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Released: OLD 98016	Replaces:	Review: OLD 17338 17844 18779 19633 19716 22281
Date: 01.05.98	Issue:	Date: 03/21/17 08/11/17 08/13/18 06/03/19 06/26/19 4/6/2022
Prepared by: Marcos Paulo de Araujo Jr		Approved by: Silas E. Pereira

## CHAPTER 1 - INTRODUCTION

### 1.1. PURPOSE

Metalac values a partnership system with its suppliers, seeking quality improvement as a decisive factor for survival and competitiveness. Metalac adopts the method of continuous improvement of its quality system based on the full satisfaction of our customers' needs and consequently, the business success for the involved parts

Metalac aims to keep in its list of qualified suppliers only those who fully meet the requirements:

- The requirements established according to this Quality Manual for Suppliers.
- Metalac's policy is the search for zero defects.

The suppliers that do not meet the established requirements must commit themselves to Metalac through a consistent Action Plan where Metalac will verify the effectiveness of the actions.

Metalac develops the quality of its suppliers through monitoring and oriented actions to keep their performance within the established standards.

The Supplier Quality Manual (MQF) is applicable to all the suppliers described in chapter 2 and describes all the requirements for supplying a product (material or service) to Metalac:

- Formalize activities between Metalac and its Suppliers;
- Provide guidance on development, evaluation and monitoring activities;
- Define minimum necessary requirements for the supply of products and services;
- To promote the continuous development of Suppliers;
- Meet international standards and pass on Metalac customer requirements to be met by the sub-supplier.

Note: In addition to this SQM, for aeronautical and automotive suppliers, Metalac may send the specific requirements of its customer, as required. Such requirements must be met in the same way as the requirements of this Manual for products / services performed for the customer concerned.

### 1.2. Language

Metalac's official language is Portuguese, therefore all official communication must be in Portuguese. **The Brazilian Portuguese version of this Manual shall prevail in case of inconsistencies with translated versions, if any.**

Note 1: Suppliers outside Brazil may have communication in another language, which, in this case, must be English.

### 1.3. Information and Electronic Data Transmission

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The supplier must be able to interpret all information from Metalac (e.g. CAD, EDI...), in the format in which it is presented.

#### **1.4. INTEGRATED POLICY**



##### **INTEGRATED POLICY**

We are Metalac SPS, a manufacturer of automotive, industrial and aerospace fasteners located in Sorocaba, SP.

We seek to continuously improve the satisfaction of our customers, employees, shareholders, and the community, having established the following pillars to manage our business:

- Speed in meeting the needs and expectations of our customers
- Continuous improvement of processes with a focus on quality, health & safety, environmental efficiency, productivity, and costs
- Diversification through the search for new markets linked to our know-how
- Compliance with legislation and other applicable requirements related to the Environment, Safety, Health and Quality

Our commitment also includes

- Ethics and discipline in conducting business
- Respect and opportunities to our employees
- Transparency in the relationship with the supply chain
- Compliance with applicable standards, specifications, and requirements
- Environmental protection and pollution prevention; minimizing emissions and the use of natural resources

Rodrigo B. Egea/  
CEO  
01/04/2021

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## CHAPTER 2 - APPLICABILITY

This Supplier Quality Manual is applicable for all suppliers who are sources of:

