PRQ 8.4/A QUALITY REQUIREMENTS FOR ELETTROMIL SUPPLIERS

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1. PURPOSE

In an international context characterized by increasing integration and globalization of markets, the competitiveness factor becomes central to business growth . Competitive growth now appears closely linked to the enhancement of the concept of quality , understood as continuous improvement , the company is investing in its every process and in the relationship with its suppliers . This document specifies the requirements that the Elettromil Qualified Suppliers must meet to ensure product quality and service reliability.

The additional requirements for suppliers of products intended for the Railway Sector are indicated by italics .

2. APPLICABILITY

This document is called the purchase order , therefore, contractual documentation and results for the provider is obliged to apply it . This manual is made available on the website of Elettromil (www.elettromil.com) . Suppliers are required to take it into account in relation to the product / service they provided .

3. REFERENCES

UNI EN ISO 9000:2015	- Management systems for quality: Fundamentals and vocabulary
UNI EN ISO 9001:2015	- Management systemes for quality: Requirements
IRIS Rev. 3	International Railway Industry Standard
Elettromil Quality manual	- Revisione applicabile

4. TERMS AND DEFINITIONS

Apply the terms and definitions given in the relevant standards cited in the previous paragraph.

5. QUALITY 'REQUIREMENTS FOR SUPPLIERS

5.1 Organization of the supplier

The supplier must organize according to a Quality Management System in compliance with UNI EN ISO 9001 : 2015 . Being certified UNI EN ISO 9001 : 2015 issued by an accredited body shall be considered a preferential requirement in choosing a supplier .

In this context must seek and pursue “Continuous Improvement “of your organization in operation to ensure both product quality and service, to satisfy of the Elettromil needs.

The supplier may not transmit or allow the use of a third party documentation of Elettromil without formal authorization .

For the suppliers of parts for the rail sector should be organized as required by IRIS legislation as applicable . The railway products supplier, must give free access to Elettromil , its clients and government authorities by providing them with all the recordings to ensure the Product Compliance and Management System for Quality.

5.2 Qualification of Suppliers

The Elettromil has divided its suppliers into four groups , depending on the criticality of the product and its availability . products are defined by :

• High criticality , those products where the failure quality can compromise safety for their end use , with serious features not related economic loss;

• Low criticality , products whose quality can cause failure only aesthetic or functional problems identified that will not compromise their safety . products are defined by :

• High availability widespread those products that do not require special machining processes or for their achievements

• Low availability or hard to find those products that require treatment or special processes to achieve them .

In function of these definitions we have identified , the following contact groups :

• Suppliers Group IV - low availability and high criticality

– Sub supply of mechanical machining of Elettromil design

– special processes according to specifications (Welding , Painting. Galvanizing , etc ..)

– to support the design and development services (Ex . Workshops for qualification and validation of product activity) .

• Suppliers Group III

- high availability and high criticality

– Raw materials (Copper, Magnetic Sheet , aluminum , ..)

– Calibration and calibration of measuring instruments

– paint Manufacturers customer specifications , thinners , resins , etc ..

– Transport Services

• ***Suppliers Group II***

- low availability and low criticality

– standard parts with specific certification required by the customer

• ***Suppliers Group I***

- high availability and low criticality

– Standard Parts

– Measuring Instruments

– Distributors of resins , paints and thinners

Before the qualifying , the Elettromil Purchasing Manager , send the supplier an information questionnaire . If the required information is available on other sources (website , disclosure forms etc .) Will not be sent the questionnaire information .

In the first qualifying session will be performed , by the Elettromil , the sampling orders of the product , to ensure its compliance with the functional and quality requirements . For the supply of products deemed critical (eg IV and Group III) , or supply conditions deemed critical (eg new types of products , large quantities are ordered) , they can be scheduled audits to assess :
– internal organization in compliance with applicable regulations
– the availability of resources
– the technologies needed to meet the requirements
– the ability to control the machining processes and their validation
– The management of the testing instruments , equipment and CNC programs
– The management and validation of special processes in accordance with applicable specifications
– The management and under control of the processes and processing data in sub - supply
– the ability to manage and order planning
– The First Article Inspections Management (validation of the production process on the first batch supplied) . In support of this activity , when deemed necessary , it will be planned and carried out of Source Inspections (inspection at the supplier) before shipping the first delivery

The audit will be planned together with the manufacturer and supported by appropriate checklist verification . In case you are found, non-conformity in accordance with the requirements , the Elettromil will issue to the supplier a corrective action plan. The supplier will have to answer to the actions on schedule .

