

QUALITY REQUIREMENTS FOR SUPPLIERS

TABLE OF CONTENTS

1.	PURPOSE	2
2.	SCOPE	2
3.	DEFINITIONS AND ACRONYMS.....	2
4.	VENDOR'S RESPONSIBILITIES	2
4.4	Control of sub-suppliers	3
4.5	Management of warehouse and raw materials.....	3
4.6	Supply of products with limited shelf-life	3
4.7	Access right.....	3
4.8	Delivery	3
5.	INSPECTION AND CERTIFICATION.....	4
5.1	Manufacturing and Control Plan (MCP) and Quality Plan	4
5.2	Hold points and inspection notices.....	4
5.3	Certificates.....	4
5.4	Samples.....	4
5.5	First Article Inspection (FAI)	4
5.6	Prescriptions for components for critical characteristics	5
5.7	Welded structures	5
5.8	Torque tightening activities	5
6.	DEROGATION REQUESTS AND NON-CONFORMING PRODUCTS	5
6.1	Deliveries in derogation	5
6.2	Non-Conforming deliveries	5
6.3	Replenishment of Non-Conforming material.....	5
6.4	Costs for Non-Compliant supplies	6
7.	WARRANTY.....	6
8.	MICROELETTRICA SCIENTIFICA'S RESPONSIBILITIES.....	6
9.	CYBER SECURITY	6
10.	SPECIFIC SUPPLY REQUIREMENTS	6
10.1	Welded structures.....	6
10.2	Screwing activities.....	6
10.3	Aesthetic requirements for stainless steel sheets.	6
10.4	Professional Qualifications and Skills.	6

12	10/06/24	Modified § 4.3 and inserted § 9, 10.3 and 10.4	Putzu	Lo Cacciato	Borsatto
11	22/02/22	Modified § 4, 5 e 6, changes highlighted with a line at the right of the paragraph	Solbiati	Sacchi	De Allegri
10	15/05/21	Change of logo	Solbiati	Sacchi	De Allegri
<i>Rev.</i>	<i>Date</i>	<i>Description</i>	<i>Supplier Quality Develop. (SQD)</i>	<i>Supply Chain (SCM)</i>	<i>Global Quality (GLQ)</i>

1. PURPOSE

The purpose of this document is to detail the main Quality requirements that the material supplied against MS's purchase order must meet.

2. SCOPE

This document applies to all orders in which it is mentioned. The order may also establish additional limitations or extensions of the requirements set in the following paragraphs.
In some cases (e.g.: first supplies of molded plastic parts, etc.) the order may request the issue by the supplier of a MCP (Manufacturing and Control Plan).

3. DEFINITIONS AND ACRONYMS

8D	Root Cause Analysis Reports to identify, correct and remove the defects
SUPPLIER	Person or company to whom the order has been granted; in this document, suppliers are manufacturers of components or equipment.
MS	Microelettrica Scientifica S.p.A.
ORDER	Purchase order issued by Microelettrica Scientifica and all documents associated with it
MCP	Manufacturing and Control Plan
PU	Purchasing Department
SQD	Supplier Quality Development

4. VENDOR'S RESPONSIBILITIES

4.1 Quality System and Change Management

The supplier must ensure that the supply fully complies with the specifications issued by MS (drawings, technical prescriptions, product specifications, instructions, etc.).

The supplier must strictly comply with the requirements stated in this document and any additional requirements mentioned on the purchase order.

Documentation intended for MS, including certificates, must be prepared in accordance with what is indicated in the order.

In addition, if the supplier needs to change the production process used for the realization of the requested product, he is required to:

- promptly notify the change to MS
- wait for confirmation by MS of the acceptance of the product change (when it is binding according to the specification)

The list of possible process changes includes, but is not limited to, changes in supplier, changes in steps of the production process, replacement of machine and tools, changes in raw material, etc.

4.2 Control of MS documentation

The supplier must have in place an effective process to keep under control the order and the documents related to it (e.g. specifications, drawings, instructions, etc.) coming from MS.

The system must ensure that only documents that comply with the last revision are used within the company.

In the event of non-congruence between the documents mentioned in order and those available to the supplier, the latter must promptly request the updated documents from MS PU.

Deviations from specifications, drawings, instructions coming from MS are not allowed unless explicitly authorized by the order, by an order modification or by written approvals and agreements.

Within 2 (two) days of receipt of the MS order the supplier must issue order confirmation, in the absence of such confirmation MS considers the order accepted.

