



Quality Manual - Suppliers

SIG-MQF-01

Açoforja – Forging Industry S/A.

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CEP 33.040-220 - Santa Luzia / MG

Summary

1	Preparation and Approval.....	2
2	Alterations.....	2
3	Objective.....	2
4	Reference.....	2
5	Definitions.....	2
6	Responsibilities.....	3
6.1	Supplier.....	3
6.2	Suppliers Quality Engineering (SQE).....	3
6.3	Purchases.....	3
6.4	Responsible Engineering.....	3
7	Qualification of the Supplier.....	4
7.1	Validity of Qualification.....	4
7.2	Disqualification of Suppliers.....	4
7.3	Quality and Process Audit.....	5
8	Quality of Supply.....	5
8.1	Critical Analysis.....	5
8.2	Material Supplied by Açoforja.....	5
8.3	Identification and Traceability.....	6
8.4	Quality Inspection.....	6
8.4.1	Measurement and Monitoring Equipments.....	6
8.4.2	Inspection/ Notification Points.....	7
8.4.3	Control of Nonconforming Product/ Service.....	7
8.4.4	Quality Documentation.....	8
9	Monitoring of Performance and Classification of Suppliers.....	9

1 PREPARATION AND APPROVAL

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2 ALTERATIONS

Review	Date	Alteration
00	11/01/2018	Initial issue.
01	04/15/2019	Added the Manual code on the cover; Inclusion of Item 1 – Preparation and Approval; Inclusion of Item 2 – Changes.
02	10/01/2021	Review of items 7, 8 and 9.

3 OBJECTIVE

The requirements contained in this document are applicable to Açoforja's suppliers, defined in accordance with the criteria of Supplier Quality Engineering and communicate the established minimum quality requirements

This document reaffirms the terms of the Açoforja Purchase Order and will be considered a contractual obligation bound as part of the Açoforja delivery contract. As such, this is also considered indispensable for the continuation of business relations between suppliers and Açoforja.

4 REFERENCE

- NBR ISO 9001 – Quality Management System – Requirements;
- NBR ISO 14001 – Environmental Management System – Requirements;
- AAR-M-1003 – Specification for Quality Assurance;

5 DEFINITIONS

- **SQE** – Supplier Quality Engineering;
- **TPS** – Technical Purchase Specification;
- **PO** – Purchase Order;
- **NCR** – Nonconformity Report;
- **DTC** – Deviation Technical Consultation;

- **CAR** – Corrective Action Report;
- **SQI** – Supply Quality Index
- **QMS** – Quality Management System;
- **Excellence Qualification** – Supplier that provides to at least one of the following companies: Vale S/A, Petrobras, Grupo GE, Usiminas, Arcelor Mittal, Grupo Gerdau, Grupo TechnipFMC; or has its process approved/qualified by an organ such as: AAR; ABS; DNV; Loyds.

6 RESPONSIBILITIES

6.1 SUPPLIER

- To meet the requests made by the SQE regarding the Qualification, Requalification and Quality Management process;
- Comply with all applicable Environmental Legal Requirements;
- Comply with all applicable Safety Legal Requirements;
- Identify, evaluate, critically analyze and understand, any documents, specifications, drawings, among others, that are referenced within the Purchase Order, Technical Purchase Specification and/or associated documents and request, when necessary, those that are missing or require a better understanding.

6.2 SUPPLIERS QUALITY ENGINEERING (SQE)

- Communicate Qualification requirements to the supplier;
- Serve as the main interface with the supplier for matters relating to the quality of the product and/or service;
- Monitor, analyze and evaluate processes and, when it deems necessary, request process improvements, provision for nonconforming products/services, corrective actions and audits.

6.3 PURCHASES

- Negotiate price, term and other terms of supply conditions;
- Generate Purchase Order;
- Perform production follow-up with the supplier;
- Authorize and coordinate the delivery of the products and/or services.

6.4 RESPONSIBLE ENGINEERING

- Analysis and derogation of nonconformities;
- Definition of technical production requirements (TPSs, drawings, sketches, technical specifications, etc.) and qualification;
- Review of technical documentation.

NOTE: It applies to both Process Engineering and Special Process Engineering.

7 QUALIFICATION OF THE SUPPLIER

Açoforja's supplier qualification process will be carried out according to each supplier's category and scope of supply.

For the category of process products and services, the supplier that has its Quality Management System qualified in accordance with the NBR ISO 9001 standard, or another Quality Management System standard, will be considered qualified, provided that the scope of the certification covers the products/services required by Açoforja.