SECTOR	DESCRIPTION	SCOPE
1	- FINISHED/SEMI-FINISHED FASTENERS (STANDARDIZED FOR RESALE)	
	- FINISHED OR SEMI-FINISHED FASTENERS FOR AUTOMOTIVE PURPOSES	
	- FINISHED OR SEMI-FINISHED FASTENERS FOR AERONAUTICAL PURPOSES	
	- CRITICAL MATERIALS - AUTOMOTIVE	<ul style="list-style-type: none"> <li>- Raw Materials</li> <li>- Component added to the Metalac product</li> </ul>
	- CRITICAL SERVICES – STANDARDIZED AND AUTOMOTIVE	<ul style="list-style-type: none"> <li>- Nylon patch and micro-encapsulated adhesive</li> <li>- Thermal Treatment</li> <li>- Surface Treatment</li> <li>- Secondary Operations</li> </ul>
	- CRITICAL SERVICES - AERONAUTICAL	<ul style="list-style-type: none"> <li>- Thermal Treatment</li> <li>- Surface Treatment</li> <li>- Secondary Operations</li> <li>- Surface Cleaning Services</li> </ul>
	- SUPPORT SERVICES - OFF-SITE	<ul style="list-style-type: none"> <li>- Visual Sorting</li> <li>- Packaging</li> <li>- Shipping</li> </ul>
2	- CALIBRATION PRODUCTS AND SERVICES	<ul style="list-style-type: none"> <li>- Measuring Instruments</li> <li>- Measuring Equipment</li> </ul>
4	- ENVIRONMENTAL PRODUCTS AND SERVICES	- Waste collection and disposal
		- Surface treatment products and services
		- Controlled chemical product
		- Air conditioning cleaning service
		- Pest control service

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## CHAPTER 3 - SELECTION OF NEW SUPPLIERS

### 3. 1. CRITERIA FOR EVALUATION OF NEW SUPPLIERS

The criteria for supplier development and qualification depend on the scope of the product / service to be provided and are described in the table below, including:

- 1) Technical Visit (at Metalac's discretion)
- 2) Supplier Management System
- 3) System or process audit at the supplier's facilities (at Metalac's discretion)
- 4) Supply of Initial Sample / Pilot Lot
- 5) Referrals from key customers.

PRODUCT / SERVICE	DESCRIPTION	REQUIREMENTS		
		BASIC	DEMAND	ADDITIONAL
SCREWS - Standardized	- Finished/semi-finished (standardized for resale)	ISO 9001	Cert. 3rd Part	As defined by management.
CRITICAL SERV - Standardized	- Term. Treat. Superf., Oper. Secund. and Adhesive	ISO 9001	Cert. 3rd Part	As defined by management.
SCREWS - Automotive	- - Finished or semi-finished for automotive use	Operation License <b>Minimum requirement for supply – ISO 9001 Final Requirement (As per supplier risk assessment) - IATF 16949</b>	Issued by the state environmental agency	<ul style="list-style-type: none"> <li>- FO532.03 - IATF16949 self assessment;</li> <li>- FO532.02 - Technical visit (GQF and quality management decision);</li> <li>- FO532.21 - Supplier Risk Matrix;</li> <li>- Social Responsibility Self-Assessment</li> <li>- Sample - PPAP level 2 min.</li> </ul> <p>Note 1: Safety "S" items - the PPAP submission level must be 5 and a process audit must be scheduled prior to the start of supply, <b>in addition, the supplier must complete a Supplier Risk Matrix (FO532.21) specifically for each safety item supplied.</b></p>
CRITICAL MATERIAL - Automotive	- Raw material - Component added to the Metalac product			
CRITICAL SERVICE - Automotive	Services for automotive purposes - Nylon patch and micro encapsulated adhesive - Thermal Treatment - Surface Treatment - Secondary Operations	CQI-9 - Trat. Term. CQI-11 - Galvano CQI-12 - Phosphate / Organics <b>VDA6.3 - Op. Sec. and Nylon/adhesive</b>	Cert. 3rd Part  Meet applicable CQI requirements	<p>Note 2: Critical items "C" - the level of PPAP submission must be at least 3.</p> <ul style="list-style-type: none"> <li>- Process audit - within 3 months of supply</li> </ul> <p>Note 3: for machining and thermal treatment suppliers the audit must be performed prior to commencement of supply.</p>

