Pinhalense

Supplier quality manual

Edition 2026

Pinhalense

Table of contents

Glossary

Indirect Suppliers: Suppliers of products for internal use in our company, such as office supplies, IT supplies, uniforms, packaging, etc.

Direct Suppliers: Suppliers of products to be incorporated into our products, such as hydraulic, mechanical, electrical, and electronic components, machining services, etc.

Calibration Service Suppliers: Service providers for instrument calibration.

INC: Non-Conformity Index.

IP: Punctuality Index: Indicator that shows the percentage of on-time deliveries made by the supplier in relation to the total number of deliveries.

IQF: Supply Quality Index: Indicator of overall supplier quality performance

OC: Purchase Order

PPM: Parts Per Million: Indicator that measures the rejection rate of supplied products, calculated as the number of rejected parts divided by the total number of supplied parts, multiplied by one million.

RNC: Non-Conformity Report.

SGQ: Quality Management System.

Introduction

Quality fuels our growth, innovation, and reputation.

We serve customers in over 100 countries worldwide, maintaining highly competitive quality standards while ensuring on-time deliveries.

This Manual was created by Pinhalense S.A. to guide all its suppliers regarding the minimum quality requirements necessary for the supply of goods and/or services. It describes the supplier evaluation process, general supply conditions, and methods used to monitor supplier performance.

The main goal of Pinhalense S.A. is to ensure continuous customer satisfaction. Therefore, we expect our suppliers to strive for continuous improvement to meet and exceed the expectations and requirements outlined in this Manual.

This Manual must be used by all companies that wish to become or are already part of Pinhalense's regular supplier group as a guidance tool to meet the expected quality standards.

For success to be achieved, each supplier must fully commit to the supply chain, continuously improving quality and meeting the expectations and requirements set forth in this Manual.

This system must ensure the quality and consistency of suppliers in meeting our technical and commercial requirements.

Applicability

This Manual applies to all suppliers of Pinhalense S.A., according to the supply segments defined in the Table – Supply Segments of this document.

It also applies to customer-directed suppliers (directed purchasing). Suppliers are expected to extend, where applicable, the requirements of this manual to their own suppliers and sub-suppliers, in order to ensure the conformity of the products and services supplied.

Confidentiality

All information exchanged between Pinhalense and the Supplier must be kept confidential and cannot be shared with third parties without prior authorization from Pinhalense. The Supplier agrees to comply with this commitment upon receiving a Purchase Order from Pinhalense.

Exceptions apply in cases where Pinhalense's Client requires a specific confidentiality agreement from a supplier. Any breach of this obligation may result in penalties and/or legal sanctions.

Objective (ISO 9001:2015 section 8.4.1)

The primary objective of this manual is to establish and regulate the requirements for supplying products to Pinhalense S.A.

To meet Pinhalense's requirements, suppliers must:

a) Implement adequate systems and controls that ensure 100% on-time delivery of defect-free products;

b) Manage their facilities, processes, quality systems, and workforce to consistently manufacture products and provide services that meet the needs of Pinhalense S.A. and its customers at fair costs;

c) It is recommended that suppliers use appropriate statistical techniques for process control and continuous improvement;

d) Continuously improving processes, reducing variation and eliminating all forms of waste;

e) Conduct operations in a way that ensures all materials and products supplied to Pinhalense S.A. comply with applicable laws and regulations in the jurisdictions where the supplier operates;

f) Develop and implement a documented Quality Management System based on the ISO 9001 standard.

1. Supplier evaluation

1.1. Supplier requirements

This evaluation procedure was created to verify whether suppliers have the necessary conditions to meet the requirements specified by Pinhalense. The evaluation may be carried out through the completion of a questionnaire by the supplier itself (self-assessment), audits at the supplier's facilities conducted by Pinhalense (assessment), or through the request for certifications and documents that demonstrate compliance with the minimum requirements to be a Pinhalense supplier. It may also be carried out through evaluations by Pinhalense's customers.

Pinhalense reserves the right to evaluate, qualify, and select its suppliers in accordance with the forms and criteria stated in the following items. The forms used will be available for suppliers' consultation, as requested.

1.2. Safety

Suppliers are encouraged to establish a safety program that demonstrates continuous and effective efforts to reduce accident rates. Preferably, the company should implement a system aligned with ISO 45001 standards.

1.3. Environment

Suppliers are encouraged to continuously and efficiently improve their environmental performance based on international environmental management standards, such as ISO 14001.