If the supplier is not ISO 9001 certified, but meets the excellence qualification criteria, he will be considered qualified by Açoforja. If you do not have the certified QMS, you must answer the self-assessment questionnaire (called the Supplier Qualification Questionnaire). To be qualified, the supplier must meet 100% of the items considered determinant and, at least, 60% of the other applicable items.

NOTE: When relevant, strategic suppliers may undergo quality tests defined by Açoforja for approval of the scope of supply, as an alternative to the qualification process described above.

7.1 VALIDITY OF QUALIFICATION

- ISO 9001, ISO 14001, ISO/IEC 17025 or other qualification – Certificate validity – Tolerance of 60 days after certificate expiration;
- Self-Assessment Questionnaire – 3 years
- Excellence Qualification – 3 years;
- Approval of the scope of supply: Undetermined – new tests for requalification may be carried out when Açoforja deems it necessary based on the monitoring of the supplier's performance.

7.2 DISQUALIFICATION OF SUPPLIERS

The supplier may be considered inactive by Açoforja for a certain scope of supply according to the criteria below, but not limited to:

- Supply inactivity for more than 2 years;
- SQI < 70% for a consecutive period of 6 months;
- Systemic quality deviations;
- Non-compliance with the defined qualification criteria – tolerance of 45 days for readjustment after changing any criteria;
- Failure to send the documentation pertinent to the supply when requested by the SQE or contracting sector - a 30-day tolerance for sending may be accepted.

7.3 QUALITY AND PROCESS AUDIT

Açoforja reserves the right to carry out audits at the supplier whenever it deems appropriate, accompanied or not by this client or representatives of other areas.

The audits may occur at any time during the manufacturing process to evaluate the effectiveness of the Quality Management System (QMS) and/or supplier processes in relation to:

- Requirements established by this document;
- Information contained in the self-assessment questionnaire;
- Requirements of any applicable Quality Management System;
- Supplier's own procedures;
- Applicable Industry Standards;
- Contractual documents of Açoforja and the policies established therein.

Açoforja shall inform the supplier, once the audit is complete, by means of a report all the results found. It is incumbent upon the supplier to investigate the causes of possible nonconformities and to respond, within the stipulated time, with a Corrective Action Plan.

8 QUALITY OF SUPPLY

8.1 CRITICAL ANALYSIS

Upon receipt of a Budget Request, suppliers must conduct a critical and careful review to confirm their ability to meet all specified requirements. In cases where the supplier can not meet any of the defined requirements, it will be necessary to contact the responsible purchaser prior to the commencement of any work.

Any verbal negotiation that results in a change of conditions and requirements set out in the Purchase Order must be documented and agreed upon (through Technical Purchase Specification / Purchase Order review or Technical Deviation Consultation) prior to commencing the change-related activity.

Any discrepancy should be dealt with the responsible buyer.

8.2 MATERIAL SUPPLIED BY AÇOFORJA

The supplier, immediately upon receipt raw material, components, accessories or parts supplied by Açoforja should be inspected, verifying their physical condition.

Any deviations found, for example: damages during transport, incorrect quantities or documents, divergence in dimensional, etc, must be immediately informed to Açoforja in writing.

During all manufacturing phases, the material should be stocked by the supplier in an appropriate manner, protected from potential risks or damages.

8.3 IDENTIFICATION AND TRACEABILITY

In the case of services performed on parts sent by Açoforja, the supplier must keep the identifications received, identifying the lot numbers and Production Order, as provided in the Technical Purchase Specification (TPS) by means of an Industrial Marker or Adhesive Label.

For parts integrally manufactured by the supplier, a traceable serial number should be generated to the raw material used (example: heat, plate race, etc.) and the Purchase Order Açoforja. During all manufacturing steps, the identification must be visible. Whenever the identification is removed by machining or any other process, it must be immediately re-identified, ensuring the traceability of the material. Finally, these materials must be delivered identified by typing or high adhesion labels.

In the case of ingots, the material should be identified by means of paint on at least two opposing faces with at least the following items:

- Heat Number;
- Material Designation;
- Weight of Ingot;

According to the following image:



For all of the above cases, it is mandatory that the serial number/race number be unique and can not be reused, that is, if the material is rejected after being delivered to Açoforja a new number must be generated.

If the markings are concealed by any packaging materials, the serial number and/or others markings must also be identified on the packaging to ensure visibility.