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<b>SCREWS - Aeronautical</b>	- Finished or semi-finished	AS9100	Cert. 3rd Part	<ul style="list-style-type: none"> <li>- Self-assessment on Social Responsibility</li> <li>- Technical Visit (FO53202) - QA decision with quality management.</li> <li>- Sample - PPAP level 2 min. or FAI</li> </ul> <p>Note: NADCAP certification of supplier's labs, only when required by the customer.</p>
<b>CRITICAL MATERIAL - Aeronautical</b>	- Raw material	ISO 9001 unless otherwise required by the customer	3rd party certification. Note: Use of non-certified vendor with customer waiver only	
<b>CRITICAL SERVICE - Aeronautical</b>	Services for aeronautical purposes - Thermal Treatment - Surface Treatment	ISO 9001 AS9100 / NADCAP (QMS and Equipment) only when requested by the client	ISO 9001	
	- Secondary Operations	ISO 9001	Cert. 3rd Part	
	- Surface Cleaning Services	ISO 9001	Preferred	

<b>PRODUCT / SERVICE</b>	<b>DESCRIPTION</b>	<b>REQUIREMENTS</b>		
		<b>BASIC</b>	<b>DEMAND</b>	<b>ADDITIONAL</b>
<b>SUPPORTING SERVICES</b>	- Visual Inspection	ISO 9001	3rd Party Certification – desirable	<b>Services performed within Metalac</b> – No certification is required, but training in applicable Metalac procedures is required.
	- Packaging			- Self-assessment or audit - (QA decision) ISO 9001.
	- Shipping			- Self-Evaluation Respons. Social - Technical Visit (FO53202) SQM and quality management decision
<b>CALIBRATION AND INSPECTION PRODUCTS AND SERVICES</b>	- Measuring Instruments  - Measuring Equipment	ISO IEC 17025 / RBC for the scope of service. Aeronautical item inspection services is acceptable NADCAP	3rd Party Certification / Approval	- Technical Visit or Self Inspection (FO53217) - When it does not meet the basic requirements
<b>ENVIRONMENTAL PRODUCTS AND SERVICES</b>	- Waste collection and disposal	ISO 14001:2004 Operating License	Desirable Valid	- Technical Visit - Metalac Decision (FO.03-02)
	- Surface Treatment Services			- Registration at ANP - if applicable
	- Controlled chemicals			- Cadri – if applicable
	- Air Conditioning Cleaning			- According to items critical services above.
	- Fumigation service			Controlled Products License Ibama Registration VISA Registration

### **3. 2. TECHNICAL VISIT**

The technical visit can be performed by a Metalac representative or a team, depending on the type of product (material or service). The date for the technical visit will be agreed upon between the parties. The continuity of the approval process may be recommended or not by the technical team, and the technical visit report FO53202 must be filled out.

### **3.3. SUPPLIER MANAGEMENT SYSTEM**

The Management System must comply with the requirements established in the table above.

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Note 2: In addition to the criteria established in the table, the supplier is responsible for submitting to Metalac its "Articles of Incorporation" defining who is responsible for the company.

### **3.3.1. SUPPLIERS OF SEGMENT 1**

Potential and new suppliers must inform the type of certification they have and, depending on the certification (as described below), must submit to the Supplier Quality Management the evidence supporting such information.

The Supplier Quality Management will review the documentation submitted by the supplier and, at its own discretion, may request additional documentation.

Upon approval of this documentation, Metalac's Supplier Quality Management representative may (mandatory for automotive suppliers) perform a process audit in accordance with VDA 6.3 or applicable CQI.

Note 1: Process audit may be performed prior to commencement or within 3 months after commencement of supply.

Note 2: For safety items "S" and thermal treatment suppliers, process audit must be performed prior to commencement of supply.

#### **3.3.1.1. Automotive Suppliers**

##### **3.3.1.1.1 Suppliers that have an IATF 16949**

###### **Step 1: Valid certificate**

The supplier must submit a copy of the valid certificate with evidence that the scope covers the products / services to be supplied.

###### **Step 2: Audit at supplier's facilities**

Upon approval of this documentation and/or completion of the action plan by the supplier, a process audit must be performed at the supplier's facilities as per item 3.3.2.

##### **3.3.1.1.2 Suppliers that have an IATF 16949 certification**

###### **Step 1: Valid ISO 9001 certificate**

The supplier must submit a copy of the valid certificate with evidence that the scope covers the products / services to be supplied.