The supplier is deemed qualified , and inserted in the list of qualified suppliers from Elettromil when:
– it will be given a formal answer to the qualification questionnaire
– it will be completed all corrective actions open as a result of the audits
– will be assessed favorably by Elettromil the quality of products and service offered .

It is the task of Elettromil . according to estimates made, enabling the supplier to the supply of products in the transitional qualification stages .

5.3 Type of order and delivery planning

Orders , according to the specific conditions , may be closed-ended or open-ended . In both cases you will be issued a delivery plan summary to which to refer . The delivery plan will allow the Supplier to have an overall vision on the plans of supply. Variations in the timing of deliveries will be notified through updates to the delivery plan , according to parameters agreed with the supplier . For open-ended orders , issue of the

delivery plan will be agreed with the Planning Elettromil . The issuance of an order will be subject to the sending of an RFP to which the supplier must answer indicating that the requirements , specifications , delivery time for the product . For products in subcontracting , the first order issued has contractual value about quality requirements and commercial .

5.4 Placing of the order

The order and delivery plan can be sent by computer or other agreed mode .

5.5 Document management and changes

In order to ensure the correct transfer of the project data, the Elettromil manages the documents to be sent to the supplier in the following way:

♣ The Purchasing Department manages and sends the requests for offers and orders and their possible variations

♣ The Technical Department manages and sends Drawings, Technical Specifications, and any amendment thereof, the forms for the issuance of the First Article Inspection (FAI)

♣ The Quality Assurance send and manage specifications and procedures concerning the quality system, manages the documentation about the Corrective Actions and Requests for Grant. It also manages the documentation of the performed audit and its report.

The supplier must read and store in a timely manner all the documentation sent by Elettromil, including one sent electronically. The supplier must respond with an e-mail to confirm the receipt of the documents. The supplier may not make any changes of any form to the documentation if not approved Elettromil. For any questions about the documentation, the supplier must make explicit reference to the institutions mentioned above.

5.6 Review of order

The vendor must verify if the order of Elettromil and accompanying documentation and / or requested, collect all information necessary to assess whether the technical / commercial requirements to be observed are understood and you have the ability to satisfy them.
The feasibility study should ensure that the request is feasible with the resources, the technology, the tools for monitoring, the organization of the supplier, with particular attention to aspects linked to security, tolerance and controls.

The supplier is required to prepare a dossier containing the following documents:
– Order
– Order Confirmation
– called in the order documentation, updated (drawings, specifications, standards, etc.)

This documentation must be kept up to date, presented in case the Elettromil requests it.
The supplier is required to provide for the immediate replacement of the modified document, sent from Elettromil during construction and application of the changes.
Any commercial Comments should be submitted to the Office Purchasing.

5.7 Material Receiving

Supplier under the material inlet provided in account - processing, should perform the necessary checks to verify :

– correspondence to the amount

– compliance Order

– packaging compliance of any damage

– Correspondence to the technical and design specifications (when applicable)

Any Conformity must be immediately forwarded to the Office of Quality Assurance Elettromil .

5.8 Storage

The areas for the storage of products or materials shall be adequately identified and appropriate for their use. Materials or products should be attached or tracked the source documents from Elettromil .

5.9 Production Control

The supplier has to plan and carry out production activities under controlled conditions , to ensure the identification and traceability (if required) of the details for the duration of the production process .
The working process will be supported by :
– processing cycles or other information that describes the characteristics of the product (drawings , specifications, Workshop Drawings)
– use of appropriate equipment and machines for the execution of the manufacturing
– the availability of tools for monitoring and measuring properly calibrated and controlled
– records required to show that the product complies
– identification and separation of non-conforming products
– evidence that all manufacturing and inspection operations have been completed before shipment

The railway products supplier must perform machining operations in accordance with approved documents. The supplier will have to validate, before their use: machines, plants, equipment and the NC programs, providing for the maintenance and periodic inspection.

The supplier shall ensure that work environments are responsive and appropriate for the production of the products delivered, in terms of safety, handling, conditioning. Validation should also include controls on the first article FAI (First article Inspection), in accordance with the characteristics shown on the drawings.

Before any amendment to the manufacturing process the supplier must first provide the party responsible Quality Assurance of Elettromil indicating the relative references (code, type, processing, equipment, etc ..) The supplier will have to assess and document the results of changes in production processes and equipment to confirm that they obtained the desired results without adverse effects on product quality. The necessary adjustments will have to be stored. The changes to the production processes must be documented by the FAI.

