acceptance quality limit (AQL) for lot-by-lot inspection |

**Table 2: Referenced Documents**

## 1.4 Glossary of terms and abbreviations

Unless otherwise agreed, terms according ISO 9000-standards family shall apply.

| Term/Abbreviation | Explanation |
|---|---|
| AQL | Acceptance Quality Limit |
| CP | Counterfeit Product |
| COC | Certificate of Conformity |
| FAI | First Article Inspection) |
| QAE | **Q**ualitätsmanagement-**A**nforderungen - **E**nglisch |
| QM | Quality Management/Quality Management System |

**Table 3: Terms and abbreviations**

In this QAE following verbal forms are used:

“shall” indicates a requirement
“should” indicates a recommendation
“may” indicates a permission
“can” indicates a possibility or a capability

# 2 Quality Management Requirements for Deliveries

## 2.1 Reporting Requirements before delivery

**Req. 2.1-1 Important events shall be reported in advance of the delivery**

In the following cases the supplier shall always inform the purchaser in advance:

- If it is intended to deliver non-conform products
- If it is intended to deliver products with limited traceability
- In the event of a First Article Inspection in accordance with EN 9102
- In the event of necessary or complementary technical changes during production. These changes shall be approved by the purchaser in advance. In any case the purchasing department of BC shall be informed in writing so that these changes can be taken into account for the reference documentation.

## 2.2 Traceability

**Req. 2.2-1 Evidence for quality shall be ensured along the complete supply chain**

The supplier is responsible for the evidence and traceability of quality of all products and services procured from lower tier suppliers, including those selected by the purchaser.

Traceability shall be guaranteed (but not limited to) for:

- names and addresses of all distributors and lower tier suppliers along the supply chain down to the original manufacturer.
- parts identifier, serial number, date code, lot-code, charge identifier and burn-in code (standard parts excluded).

In case traceability might not be possible unambiguously, the parts designated for delivery shall be inspected by a certified laboratory. The results in terms of proven characteristics as required by the purchase order (e.g. material composition) shall be presented to the purchaser for acceptance prior to delivery.

## 2.3 Counterfeit Products

**Req. 2.3-1 Solely unused and positively verified original parts and materials shall be delivered**

Counterfeit Products are fake or re-used and fraudulently circulated materials, parts or other products. Thereunder fall as well products subject to fake certificates (e.g. inspection certificates) and fake data (e.g. test results).

If counterfeit or suspected products were delivered, they may be confiscated.
The purchaser may forward counterfeit products to the responsible local or international authorities for investigation. He reserves the right to put on hold payments as long as the results of those investigations are not available.

**Req. 2.3-2 Counterfeit Products shall be replaced immediately**

The supplier shall replace deliveries containing counterfeit products immediately by deliveries which are acceptable to the purchaser.

## 2.4 First Article Inspection

**Req. 2.4-1 First article inspections shall be performed in accordance with EN 9102**

If part of the procurement order, parts and assemblies shall be subject to a First Article Inspection in accordance with EN 9102. The purchaser reserves the right to witness an FAI at the suppliers' premises. Therefore he shall be invited 14 working days prior to the planned date.

The FAI results shall be recorded by stating the actual values in comparison to the nominal values for all specified characteristics. Deviations shall be marked clearly.
The FAI report shall be provided to the purchaser not later than the first delivery of products being subject of the FAI.

Serial deliveries shall be performed only after approval of the FAI report by the purchaser's quality department.

Changes which may have an influence on processes, equipment for production, tools and CNC-programs, shall be assessed, documented and managed by performing an FAI or Delta-FAI in accordance with EN 9102.

## 2.5 Metrology

**Req. 2.5-1 Measuring and inspection equipment shall be calibrated and managed**

The supplier shall ensure that measurement and inspection equipment used to proof the conformity of products are adequate for the purpose and calibrated either by the manufacturer of the device or an accredited laboratory. Usage of self-calibrated measurement and inspection equipment shall be agreed with the purchaser.

If any non-compliance of a measurement or inspection equipment with regard to the calibration requirements is detected, this non-conformity shall be documented. The supplier shall then re-assess all measurements and inspections performed with this equipment regarding their validity back to at least the last successful calibration.

The purchaser shall have the right to request a repetition of the inspections. As far as applicable, this stipulation shall be forwarded to any lower tier supplier.

Labelling, regular maintenance and calibration of measurement and inspection equipment shall be under the suppliers own responsibility.

Customer furnished measurement and inspection equipment shall be sent back to the purchaser in time, but not later than six weeks prior to its calibration expiry date.
The purchaser will perform the calibration and send back released equipment.
In case there should be a negative result, it is the purchaser's responsibility to replace the non-conforming equipment.

The calibration status shall be clearly visible on the equipment itself or on its unambiguously dedicated storage container.

## 2.6 Sampling Schemes

**Req. 2.6-1 The sampling scheme for acceptance of lots shall be in accordance with ISO 2859-1**

The sampling scheme is dependent on the lot size. The specific sampling scheme shall be determined in accordance with ISO 2859-1.

Unless otherwise defined in the purchase order, the following standard selection shall be applied:

- General Inspection Level II,
  in accordance with **ISO 2859-1, Table 1**
- AQL 1,0 Single sampling plan for normal inspection
  in accordance with **ISO 2859-1, Table 2-A**

Deviations from this standard shall be specifically agreed.