8.4 QUALITY INSPECTION

8.4.1 MEASUREMENT AND MONITORING EQUIPMENTS

The supplier should use a management system for inspection and testing instruments that meets, at least, the following criteria:

- The resources used for inspection and testing should be adequate to the specific type of activities performed;
- The instruments should be maintained in order to ensure that they are continuously appropriate for their purposes;
- and Checked or calibrated at defined intervals, with measurements standards traceable to international or national standards, and where such standards are not available, the basis used for calibration/verification is documented;
- Instruments must be identified with a unique code that indicates their calibration status;
- and Protected against adjustments, damage or deterioration that invalidate calibration and measurement results.

8.4.2 INSPECTION/ NOTIFICATION POINTS

The need for Açoforja inspection shall be defined by means of the Technical Purchase Specification (TPS), which must indicate the stage at should be realized the convocation of the supplier, which may accept or decline the convocation.

The convocation must be made by e-mail sent to the addresses: controle@acoforja.com.br or processosespeciais@acoforja.com.br, with a copy to the responsible buyer in a minimum period of 10 working days in advance for suppliers outside the state of Minas Gerais and 4 business days in advance for suppliers within the state.

No inspection activity shall be submitted to Açoforja inspection without the material having been inspected and approved by the supplier's internal quality control, unless previously agreed, being necessary to send the relevant documentation for analysis by Açoforja in the emails mentioned above according to Item 8.4.4.

8.4.3 CONTROL OF NONCONFORMING PRODUCT/ SERVICE

Always when the suppliers, in relation to the requirements specified by Açoforja, identify a nonconforming, the supplier should establish a Nonconformity Report (NCR) for internal records and traceability.

If necessary, Açoforja's assessment of the status of the product/service, the Technical Deviation Consultation (TDC) questionnaire should be completed and sent to the Technical Purchase Specification (TPS) at qualidade@acoforja.com.br with the buyer responsible in copy. Once reviewed by Açoforja, the Technical Deviation Consultation will be sent back to the supplier with the provisions or any other necessary actions defined.

Between the time of the identification of a deviation and receipt of the Technical Deviation Consultation (TDC) provision, the supplier should identify the product and stock it in a segregated and appropriate location. It is the responsibility of the suppliers to ensure that no item is to be delivered with an open Technical Deviation Consultation, pending disposal/closure, unless specifically agreed with Açoforja.

Deviations found by Açoforja receiving inspection or during inspection convened by the supplier will be handled through Nonconformity Report (NCR) issued by Açoforja and sent to the supplier for immediate action. The NCRs will be classified according to their criticality as indicated in the following table:

Category	CAR
A1	Required
A2	Required
B1	Optional to the SQE
B2	Unnecessary

The supplier should conduct a cause analysis and develop countermeasures (corrective and/or prevent actions) to permanently prevent recurring failure conditions.

The supplier must submit the Action Plan within 7 working days after requested by the EQF (unless specifically agreed between the parties).

Note: Nonconformities identified by the supplier and handled by Technical Deviation Consultation (TDC) will have their criticality reduced to a level immediately below what would be if the deviation were identified by the receiving inspection or the summoned inspection.

8.4.4 QUALITY DOCUMENTATION

Every certificate or report of material provided must be sent on physical form together with the material provided or attached to the invoice. It should also be sent by e-mail to the following addresses: controle@acoforja.com.br and processosespeciais@acoforja.com.br in copy to the responsible buyer.

Every certificate or report must contain at least the information described below:

- Title of certificate or report;
- Certificate number or report;
- Material description;
- Purchase Order Number Açoforja;
- TPS Number / Technical Specification Açoforja;
- Invoice number;
- Date of document issue;
- Tests results;
- Measuring and testing instruments used;

- Code of traceability to the calibration certificate of the measuring and testing instruments used;
- Signature of those responsible for releasing the document.

Açoforja reserves the right to conditions the release of the material prior approval of all quality documentation. This information should be sent to the supplier through the Purchase Order, Technical Purchase Specification (TPS) or at the time of the convocation for inspection of the material.

9 MONITORING OF PERFORMANCE AND CLASSIFICATION OF SUPPLIERS

The supplier performance evaluation will be carried out monthly, considering the following elements:

Nonconformity Report: Number of NCRs issued by Açoforja with origin linked to the supply of raw materials, products or services.

Supply: Supply in the period evaluated in acquired units, whether of raw materials, products or services.

$$SQI (\%) = 100\% - \left(\frac{n^{\circ} NCR}{Quantity\ Delivered} \times 100\% \right)$$

Suppliers that present an SQI < 70% will be considered unsatisfactory, and will be in charge of the the Supplier Quality Engineering together with the Supply Chain department to define the treatment, which may be, but not limited to:

- Request an Action Plan to be prepared by the supplier;
- Disqualify the supplier;
- Take the risk;
- Perform a Quality and Process Audit;
- Among others.