Guideline for Suppliers regarding Qualiy and Environmental Management

Part of the Standard Terms and Conditions of Purchase for Hottinger Baldwin Messtechnik GmbH

1. General

HBM makes large-scale use of products from Suppliers in the manufacture of its own products. The excellent quality and reliability of these products crucially affects the quality of the resultant manufactured products.

The quality of the products supplied and the ability of Suppliers to deliver quality are therefore the decisive criteria in HBM's purchase decision.

Quality requires an up-to-date and effective Quality Management System. So the essential elements of this QM System are outlined in this Guideline for Suppliers and supplemented by the Environmental Management elements. The Guideline is a component of the purchase orders and contracts that HBM concludes with its Suppliers.

The important criteria are:

- Acceptance by the Supplier of full responsibility for the quality of the products supplied, whilst at the same time considering and actively working to ease the environmental impact.
- Proof that there is an adequate and effective QM System and that preventive methods of Quality Assurance/Quality Management Presentation are consistently applied to make it possible, for example, to intervene in the production process to resolve a situation and prevent and eliminate sources of defects in good time.

The Supplier is obliged to deliver products that are free from defects. This Guideline for Suppliers assists in the reliable attainment of this aim. The objective is: *zero defects*.

In view of the great importance attached to quality, HBM will work together in partnership with its Suppliers to gather information about the QM Systems they employ. In particular, HBM will assess the Supplier's ability to deliver products of the requisite, consistent quality. Process and system audits are among the methods used to furnish this proof, with consideration being given to certification of the QM System to ISO 9001 (or a similar QM standard).

The regulations as laid down in this Guideline basically apply to all the product areas. More detailed stipulations (especially regarding products supplied to public employers) may also be necessary. These are defined in a supplementary Agreement.

In addition, the Supplier is obliged to follow all pertinent legislation, regulations and conventions, if applicable, particularly regarding anti-bribery and corruption, human rights, social accountability and sustainability.

2. Technical Documentation

The criteria for the products to be supplied are defined in the technical documentation. HBM will refer to them in their purchase orders and sales contracts. Technical documentation in this sense means HBM drawings and specifications, HBM purchase requisitions, HBM test and inspection specifications and schedules, other standards and provisions, as well as the relevant supplier documentation bearing the HBM mark of approval.

Documentation enclosed by HBM in purchase orders will correspond to the latest version. Furthermore, should technical modifications to the product make it necessary, HBM will replace the documentation independently of any order. For their part, Suppliers will ensure that appropriate action is always taken, both by them and by any sub-contractors to bring manufacturing procedures into line with the latest documentation.

It is prohibited to deviate from the technical documentation or to modify it without prior written permission from HBM; by replacing the technical documentation, HBM is deemed to have given its approval. Should Suppliers wish to make changes to their products/designs, prior written permission from HBM is also required before this can be implemented.

Suppliers are obliged to regard as trade secrets all technical matters not in the public domain to which they become party through the business relationship.

3. Quality and Environmental Management System

3.1 Quality Assurance / QM Presentation

To ensure compliance with the stated quality requirements for the products to be supplied, the Supplier must use an appropriate QM System, with a written schedule covering all areas of the company. This must also include defining responsibilities for all Quality Assurance Measures. An independent position that is not connected in any way with production should monitor the effectiveness of the specified Quality Assurance Measures.

3.2 Quality in Development

If the Suppliers themselves have developed and designed the products to be supplied, they are responsible for the quality of the design. To safeguard the quality of the design during the development phase, Suppliers must carry out satisfactory initial sample testing and endurance testing, Failure Mode and Effects Analysis (FMEA) and systematic assessment of the design quality at the end of the individual phases of development.

3.3 Quality in Procurement

The Supplier ensures that products purchased from any (sub-) contractors or supplied by the customer comply with the agreed quality and environmental requirements. This also involves sampling and acceptance procedures, as well as incoming inspection.

3.4 Quality in Production

3.4.1 Production Planning

The measures listed below are among those required to implement the criteria in a controlled process specified in the technical documentation:

- Planning and documentation of the requisite production and test equipment, as well as the procedures to follow should reworking be necessary.
- Performing capability assessments, for example machine capability, process capability, test equipment capability.
- Failure Mode and Effects Analysis (FMEA) for production and test and inspection processes, where required.

3.4.2 Production Monitoring

Appropriate procedures must be used to influence and monitor the quality during production. These include automatic or statistical process control (SPC), process monitoring and the application of additional statistical methods.

Quality inspection and testing is imperative to ensure that the products supplied comply with the agreed quality requirements. This is divided into:

- initial sample inspection and acceptance (also see Point 4),
- test and inspection during production,
- product and process audits, and if relevant
- reliability tests or calculations.

The scale of test and inspection must be defined in accordance with the level of process capability achieved, the importance of the particular criterion and the possible effect of a defect. In special cases, HBM will also make stipulations to this effect, where necessary.

If the process malfunctions or the quality varies, all the defective units must be removed, the causes analyzed, measures for improvement introduced and their efficiency verified.

This also applies if defects are detected by HBM and the defective units returned. In this case, HBM must be informed promptly of the causes of the defect and the measures taken to remedy the situation.