4.3 Product safety, environmental impact and conformity to EU Directives

The supplier is also obliged to guarantee and declare that all products delivered are:

- free from hexavalent chromium and in general from all substances mentioned in the format R_672 (RISL page), latest edition
- comply with European Regulations where applicable: REACH (Regulation 1907/2006/EC and subsequent amendments)
- compliant with European directives and national legislative decrees implementing the directives, where applicable: ROHS (Directive 2011/65 / EU, Directive 2017/2102 and subsequent amendments) and WEEE (WEEE - Directive 2012/19 / EEC - Legislative Decree 49/14)
- comply with the reference standards of the product
- comply, for packaging material, with applicable European Regulations (e.g., Decision 94/62/EC, 97/129/EC et seq.)

4.4 Control of sub-suppliers

The supplier is required to share with MS the list of its sub-suppliers and the related documentation that certifies the conformity of their processes.

The supplier is obliged to promptly inform MS about any change of sub-supplier. At the same time, the supplier must share with MS the documentation relating to the quality audits conducted at the new sub-supplier.

Based on this evidence, MS reserves the right to accept or refuse the change of sub-supplier.

In case of change of a sub-supplier, it is necessary that MS formally authorizes the delivery of the first subsequent batch. The supplier is required to ensure that its sub-suppliers operate in compliance with the requirements of this document. The supplier must, in any case, cover the shortcomings that the sub-suppliers may manifest with all its means and with its staff.

4.5 Management of warehouse and raw materials

The supplier is required to prepare a warehouse, for the storage of raw materials dedicated to MS production, that respects the storage conditions provided by the datasheets of the materials themselves (temperature, humidity, etc.) and that guarantees identification and traceability.

4.6 Supply of products with limited shelf-life

All perishable materials and products, which have a limited shelf life, can be delivered in MS only if no more than 1/3 of the useful life has passed from the date of production to the date of delivery.

The date of manufacture and the expiration date must be indicated on the delivery note.

The supply of electrical cables is allowed only if less than 3 years have passed since the date of manufacture. The date of manufacture must be clearly indicated on the delivery nota and on the cable drum.

MS reserves the right to reject deliveries that do not comply with these requirements.

4.7 Access right

Following appropriate notice, the supplier is obliged to allow the authorized representatives of MS and / or its Customer the right to inspect what has been commissioned, both at his premises and at his subcontractors.

The supplier and its sub-suppliers are required to provide the representatives of MS and/or its Customer with the necessary assistance for inspections and verifications, including documentation related to the supply.

4.8 Delivery

The supplier is obliged to ensure that all delivered products are identified as established by the order. Especially delivery notes and related invoices must contain:

- MS order number
- MS order position number
- MS identification code number (material code)
- Quantity
- Date of manufacture of the material (where required on the order or on the purchase specification, for materials with limited useful life)
- Reference to the derogation obtained if the material was delivered in derogation.

The cost of the packaging is always to be considered at the expense of the supplier. The packaging must comply with current safety regulations and any specifications mentioned in the order and must be made in such a way as to guarantee the integrity of the material supplied during the loading, unloading, transport and storage phases through the use of standard equipment. Where provided for in commercial agreements, MS may provide reusable boxes (of different sizes and colours) for the packaging of materials.

The packages to be handled manually must not in any case exceed the gross weight of 15 Kg.

Shipping documents must be accessible without opening the packaging.

It is also essential that the single unit of packaging is uniquely identified by the material code of MS and the corresponding quantity contained.

Packaging containing different pieces mixed together cannot be accepted. In the presence of several codes inside a case and / or container, these must be appropriately separated and identified.

For any further prescriptions, please refer to the Knorr Bremse manual "Packaging handbook for purchased parts".

Failure to comply with the above may result in the issue of special "Non-conformities" and the application of the related administrative sanctions.

5. INSPECTION AND CERTIFICATION

5.1 Manufacturing and Control Plan (MCP) and Quality Plan

The supplier must always prepare a MCP relating to the supply and based on the order requirements and associated documents.

When requested in the order, the MCP must be approved by MS before the start of manufacturing activities. Any modification of the MCP must be approved again.

The supplier, when requested in the order, must prepare a Quality Plan in accordance with the ISO 10005 standard.

5.2 Hold points and inspection notices

All the activities defined as Hold Points on the MCP could be carried out in the presence of the representative of MS and / or its Client. The supplier is required to notify SQD in writing the date and place of execution of the Hold Points. The notice must be sent at least three working days in advance.