1.4. Compliance with legal requirements (ISO 9001:2015 section 8.2.2 & 8.4.2)

Suppliers must ensure compliance with the laws in their country as well as specific Brazilian legal requirements concerning product safety, environmental protection, wages, working hours, prohibition of child labor, health and occupational health standards.

Pinhalense S.A. suppliers must comply with and enforce all legal and regulatory requirements applicable to their own suppliers throughout the supply chain.

The Supplier must apply the legal requirements of both the production location and the country of use to all products, processes, or services (both internal and external).

1.5. Quality system (ISO 9001:2015 section 4)

Pinhalense expects its suppliers to implement and apply a Quality Management System (QMS) in accordance with ISO 9001 minimum requirements.

The goal of this Quality Management System is to achieve "Zero Defects."

It is desirable for suppliers to obtain ISO 9001 certification from an accredited certification body. If not yet certified, suppliers must have a plan in place to obtain certification. The Supplier must immediately notify Pinhalense S.A. if its certification:

- Has been revoked;
- Has expired without successful recertification;
- Has been temporarily suspended.

If no recertification is planned, the Supplier must inform Pinhalense S.A. at least three months before the expiration date. After successful recertification, updated certificates must be sent to Pinhalense's Quality Management System (QMS) department. The Supplier is responsible for keeping its certification records up to date with Pinhalense's Quality Department. Certifications must be issued by accredited certification bodies.

The effectiveness of the Quality Management System is reflected in:

- Continuous improvement of processes, systems, and products;
- Supply quality;
- Supplier reliability;
- Efficiency and speed in implementing corrective actions;
- Clear communication at all levels;
- Proper execution of new and modified projects, including content and deadlines.

Pinhalense

Audits (ISO 9001:2015 section 8.4.2)

Pinhalense reserves the right to audit the supplier's quality management system, processes, and products, or to outsource this audit, with prior notice.

The minimum quality system requirements for supply are described in the table below:

Supply segment	Requirements
1 - Cast raw material:	
1.1 - Casting	Desirable ISO 9001:2015 or Self- Assessment (according to MAN-GQ-001-F01) and Audit at the supplier's facility
1.2 - Steel	Mandatory ISO 9001:2015
2 - Processing	2 - Desirable ISO 9001:2015 or Self- Assessment (according to MAN-GQ-001-F01) and Audit at the supplier's facility
3 - Others	3 - Self-Assessment (according to MAN-GQ-001-F01)
4 - Calibration Service Providers	ISO IEC 17025
5 - Service Providers for Selection, Rework, and Inspection of Parts	Self-Assessment (according to MAN-GQ-001-F01)
6 - Manufacturer/Supplier of Raw Materials - Chemical Products	SDS (Safety Data Shee) for chemical products
7 - Wood Supplier	DOF (Forest Origin Document) - IBAMA Registration
8 - Commercial Distributors / Distribution Platforms / Authorized Resellers	No documentation required

It is the responsibility of these suppliers to comply with and certify their Quality Management Systems in accordance with the defined requirements above.

1.6. Overall result of supplier self-assessment / audit

The Self-Assessment or Evaluation Forms are divided into requirement groups based on Pinhalense's defined standards. After applying the forms to suppliers, the evaluation results must be analyzed, and the appropriate actions must be taken, as shown in the table below:

Score	Requirement compliance level	Requirement classification	Supplier action
75 to 100%	Requirement met	Green	Submit evidence proving the score
50 to 74,99%	Requirement partially met	Yellow	Define an action plan or monitor the supplier
0 to 49,99%	Requirement not met	Red	Define and implement an action plan if there is an interest in continuing development with Pinhalense

1.7. Monitoring

Pinhalense monitors the performance of suppliers related to Pinhalense products through the Supply Quality Index – IQF.

The main objective is to ensure the quality of supply and the adequacy of the supplier chain, so that suppliers meet the goals and objectives established with our customers and, in this way, enable us to meet market demands.

2. General supply conditions

2.1. Inquiry / quotation

Quotations and related documents and information are handled by Pinhalense's Purchasing Department.

2.2. Requirements and verification of documents sent by Pinhalense

Suppliers of raw materials or components holding mandatory certifications (as per item 1.6) receive relevant information and data for quotation preparation.

If this data and/or information is unclear or requires corrections, the supplier is responsible for immediately requesting clarification and/or corrections from Pinhalense.

2.3. Quotation submission

Once the quotation is received and evaluated for commercial competitiveness, if of interest to Pinhalense, a visit is scheduled to assess the factory and production process of this potential new supplier☐

This evaluation is conducted by Pinhalense's Quality, Engineering, and Purchasing teams.