5.10 Qualification of suppliers in sub-subcontracting

If the supplier uses for production activities other suppliers or decides to change processing steps or special processes at its other subcontractors must give explicit documentation to Elettromil which reserves the right

to make the necessary qualification and process validation . In this case, the supplier must ensure the correct transfer of the supply documentation to the sub -sub supplier in order to ensure conformity of the product .

5.11 Validation of Special Processes

The Elettromil reserves to qualify directly all suppliers of special processes involved in the creation of its products.

The suppliers of special processes must define control methods that demonstrate the ability, for these processes to achieve planned results.
The supplier shall store and keep up to date all the specifications related to special processes, making them available to relevant staff.
In this context, the supplier must:
– define methods for the realization of special processes in accordance with the parameters described and documented in the process specifications
– Define the test methods and monitoring including any destructive testing,
– keep the reference date specific for the execution of special processes
– qualify the personnel performing the special process
– approve and qualify the equipment and facilities necessary to the execution of the process
– perform scheduled maintenance operations to facilities, equipment used, redeveloping the process before use.

The records relating to the implementation of special processes must be documented and sent to the Elettromil.

The special processes on railway products must be carried out according to specifications approved by Elettromil or its customers .

5.12 Management of Obsolete Components

The supplier must develop , document and implement a management process for products subject to obsolescence covering all aspects of the product lifecycle , from design to maintenance, including the selection of new replacement parts , application, management configuration , communication to the customer and proper change management .

5.13 *Control instruments and testing*

The monitoring and testing instruments must have characteristics of precision and stability in accordance with the measures to be carried out , in function to meet the requirements of technical documentation .
It ' also required that they are calibrated at periodic intervals , referring to samples SIT or equivalent certificates.
If the supplier does not have a suitable control mechanisms to examine certain characteristics , it must promptly inform the Elettromil Quality Assurance to determine the most appropriate action .

5.14 Controls and verification

The supplier must carry out all necessary checks to verify the compliance of the details to the drawings and specifications indicated in the purchase order and document them with the aid of appropriate registration forms .

For each new product and in cases where there are the non-compliance , will be organized the Elettromil of inspections at the supplier (Source Inspections) to check the production process , according to assess the adequacy and co-operate in solving any problems that They may arise .

Additional controls required by our customers , or the same Elettromil , will formally present the facts to the supplier , stating the relevant codes and defining all the details and the registration methods to be adopted . In cases where the supplier proves to control the manufacturing processes and are not registered not internal compliance on products supplied , the supplier will be delegated to control activities and will not be required more evidence documents .

5.14.1 Documented checks on raw materials

For raw materials such as copper , magnetic sheet , to use both rail and other types will be requested and documented on the certificate of conformity , the following controls :

- ❑ Reference to the applicable specifications and recalled in the order
- ❑ Chemical Analysis
- ❑ Report on the technological tests carried out on the mechanical characteristics (hardness , tensile strength , resilience ; - for aluminum alloys of electrical conductivity test etc .)

- ❑ For the purposes of Product Traceability , if required must also be indicated :
- ❑ Number of casting
- ❑ Certificate of origin steel mill or foundry that produced the material

More documents will be specified in the purchase order
The required documentation must be sent together with the material , suitably protected .

5.14.2 Documented checks required of rail product in account processing

The Elettromil requires that both documented and sent together with a special certificate of conformity or inspection report where this is applicable .

Any non- conformities must be managed as in item 3.12 " Control of non-conforming products " .

5.14.3 Decoumented checks on products subject to expiration or dangarous

For subjects to maturity products such as paints , diluents , resins , etc . It must be stated on the certificate of conformity:

- ❑ Date of Manufacture
- ❑ Expiry date
- ❑ Reference to the specific implementation
- ❑ In the case of hazardous products (such as paints , thinners , sealants etc .) Of which are known risk to the health of the workers , it must be accompanied by the risk of the sheet product, indicating the precautions for use and storage

More documents will be specified in the purchase order or referred to the applicable technical documentation.

5.14.4 Controls documented in case of test and qualification activities

Activities relating to qualification tests must be documented as required by applicable documentation.

5.15 Control of first article (F.A.I)

The supplier must document the controls on the first production batch manufactured to the design or specifications of Elettromil , applying the methods of the First Article Inspection procedures (FAI) , demonstrating that the product made to all the features mentioned in the technical specifications or drawings .

For railway products The FAI will conform to the required forms and indicated by Elettromil:

The FAI, both for railway parts for industrial parts, will be required for the following circumstances:

• for the first batch produced or provided

• When changes are introduced to the technical documentation (drawings, machining cycles) -Δ_FAI

• When changes are made in production methods, where these are "frozen" by Elettromil.