SQD will respond in writing confirming or waiving the presence of an MS / Customer inspector. MS or its Customer will be able to "accept", "accept with reserve" or "reject" the product.

The participation of MS / Customer in product inspections does not release the supplier from its liability for non-conformities detected at a later stage.

Failure to report a Hold Point may result in the rejection of the product when it is delivered.

5.3 Certificates

Each delivery must be accompanied by the relevant Certificate of Conformity and any control or test reports specified in the purchase documentation or agreed with MS.

Unless otherwise specified, the certificates must be issued with reference to the (UNI) EN 10204 standard.

The certification must also be prepared in compliance with the requirements of the mandatory regulations for each type of product supplied.

The certificates are an integral part of the supply and must be delivered to MS at the same time of the delivery of the goods. MS has the right to reject incomplete documentation or documents that do not comply with the order requirements.

The supplier is required to store a copy of all documentation at its site for a minimum period of 15 years.

Following an explicit written agreement with MS, the supplier may be allowed not to send the documents but to archive them exclusively at its site. In this case, the supplier must make the documents available, upon request of MS, within 24 hours.

Certificates must also be sent for material repaired or reinstated following Non-Conformities.

The certificates must be sent to the dedicated e-mail boxes indicated on the purchase order.

The email subject must contain the name of the supplier and the Delivery Note number to which the certificates refer to.

5.4 Samples

Samples (or prototypes) have the purpose of validating the design of a component or a mold. They must always be delivered accompanied by the completed Sampling Control Report. The samples are ordered by MS with specific orders.

5.5 First Article Inspection (FAI)

For the approval and start of the serial supply of each item, it is necessary to perform the First Article Inspection (FAI) on the first serial supply (first batch) of the component.

The supplier is required to perform the checks requested in the order (drawings or purchase specifications), to fill in the appropriate form provided by MS "Inspection Report for FAI" as well as to supply the certificates requested in the purchase order.

MS will approve the content of the report received, initiating the serial supply.

In addition to all new items, the First Article Inspection must be repeated in the event of:

- Modification of the documentation of an existing article
- Modification of the production process at the supplier site
- Change of production site by the supplier
- Change of a subcontractor of the supplier
- Modification of a mold or equipment
- Stop of production of the item for a period greater than or equal to 3 years

The supplier undertakes to contact MS to notify one of the described situations and agree on the methods of repetition of the FAI. The batch of material on which the First Article Inspection was performed must always be delivered to the MS plant together with the documentation.

5.6 Prescriptions for components for critical characteristics

During the phases of sampling and serial production start-up, for the components with critical characteristics according to the technical documentation, it may be required to verify the capability of the production process.

The measurements must be performed on a statistically significant sample (consisting of a minimum of 25 pieces, randomly chosen within the production batch).

The analysis to be carried out is based on the Six Sigma methodology.

For each critical characteristic of the product, the parameters "Cp" and "Cpk" must be calculated, in addition to the average value of the sample.

If the value "Cpk" > 1.33 is not respected, the quality level of the supply must be guaranteed through appropriate methods of product inspection, for example through 100% control.

The report must be prepared on the supplier's dedicated forms or, in the absence of this, on the model used in MS, which can be requested from MS Supplier Quality department.

5.7 Welded structures

For welded structures (EN 15085 or ISO 3834) the Knorr-Bremse standard n° [N18279](#) "NC - Welded Assemblies" must be applied.

5.8 Torque tightening activities

For assembly activities involving threaded connections, reference should be made to [IL586](#) "Marking of threaded connections".

6. DEROGATION REQUESTS AND NON-CONFORMING PRODUCTS

6.1 Deliveries in derogation

The supplier is required to request in writing (mail, fax, etc.) to MS, before delivery, derogation on any non-compliant material produced, by filling in the form R_369 or equivalent.

The request for derogation must contain all the information necessary for MS to evaluate the acceptance of the request and must contain, as a minimum:

- MS order number
- MS order position number
- MS identification code number (material code)
- Serial number of the object of derogation / lot subject to derogation / quantity of pieces subject to derogation
- Duration of the derogation (if related to a tuning of a production process or particular processes)
- Reason for request
- Any corrective actions or reparation that the supplier will undertake to do as a result of the non-conformity of the product delivered in derogation.

MS reserves the right, having examined the information received, to grant or not the derogation and possibly reserve the right to request in the future the replacement, at the expense of the supplier, of any parts in derogation or request the extension of the warranty of the same.