2.4. Approval of new suppliers

2.4.1. Casting and processing

Suppliers defined by the client must meet the client's requirements and are exempt from prior evaluation, as they have already been approved by the client. However, they must comply with all the requirements established in this manual☐

2.4.2. Approval of new suppliers

2.4.2.1. Casting and processing

Suppliers that receive a favorable evaluation from the Quality and Purchasing Departments must develop samples for Pinhalense to submit the final product for approval by the Technical Department, Production Process Department, and Quality Department. A purchase order is only issued after approval/validation.

If any of these departments do not accept or validate this new supplier, the development process is immediately canceled.

2.5. Product and process development (raw materials and components)

For new or modified items, the supplier must submit new samples and required documentation for approval of the product and manufacturing process.

The documents required from suppliers may vary, depending on the quality engineering department's request, and may include:

- Product Drawing
- Process FMEA (PFMEA)
- Control Plan
- Measurement System Analysis (MSA) Study
- Dimensional Results
- Documentation from an ISO/IEC 17025 Accredited Laboratory
- Part Submission Warrant (PSW)

2.6. Traceability requirements and record retention (ISO 9001:2015 section 7.5.3.2)

The supplier must have a traceability and record-keeping system extended to subcontractors, which meets Pinhalense's needs. In the event of damage in the final product's use, the supplier must demonstrate compliance with the predefined specifications through records.

The supplier is responsible for determining what documented information needs to be retained, the retention period, and the medium used for storage, preferably based on ISO 9001 guidelines.

2.7. Product and process audit (ISO 9001:2015 section 9.2)

The supplier must establish a regular auditing system for products and processes, covering manufacturing, inspections and testing, identification, preservation, cleaning, packaging, and shipping documentation.

Measurement results must be documented, and the effectiveness of measurements must be demonstrated.

2.8. Process or product changes (ISO 9001:2015 section 8.2.4 and 8.5.6)

All process changes must be **mandatorily** reported to Pinhalense so that the need for a new sample submission can be assessed. The requirements described in item 2.5 must be met according to their applicability depending on the change. The Supplier Quality Department is responsible for informing which items apply. When product changes occur, the supplier must submit new samples and the documentation required in this manual for product and manufacturing process approval.

The supplier must have a documented process to control and implement changes affecting the product, its realization, and the manufacturing process. A "Change" refers to all situations referenced in item 2.5. Any intended change differing from the last approval must be communicated to Pinhalense as soon as possible to allow timely review and approval.

2.9. Approval of deviations / rework (ISO 9001:2015 section 8.5.6 E 8.7.1)

The supply of products with deviations from the specification is subject to a request to the Pinhalense Quality department and prior approval, before the execution of any rework.

It is not permitted to initiate rework or repair processes without authorization from Pinhalense.

The rework process must comply with the applicable requirements of ISO 9001:2015, section 8.7.

The following information must be submitted: quantity involved or supply period, and an action plan for the elimination of the cause and prevention of recurrence.

2.10. Supply issues

Whenever products not in compliance with Pinhalense's specifications and drawings are identified, corrective actions will be required from the supplier.

If a corrective action request is issued, the supplier will be responsible for identifying the root cause(s) and formally communicating the corrective actions to eliminate the possibility of recurrence.

The supplier must respond within 48 hours, describing the respective analyses and containment actions established to address the issue at Pinhalense, including in-transit parts and those within the supplier's facilities.

The supplier will have 10 business days to submit corrective actions to prevent recurrence, including deadlines for each individual action and the responsible parties. After implementing the defined actions, suppliers must document objective evidence (photos, spreadsheets, minutes, etc.) demonstrating that the problem has been contained for verification and closure analysis of the report.

Pinhalense reserves the right to verify the implemented actions at the supplier's facilities if deemed necessary.

If a field return occurs, a production line stoppage at a Pinhalense customer, or another serious issue, Pinhalense may notify the supplier's certification body so that appropriate measures can be taken, including disqualification from Pinhalense's supplier registry.

2.11. Cost recovery

If a received product does not meet the specifications outlined in the PURCHASE ORDER, Pinhalense, based on the level of criticality for material consumption, may, at its sole discretion:

a) Reject and return the product, with the supplier reimbursing Pinhalense for the expenses incurred to process the return.

b) Purchase an equivalent product from a third party, with the supplier reimbursing Pinhalense for any price differences between the supplier's offer and the products and services purchased by Pinhalense from third parties.

c) Require the product to be replaced or reworked.

d) Request rework, either internally or by third parties. In this case, all costs incurred by Pinhalense will be charged to the supplier.

e) Terminate the supply agreement.