The defective units must be specially marked so that there is no confusion and they cannot be mistaken for products that are in perfect working order. Defective products that are reworked must be tested again.

If, in exceptional cases, products are to be supplied that are not as per specification, a *Request for Concession* must be presented to HBM in advance. HBM must also be informed immediately of any subsequently detected divergence.

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3.4.3 Test and Inspection Records

The results of quality monitoring (e.g. process capability indices), of quality inspection and testing and the measures taken with the intention of eliminating the defects must be systematically recorded. If the Supplier is responsible for development, additional documentation for initial testing and endurance testing must be provided.

If requested, the Supplier must allow HBM to see these records. In special cases, agreement can be reached for specific test and inspection records to be delivered on a regular basis.

3.4.4 Handling and Dispatch

The production flow and the procedure for dealing with the products must be defined in such a way that the quality is not impaired and damage is avoided. This applies in particular to transportation, storage, packaging and dispatch. HBM packaging regulations must be complied with.

For delivery to HBM packs must, as far as possible, be provided with a goods label that is visible from outside, in accordance with recommendation VDA 4902 (barcode labeling).

Initial sample consignments must be clearly marked with *Sample* on the packs themselves as well as on the delivery note.

3.5 Test and Inspection Equipment

The Supplier must have test equipment that is capable of testing all the agreed criteria as per the technical documentation.

It is imperative to ensure that the test equipment is in working order, by making regular checks in accordance with a preplanned schedule and to calibrate it and if necessary restore its test capability.

3.6 Environmental Requirements

The Supplier must ensure that the product supplied to HBM conforms to all pertinent environmental legislation and regulations and that the required proof or information are provided. HBM also expects its Suppliers to act in accordance with HBM Environmental Policy, in particular with regard to the active support of all their efforts to ease any environmental impact arising from production or from the product itself.

4. Submission and Acceptance of Initial Samples

In the following cases, initial samples must be submitted to HBM in good time before commencing full production:
- when products are new,
- when the product is modified (change in the technical documentation),
- when new or redeployed appliances/devices and production equipment are used
- when the production process is modified.

In special cases, it is necessary to first carry out a feasibility study, together with HBM. The samples must be made entirely with full production equipment under full production conditions and be carefully tested with regard to all the quality criteria. The samples should be accompanied by the test results obtained by the Supplier in the form of test reports and test data sheets for the initial samples. These deliveries should be specifically identified as such (also see Point 3.4.4).

The number of samples required is stipulated for the individual case when the order is made, or must be agreed with HBM. With multiple appliances, samples must be measured and delivered separately from each application. HBM will check the samples, inform the Supplier of the result and approve full production if the samples comply with requirements.

Full production must not commence without written approval from HBM.

If necessary, the Supplier must keep an approved sample and the test results it produced until the relevant part is phased out or modified.

5. Obligation to Provide Information

The supplier must conclude all the requisite tests and inspections for all modifications for which HBM has not prescribed prior initial sampling and approval, to ensure conformity with the technical documentation. The Supplier is also obliged to inform HBM before commencing full deliveries in the following cases:
- if a production process is modified, even for sub- contractors (e.g. production method or production conditions),
- if the production facility (e.g. the production location or the area of responsibility) is changed,
- if the supply sources of *critical* parts/products change, if this in the Supplier's expert opinion could be detrimental to important product criteria,
- in case of any change that might affect the ecological relevance, e.g. according to EU legislation REACh, RoHS or similar.

In these cases, HBM will decide whether sampling and subsequent acceptance in accordance with Point 4 is necessary.

6. Components and Materials for which Documentation is Compulsory

In the case of HBM orders for measuring elements, the material batches for the metals used must be specified relevant to the order. In the case of components for which documentation is compulsory (safety components), the Supplier is obliged to document the Quality Assurance Measures and the results of quality testing and inspection and to archive them. It is essential to comply not only with this Guideline for Suppliers, but also with all other agreements made with the Supplier.

7. Auditing and Approval

HBM reserves the right to visit the Supplier for auditing and evaluating of the QM System prior to placing an order. When the parts supplied (or manufactured) are estimated to be environmentally relevant, HBM will also assess the Supplier's Environmental Management System. Suppliers must grant access to their industrial premises, their testing centers, their stores and adjacent areas, as well as allowing relevant documents to be inspected. Reasonable restrictions on the part of the Supplier to safeguard their trade secrets will be accepted.

In addition to this, to discharge their own obligations, HBM requires the Supplier to also allow an HBM customer to carry out an audit, with the same intent.

Once the audit has been successfully completed and/or if HBM is of the conviction that the Supplier will permanently meet HBM standards, HBM will grant their formal approval. This can be revoked at any time and does not create any entitlement to placement of orders.
In the case of products that the Supplier delivers to HBM in connection with their use in potentially explosive atmospheres (Ex products) and which can influence the type of protection required, Suppliers must accept that they may also be audited by the Notified Body, should it deem this to be necessary. HBM is also obliged to renew the Supplier`s approval if the business relationship has been interrupted for a period in excess of one year.

All other products require the approval to be renewed after an interruption of more than two years.

HBM also prescribes an audit if there are justifiable doubts about the ability of the Supplier to provide the requisite quality, for example if there are repeated defects or if the implementation of corrective action or other demands made by HBM is unsatisfactory.

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