###### **Step 2: Self-assessment of the Quality System by the Supplier**

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The supplier must self-assess its quality system using the questionnaire "Supplier's Quality System Assessment – F053203" (only IATF 16949 additional requirements) (SQSA), identifying which requirements are met, partially met and not met.

**Step 3: SQSA Review by Metalac**

The Supplier Quality Management must review the SQSA adopted by the supplier and, at its own discretion, may request additional documentation and, for the items not met, a corrective action plan. A second-party audit may also be performed in relation to IATF 16949 requirements.

**Step 4: Audit at supplier's facilities**

Upon review of the SQSA form and/or completion of the action plan by the supplier, a process audit must be performed at the supplier's facilities as per item 3.3.2, using the audit to check the closure of SQSA actions, if applicable.

**Step 5: MAQMSR Self-assessment/audit**

For automotive suppliers with ISO 9001 certification, a 2nd party audit is mandatory according to MAQMSR which provides the minimum requirements for automotive quality management, according to IATF 16949 that must be performed by a qualified auditor. An audit from another Tier 1 (OEM) customer can also be accepted.

**3.3.1.1.4. Supplier Risk Matrix**

The Supplier Risk Matrix (FO532.21) should be completed by the supplier at development and updated annually or whenever requested by Metalac.

Rating criteria and actions to be taken:

- Score 1 – Low Risk (supplier reached a score of 1.0 to 5.0 when completing the Supplier Risk Matrix) – Acceptable risk;
- Score 2 – Medium Risk (supplier reached a score >5.0 to 7.5 when filling out the Supplier Risk Matrix) – acceptable risk, as long as its factors are submitted to constant and systematic monitoring (according to the evaluation of the Metalac SGQF team);
- Score 3 – High Risk (supplier reached a score >7.5 when filling out the Supplier Risk Matrix) – Unacceptable risk, requiring the definition of measures to eliminate the risk condition, mitigation plans and contingency actions.

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### **3.3.1.1.5. Other certifications**

Second-party audits performed by General Motors, Ford etc. or by any other company/institution approved by them may also be accepted. However, it will only be valid for products supplied to them and the steps defined in item 3.3.2.1 must be followed.

## **3.3.2. SUPPLIERS OF SEGMENTS 2, 3 AND 4**

Suppliers of these segments that have the certifications listed above as desirable and/or mandatory are not mandatorily assessed, provided that the certification scope covers the products and services supplied. However, the need for additional performance is at the discretion of Metalac's supplier management.

### **3.3.2.1. Support Services Suppliers**

#### **3.3.2.1.1. Supplier within Metalac**

The supplier management may only require their compliance with the procedures and qualification of employees according to the criteria / procedures established by Metalac.

#### **3.3.2.1.2. Supplier outside Metalac**

Potential and new suppliers must inform the type of certification they have and, depending on the certification (as described below), must submit to the Supplier Quality Management the evidence supporting such information.

The Supplier Quality Management will review the documentation submitted by the supplier and, at its own discretion, may request additional documentation.

Upon approval of this documentation, Metalac's Supplier Quality Management representative may (mandatory for automotive suppliers) perform a process audit in accordance with VDA 6.3.

For suppliers that do not have ISO 9001 certification, the process audit must be performed prior to approval.

### **3.3.2.2. Calibration Services Suppliers**

#### **3.3.2.2.1. RBC-Certified Suppliers**

Qualification upon receipt and review of 3rd party certificate and of the certified scope, as per item 3.1.

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### **3.3.2.2.1. Non-RBC Suppliers**

In the event a RBC-certified laboratory is not available, calibration services may be performed by the manufacturer and/or service provider.

In such cases Metalac must ensure that the supplier meets the criteria below through its own visit, a subcontractor or self-assessment:

- The laboratory has a defined scope and covers Metalac's equipment,
- Adequacy of laboratory procedures,
- Competence of laboratory staff,
- Ability to perform such services correctly, traceable to process standards,
- Review of related records.