The supplier is not authorized to deliver the parts in derogation until receipt of the signed request for derogation. The references of the derogation must be reported on the delivery document and on the packaging of the material.

In addition, only for special/critical processes (e.g. welding, bonding, crimping, painting, riveting, brazing, galvanic treatments and production of electronic boards, etc.), the supplier is required to inform MS of any rework performed resulting from process non-conformities detected during the part manufacturing.

6.2 Non-Conforming deliveries

The supplier will be informed by MS Quality Control about any products detected as non-compliant through the issuance of Non-Compliance Reports. After the receipt of this communication, the supplier is required to:

- timely provide the replenishment of non-compliant material
- carry out checks on materials in manufacturing and in stock at its site
- perform a root cause analysis of the non-compliance and define appropriate corrective actions
- keep MS informed on the results of these analyses, controls and actions by issuing 8D reports or equivalent (subject to MS approval) according to the timing indicated in the Non-Compliance Report.

MS reserves the right to ask the supplier to perform a process audit at the plant where the manufacturing is carried out.

6.3 Replenishment of Non-Conforming material

The transport costs for the collection and replenishment of the material subject to the Non-Conformity will be borne by the supplier.

The replenishment of non-compliant supplies must take place according to the timing agreed with MS personnel.

The reinstated material must be accompanied by a Delivery Note with the following wording:

Replenishment material of your Delivery Note xx	of dd/mm/yyyy	ref. NC XXXXXXXXXX
---	---------------	--------------------

If the reinstatement of the material is not carried out within the agreed time, MS will be entitled to suspend the payment of the relative invoice.

6.4 Costs for Non-Compliant supplies

In the event of a confirmed defect notification, MS will charge the supplier a lump sum for the costs incurred for the management of the NC.

The amount of the charge depends on the process stage when the NC was detected:

- if the NC supply is detected during incoming inspection, MS will require the issuance of a credit note worth € 100
- if otherwise it is detected during the manufacturing process or by the customer, the lump sum rises to € 250

The payment of the lump sum does not exempt the supplier from any other claims for damages.

7. WARRANTY

The supplier expressly guarantees the absence of defects in the supply, as well as the proper functioning and immediate usability of the goods and services rendered to MS.

Consequently, the supplier is obliged, from the day of acceptance of the supply and for the duration of 24 months unless otherwise specified in the Order, to take charge at his own sole care and expense, of the activities necessary to eliminate the defects found, where necessary also by replacing the supply with another conforming with Order requirements.

If the supplier is not able to repair the defects reported by MS within the term requested by MS, the latter may directly perform, or have performed by third parties, the necessary reparations, charging the supplier for the related costs, expenses and damages, and will have the right to terminate the contract for non-fulfilment of the supplier. On the parts subject to warranty intervention, the warranty period will restart from the beginning.

8. MICROELETTRICA SCIENTIFICA'S RESPONSIBILITIES

MS representatives have the right to carry out, with the collaboration of the supplier, the following activities:

- carry out the initial assessment to ensure that the company's quality system and the supplier's infrastructure are adequate
- carry out periodic inspections of the quality system and infrastructures, with reference to a specific MCP, to ensure that the plan is followed
- request corrective actions from the supplier in case anomalies are detected
- participate at tests and conduct inspections during the Hold Points
- ensure that the supplier has identified the conditions that have caused non-conformity of the product, and that effective corrective actions have been put in place.

9. CYBER SECURITY

MS defines its cybersecurity requirements in the CiSAA (Cyber & Information Security Assurance Appendix) document, as an attachment to the Master Service Agreement (MSA). If the scope of supply includes products and/or services that may be exposed to cybersecurity risks, the supplier will be required to confirm compliance to the CISAA document.

10. SPECIFIC SUPPLY REQUIREMENTS

10.1 Welded structures.

For welded structures (EN 15085 or ISO 3834), reference should be made to Knorr-Bremse Standard No. [N18279](#) "NC - Welded Assemblies."

10.2 Screwing activities

For assembly activities involving threaded connections, reference should be made to [IL586](#) "Marking of Threaded Connections."

10.3 Aesthetic requirements for stainless steel sheets.

For stainless steel sheets (and their subassemblies) these shall refer to [SA1644](#).

10.4 Professional Qualifications and Skills.

In case MS decides to use external companies for engineering services, the supplier will be required to submit (at the beginning of the order and then every six months) appropriate fleximatrix of personnel allocated in MS.