**In case of doubts regarding the interpretation and application of these standards, the sample size for the specific case may be requested from Bayern-Chemie.**

## 2.7 Non-conformances / Problem Report / Root Cause Analysis

**Req. 2.7-1 Shipment of non-conform products shall be approved by the purchaser**

Shipment of non-conform products shall be approved by the purchaser. As pre-requisite the following information shall be included in a formal request for concession:

- Concession identification number,
- Item identification number
- Serial-No.
- Detected non-conformances,
- Root cause for non-conformances
- Actions taken

The request for concession shall be submitted to the purchaser (quality or purchasing representative) for analysis prior to shipment of the affected parts.

Requests for concession shall be sent by e-mail to

**procurement-bc@mbda-systems.de.**

Shipment shall be executed after written approval by the purchaser´s quality department only. Approved concessions shall be added to the delivery documentation.

| Req. 2.7-2 | Delivered non-conform products shall be reported and corrected immediately |
|---|---|

In case the supplier detects non-conformances regarding products already delivered, – no matter if already accepted or not – he shall inform the purchaser immediately in written form.

The respective report shall contain a detailed description of the flaw, the identification of affected products, part identifiers, number of parts and delivery data.

The supplier is responsible for root cause analysis and correction of the delivered products' non-conformities/flaws.

| Req. 2.7-3 | An 8D-Report shall be delivered upon request |
|---|---|

Upon purchasers' request, the supplier shall establish an 8D-Report in accordance with EN 9136, SAE AS 13000 or equivalent.

General lead time: 30 working days.
For safety critical items: 5 working days for an intermediate report.
Shifting of deadlines shall be requested in written form before the end-date.

## 2.8 Delivery documents

| Req. 2.8-1 | A complete and standardized delivery documentation shall be shipped in company with the product |
|---|---|

The elements of the requested delivery documentation will be defined by the purchase order. The documentation belongs to the scope of delivery. In case of incompleteness the delivery may be rejected or blocked.

The following documents shall be added to the delivery file:

- approved concessions in copy (as appropriate)
- other approvals in copy (as appropriate)

The delivery documentation shall conform to recognized international standards or BC-specific standards. Prepared templates may be downloaded from

**www.bayern-chemie.com/procurement**

In general the delivery documents shall be cross referenced to each other by giving the order details, but at least to the inspection certificate.

As a basic principle the delivery documentation should be sent by e-mail to

**k3t-bc@mbda-systems.de**

(processable format preferred). The delivery file shall be complete when transferred. Our order number and the item identifier shall be indicated in the subject header.

The delivery slip shall be added to the delivery in paper. In addition it may be sent to

**k3t-bc@mbda-systems.de.**

**Drawings from Bayern-Chemie and drawings stamped by the supplier are explicitly excluded from e-mail transfer.** These shall be added to the delivery on a suitable data medium (CD, USB-Stick) or in paper.

**Req. 2.8-2 Inspection documents shall be in accordance with EN 10204**

Inspection documents shall be in accordance with the valid issue of EN 10204.

On the “Part Inspection Document” (for example Test Report 2.2, Inspection Certificate 3.1) references shall be provided to further accompanying documents (e. g. raw material inspection certificate, measurement report, concession). Thus this “Part Inspection Document” serves as highest level document and overview for the complete delivery documentation.

If a “measurement report for all check dimensions according to drawing” is requested, the measurement readings shall be determined by operator self-test or final inspection and documented in a measurement report.

On drawings check dimensions are marked by an oval. By definition they are also critical characteristics. The respective inspection document shall record whether the dimension was determined by operator self-test or an independent quality inspection.

If a “Part Inspection Certificate 3.1” is requested, check dimensions shall be documented on the Inspection Certificate or on an additional measurement report together with the related statistical characteristics (min, max, x_square, s, Cp and Cpk) including reference to the sampling scheme applied. Cp and Cpk-values are for information only.

If a “Raw Material Inspection Certificate 3.1” is requested, a raw material certificate (which usually is provided directly by the producer) shall be delivered It shall provide a distinct traceability back to batch/heat of the raw material including chemical composition.
As a minimum a raw material identifier in accordance with applicable standards and the corresponding inspection results shall be provided. Nominal values with tolerances should be indicated.

The drawings and other reference documents including applicable standards and check dimensions represent the framework for the documentation to be delivered by the supplier. Actual values shall be documented on the inspection certificate or in a dedicated measurement report.

The metrological verification of all characteristics shall be performed in accordance with the standards indicated on the drawing (e. g. DIN EN ISO 14405-1, DIN EN ISO 8015).

The supplier is responsible to decide which measurement device shall be used taking into account its capability and accuracy. However, the purchaser may request evidence of the respective capability by means of a measurement system analysis.

In case of specifically requested inspection technologies or inspection devices, the application shall be agreed between the purchaser and the supplier.

If the inspection is performed by means of gauges / counterparts, this shall be marked on the measurement report or part inspection certificate with the note: “gauged with measurement device XY" or “counterpart XY”.

**Req. 2.8-3 Documents and Data related to orders shall be preserved**

Unless otherwise agreed, documents and production data related to orders shall be stored at least 15 years starting from the date of delivery.

## 2.9 Appraisal and Improvement

**Req. 2.9-1 A process for continuous improvement shall be applied**

All deliveries will be evaluated quarterly by the purchaser with regard to quality and completeness of delivery documents.

It is expected that the supplier performs own appraisals and deducts corrective and preventive actions from identified deviations.