### **3.3.2.3. Environmental Suppliers**

If the supplier is not ISO 41001 certified, the supplier assessment will be carried out according to the product/service through the request of the legal documentation necessary for the service (ANP, IBAMA, VISA certifications, Licenses, as applicable for follow-up). If Metalac deems necessary, it may include in the qualification process visits to the supplier's facilities.

Note: The decision on whether to visit the supplier's facilities will be at Metalac's discretion, taking into account the severity of the product or service.

## **3.4. SUBMISSION OF INITIAL SAMPLE / PILOT LOT**

See Chapter 9 - "Submission of Prototypes or Initial Samples".

## **3.5. REFERRALS FROM KEY CUSTOMERS**

The use of suppliers appointed by the customer does not exempt Metalac from the responsibility of ensuring the quality of the purchased products, therefore Metalac may audit these suppliers if the need to assess the quality system or process is identified.

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## CHAPTER 4 - SUPPLIER ASSESSMENT

### 4.1. SUPPLIER DOCUMENTATION UPDATE

Is the supplier's responsibility to send to Metalac an up-to-date copy of the Articles of Incorporation, applicable licenses issued by their state competent agency and certifications obtained (ISO 9001, ISO 14001, IATF 16949, NADCAP, AS9100 and CQIs or VDA self-assessments, as applicable).

The supplier undertakes to send copies of the documents whenever they are updated.

If the documentation is not sent to Metalac before the due date, a demerit may be applied to the supplier according to item 4.2.6.

### 4.2. SUPPLIER PERFORMANCE ASSESSMENT: RAW MATERIALS, COMPONENTS, SERVICE PROVIDERS IN PRODUCTS (INCLUDING SUPPORT SERVICES: PACKAGING AND SELECTION OUT OF THE PLANT) AND FINISHED AND SEMI-FINISHED BOLT

Suppliers will be assessed and rated every three months taking into consideration the deliveries made:

Supplier's performance will be measured through the "DF", which consists of:

- Supplier Delivery Index (IAF)
- Supply Quality Index (IQF)
- System Quality Index (IQS)
- Process Audit Index (IAP)
- Other performance factors

Note: In addition to the criteria above, surface treatment suppliers will also be evaluated for performance in the corrosion resistance test (TRC), to be performed during Metalac audit.

The rating will be given according to the supplier performance (DF), as per the table below.

CLASS	INDEXES	RATING
A	DF >= 90	Preferred Supplier
B	DF < 90 and DF >= 80	Satisfactory Supplier
C	DF < 80	Unsatisfactory Supplier

### Improvement Actions

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According to the performance results of quality and/or service in the period, the supplier will be asked to establish improvement actions to adjust its performance to the standards acceptable to Metalac:

- CLASS A - You do not need to submit the actions to Metalac, the supplier will take internally necessary actions to maintain the preferred Supplier classification and reach 100% Metalac satisfaction.
  - In case Metalac evaluates any risk, an action plan may be requested.
- CLASS A - You do not need to submit the actions to Metalac, the supplier will take internally necessary actions to reach the preferred Supplier classification.
  - In case Metalac evaluates any risk, an action plan may be requested.
- CLASS C - You do not need to submit an action plan to Metalac to reach at least class B:
  - Upon receipt of performance notice, the supplier must submit the action plan within 15 days, failure to meet the deadline will result in demerits according to item 4.2.6;
  - The supplier will be blocked for new business in case of two consecutive quarters as "CLASS C";
    - The supplier may be blocked for new business in the first quarter as "CLASS C" according to the risk assessment of the supplier management, quality management and/or Metalac purchasing management considering the impacts for Metalac and its customers;
  - Systemic classification as "CLASS C" may lead to the disqualification of the supplier, according to the risk assessment of the supplier's management, quality management and/or Metalac purchasing management;
  - For suppliers with performance C in Quality (IQF), they will be annually audited regardless of the result of the last audit;
  - It may be placed in controlled shipment (7.1.2);
  - For suppliers with performance C in Logistics, a robust plan to meet the volumes and guarantee the supply to Metalac customer must be defined within 7 calendar days.