Non-Conformity must be promptly reported to the Elettromil before shipping details.

The report number of nonconformities and the decisions taken on this will be reported on the FAI form at the feature found not to comply.

The copy of the FAI must be sent together with the products supplied.

The supplier must record and archive copy of the FAI as the Quality System registration document.

The details identified as FAI, must be clearly identified with a special label, indicating the P / N, production order, and S / N when applicable.

The S / N must also be indicated on the forms and FAI on the shipping documents and product certification.

5.16 Control of non-confirming products

The Supplier must identify , appropriately , by a special label , the parts / materials not compliant encountered during the production phases .

The supplier may not make decisions on nonconformities or deviations detected with respect to the characteristics of a print, or on the technical specifications .

Details / non-conforming materials , undeclared waste , they can not be shipped to Elettromil and must be separated from the remainder of the shipment batch .

For these, details must be sent to the Quality Assurance of Elettromil a formal concession request bringing the analysis of the causes that have produced the Non Conformity and evidence of corrective and preventive actions made to solve the problem permanently .

The supplier must make an explicit reference in the certificates of conformity to specific accepted or discarded after the grant request, identifying them as indicated by Elettromil .

5.17 Certification and delivery of the products

The products must be packed, except requirements stated in the appropriate specifications issued by Elettromil, in order to guarantee and protect them during transport and handling stages. Not any conformities due to unsuitable packaging will be charged to the supplier.

A certificate of conformity must accompany the details sent to Elettromil.

The certificate of conformity is drawn in the purchase order or supply and shall include the following information:

– Name and address of the supplier;

– reference to the certificate number and date of issue;

– Product description and quantity

– References to the design, technical specifications, drawings Operating; and their revision;

– Identifying the Serial Number (S / N), when applicable;

– reference to the production lot;

– reference to the purchase order

– with the Control Report highlights the results obtained, as indicated for the product types.

– Reference to any FAI report, indicating the S / N of the part controlled (when applicable)

– Reference to any concession requests or Exceptions The certificate of conformity must be signed by a representative of the supplier and must include the following statement, or an equivalent statement in the contents:

" The product supplied has been manufactured, tested and tested in accordance with and in compliance with the requirements of the drawing and in the contract / order. "

5.18 Non conformities detected by Elettromil

The nonconformities found at Elettromil of which is the responsibility of the supplier, the supplier will be notified by the appropriate RNC form. The supplier is obliged to respond within 10 working days of receiving the form, unless other indications given by Elettromil, indicating, in detail, the causes that have generated the Non-compliance and the actions taken to resolve the problem.
Non-conforming products found in Elettromil, will be sent back with the costs of the supplier, when required. The products discarded from Elettromil for causes attributable to the supplier, will be stored for 30 days in special areas of segregation to be possibly viewed from the same supplier, before finally being scrapped. The Elettromil reserves to charge suppliers:
– the cost of ownership of non-conformities of the products supplied,
– costs incurred due to any inefficiency created by the delivery of faulty parts and not meeting and not signaled by the supplier.
– The costs of non-conformance

5.16 Filing of documents and registration

The supplier shall retain and archive the documents and records for the time periods listed in the table below , unless otherwise provided by contract resulting from requirements requested by customers , or by Elettromil same .

Document type	***Railway products***	**Other products**
quality documents and its revisions : Quality Manual , procedures, instructions , specifications	*15 years*	5 years
Technical documentation and its Revisions: Drawings	*15 years*	3 years
Registration documents : Production orders , internal audits , reports of non- compliance , Requests for Corrective actions , First Article Inspection (F.A.I) , Acceptance test report (ATR) and compliance documentation . (after their issue)	*15 years*	3 years
Procurement documents : purchase orders , in compliance order , trade agreements and quality . (After their issue)	*6 years*	3 years

For supporting documentation , for the conservation and acceptable for one or more media (paper, film , magnetic tapes and disks , CD - ROM) . Whatever the media used the storage system must be such as to ensure :
• a speedy traceability of information ,
• ease of getting them
• a smooth upgrade by personnel authorized to order

The record-keeping system must also use places and appropriate measures against deterioration , accidental damage , as well as the loss and theft .

Supplier who would eliminate documents related to the products supplied to Elettromil , in a period of less than what is required , must execute a formal written request to the Quality Assurance of Elettromil indicating :

– the type of document
– references to the design / review of the product (when applicable)
– Programme (railway products) – date of the document compiling / drafting In this case ,
it is for the Quality Assurance of Elettromil allow disposal of the documents or the request to send the documentation at Elettromil for its preservation .