Pinhalense may or may not issue a "Non-Conformity Report" (RNC) in cases where the received product is outside the specifications outlined in the PURCHASE ORDER or when the product presents issues detected only after commercialization.

Based on the RNC, Pinhalense may apply the following penalties to the supplier:

a) Reimbursement of costs generated by the nonconformity. The amount to be charged in these cases will be calculated per completed "NCR" and will depend on the stage at which the nonconformity is detected, as shown in the table below:

Detection moment	Reimbursement amount
Supplier Inspection (Supplier)	R$ 50,00*
Receiving (Pinhalense)	R$ 80,00*
Production Line (Pinhalense)	R$ 200,00*
Field (Client)	Evaluated on a case-by-case basis

(*) Data-base 02/2025, reajustáveis em janeiro de cada ano pelo IGP-M.

b) Disqualification of the supplier from the supplier registry, in accordance with Pinhalense's performance evaluation system, and its consequent blocking from future negotiations.

3. Supply quality index

Pinhalense expects Suppliers to achieve and maintain zero defects and 100% on-time delivery. Pinhalense continuously monitors the performance of its supply base using key performance indicators (KPIs) designed to assess delivery performance, complaint and warranty performance, and serial production quality performance☐ Pinhalense monitors and evaluates these KPIs to:

- Enable and facilitate supplier performance comparisons
- Derive necessary strategies and initiatives for supplier development activities
- Continuously improve supplier quality performance.

The Supplier's performance status is taken into account for future supply decisions, as well as to identify areas where continuous improvement efforts should be focused.

The measurement and monitoring of quality performance will be conducted through the Supply Quality Index – IQF only for suppliers applied to Pinhalense products.

3.1. Quality: inc index

This indicator allows monitoring the supplier's quality performance based on the Nonconformity Index (INC), calculated from the PPM of nonconforming parts.

The calculation formula is as follows:

PPM = (NUMBER OF NON-CONFORMING PARTS / NUMBER OF SUPPLIED PARTS) x 1.000.000

INC = Non-Conformity Index: % obtained through the conversion of the PPM value according to the table below:

PPM	INC
1-600	100%
601-1000	95%
1001-1400	90%
1401-1800	85%
1801-2200	80%
2201-2800	75%
2801-3200	70%
3201-4000	65%
4001-5000	60%
5001-6200	55%
Above 6200	50%

3.2. Punctuality: punctuality index

The index will be measured by the percentage of on-time deliveries made by the supplier in relation to the total deliveries made. The allowed tolerances for early and late deliveries are defined annually by Pinhalense, and the criteria for date comparison vary depending on the market, as follows:

Domestic Market: The promised delivery date mentioned in the Purchase Order is compared with the actual delivery date, as evidenced by the port stamp on the corresponding Invoice.

International Market: The requested shipment date mentioned in the Purchase Order is compared with the supplier's invoice date.

IP = (TOTAL ON-TIME DELIVERIES / TOTAL DELIVERIES) x 100

3.3. IQF: Supply quality index (quality + punctuality)

The IQF value is obtained through the combination of the INC* and IP** scores. The

index will be calculated according to the following formula:

IQF = (0,8 x INC) + (0,2 x IP)

For the IQF calculation, the following is considered:

Index	Weight
INC	80%
IP	20%

3.4. Results disclosure

The results of the Supply Quality Index – IQF are calculated periodically by Pinhalense.

The criteria and the method of communicating these results to suppliers will be defined by Pinhalense and communicated to suppliers when applicable.

4. Reviews

Rev.	Revision date	Modification description	Pages
00	02/15/2017	Issuance	All
01	01/01/2022	General review	All
02	08/26/2024	General review	All
03	02/28/2025	Update of cost reimbursement value	09
04	03/13/2025	Update of self-assessment/evaluation results table	05
05	03/26/2025	Added to the supply segment table item 8 – Commercial Distributors / Distribution Platforms / Authorized Resellers.	05
06	08/08/2025	Added to the supply segment table – Beneficiation – "... or Self-assessment (as per MAN-GQ-001-F01) and Audit at the supplier's facility".	05
07	03/09/2026	Applicability item updated according to the segments table. Added to the supply segment table – Cast – "…and audit at the supplier's facility" and removed "FISPQ" from item 6 of the table. Text adjusted in items: 1.1, 1.7, 3.1 and 3.4.	02, 03, 05, 06, 09 and 11

Pinhalense

MAN-GQ-001-EN