5.19 Risk analysis

The need to undertake a risk assessment on the supply chain is presented in the cases of:
- Development of new types of products
- Production increases
- First qualifying session, considered the most critical suppliers belonging to the group IV (references to paragraph 3.2 Qualification of suppliers).
The evaluation conducted through questionnaires and informed audits at supplier, will be aimed at analysis of possible risks with the primary intention to make sure that:
• The staff is sufficient in number and sufficiently trained to meet the new requirements.
• The Means of production numerically sufficient and appropriate to the full satisfaction of the technical requirements and able to support any increases
• The instruments and to numerically sufficient and appropriate control equipment for the control
• The programming SW systems appropriate for the management
• The proper organization to support new developments
• The economic situation capable of supporting any new investments and to ensure a robust financial stability of the vendor.
The analysis conducted by the Insurance Quality, assisted and supported by the Elettromil staff for the technical aspects, will be detailed in reports, to assess any risks on the supply and any mitigation actions to be taken to eliminate or reduce their effects.

5.20 Supplier rating
All suppliers who provide products or services to the organization ELETTROMIL significant for the quality, are first evaluated and qualified according to their ability to meet the requirements of the organization. The evaluation is made in view of the importance of the product or service provided are, for the quality of the products supplied by ELETTROMIL Purchase orders regarding relevant products quality are entrusted exclusively to qualified suppliers.
The supplier may be assessed using one or more of the following methods:

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- Ratings on historical grounds;
- Evaluation of product samples;
- Assessment of certifications / qualifications;

the following are the terms and responsibilities related to that activity. Elettromil periodically perform the audits in operation to control the production process and the quality system of its sub-contractors and suppliers.

6 DELEGATION OF THE SUPPLIER

6.1 Criteria for delegation

Supplier that demonstrates the ability to control its processes in relation to organizational requirements and product information, can be delegated by the Elettromil controls of the product and the activity of source inspection .
The Supplier and the delegate personnel to source inspections activities on behalf of Elettromil , will be recorded on a special register.
To be delegated the supplier must meet the following criteria :
– Indicators of Quality of satisfactory provision (this evaluation is depending on the volume of products supplied , to product quality and service perceived by Elettromil)
– Six months minimum monitoring on supplier performance ,
according to verify :
♣ internal Rework
♣ the supplier Returns
♣ Waste
♣ Concession Requests
♣ Requests for corrective / preventive actions
♣ improvement plans introduced

6.2 Responsibility of Elettromil

Elettromil assist the supplier to resolve any issues or concerns in relation to the technical documentation , specifications and requirements for product realization .
The Elettromil , at launch production of new rail products , shall:
– Program of visits or audits to check :
- *the production and control system adopted by the supplier*
- *staff training supplier*
- *the status of FAI*

– Define with the supplier controls to record and document
– Introduce sorce inspection activities for at least two batches of products in the shipment
– To issue the declaration " souce Inspection" to the supplier for the type of products inspected in accordance with:
- *Results on supplier performance*
- *Requirements*

– Keeping the list of delegates suppliers and the entrusted persons

6.3 Responsibility of supplier

The supplier will have to introduce the following activities :
- Document a procedure to describe the auditing of the product requirements of Elettromil or its customers ;
- Identify and manage the control documents , drawings and specifications required

- Make the FAI (first article inspection) according to the requirements of the Elettromil
- Delegate a person responsible for communicating to any Elettromil non conformity , delivery delays and any other information
- Delegate a person to follow :

- *Corrective Action requests ,*
- *Improvement plans ,*
- *Periodic Report (every six months) on the problems encountered in the production steps to be submitted to Elettromil*

6.4 Revocation of the delegation

When the supplier's performances are not satisfactory and in cases where there are serious problems and nonconformities, the supplier will be required, plus the necessary corrective actions, to develop and submit to Elettromil of improvement plans.
The supplier will have three months for implementation of improvement plans.
Where the supplier does not implement prominently the actions set out in the Improvement Plans or in cases in which the supplier will not get significant results in the set time, it will be deleted from the list of approved suppliers by Elettromil, until they prove to be implemented preventive actions to resolve the reported problems.
In the latter situation all parts shipped by the supplier will be subject to internal controls by the control of the Elettromil reception.
The persistence of serious problems and not repetitive Compliance, will lead to the closure of the supply relationship.
The revocation of the delegation will be formally notified to the supplier

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