Note: The requirements for blocking new business and disqualification of the supplier may only be waived by Metalac's Quality Manager or General Manager;

Note: Suppliers that were blocked from new business may only return to the List of Approved Suppliers after two consecutive assessments rated at least "B".

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#### 4.2.1. SUPPLIER PERFORMANCE CALCULATION(DF)

$$DF = (0.30 \times IAF + 0.55 \times IQF + 0.05 \times IQS + 0.1 \times IAP) \quad [\%]$$

#### 4.2.2. SUPPLIER DELIVERY INDEX (IAF)

##### 4.2.2.1. PURCHASED PRODUCT

The quality of supplier deliveries will be assessed by meeting delivery times. The products should be properly identified as requested by Metalac and the packaging for manual transport should not weight more than 16 kilograms.

Delivery quality will be measured through the IAF, which will be calculated as follows:

$$IAF = \left[ 1 - \left( \frac{\sum \text{parts Out of Time}}{\sum \text{Purchased parts}} \right) \right] \times 50 + \left( \frac{\text{Purchased Items} - \text{Items Out of Time}}{\text{Purchased Items}} \right) \times 50 \quad [ \% ]$$

The supplier must implement a system that ensures **100%** compliance with the delivery times agreed with Metalac and a monitoring system for this performance.

##### 4.2.2.2. PURCHASED SERVICE

###### 1 - Normal calculation condition

In this case, Metalac understands that the faster the product returns to the company, already processed, the best it is for Metalac.

Target lead times (in days) were established and the average lead time in the month is monitored.

Case:

Average lead time <= Target lead time = 100%

Average lead time > Target lead time = (Target lead time/Average lead time) x 100 = %

Note: Average lead time is calculated as a weighted average: days X quantity delivered for each delivery made by the supplier during the assessed period.

###### 2 - Special calculation condition

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For certain suppliers whose part process has a very high lead time, Metalac may, upon consensus between the PPC and the Supplier Management areas, adopt a list of critical items.

In this case, it is measured the quantity of critical items requested and the quantity of critical items delivered in the month.

Case:

Qty. Delivered

$$\frac{\text{Qty. Delivered}}{\text{Qty. Requested}} \times 100 = \%$$

IAF calculation is then:

$$(0.3 \times (\text{target lead time}/\text{average lead time} \times 100)) + (0.7 \times (\text{qty. delivered}/\text{qty. requested} \times 100))$$

#### **4.2.3. SUPPLY QUALITY INDEX (IQF)**

The quality of the lots received will be assessed through:

- Receiving inspection
- Performance in the production process
- Performance at the customer or end user

The Supply Quality index (IQF) is calculated as follows:

##### **4.2.3.1. SURFACE TREATMENT SUPPLIERS**

$$\text{IQF} = 0.3 \times \text{TRC} + 0.7 \times \text{IQP}_{\text{total}}$$

###### **4.2.3.1.1. TRC – Corrosion Resistance Index**

$$\text{TRC} = \frac{\text{Tests Performed} - \text{Rejected Tests} (\%)}{\text{Tests Performed}}$$

###### **4.2.3.1.2. IQP<sub>total</sub> – Quality Index of Lots and Parts Delivered**

$$\text{IQP}_{\text{total}} = 0.5 \times \text{IQP}_{\text{parts}} + 0.5 \times \text{IQP}_{\text{batches}}$$

###### **4.2.3.1.2.1. IQP<sub>parts</sub>**

Method of determination of IQP<sub>parts</sub>:

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The index is related to PPM (defective parts per million) and is obtained according to the following table from the targets set for the supplier:

PPM RANGE	IQP
PPM equal or lower than the target	100%
PPM up to 2 times above target	90%
PPM more than 2 and up to 3 times above target	70%
PPM more than 3 times above target	40%

#### 4.2.3.1.2.2. IQP<sub>batches</sub>

$$IQP_{batches} = \frac{\text{Batches Delivered} - \text{Defective Batches} (\%)}{\text{Lots Delivered}}$$

#### 4.2.3.2. OTHER SUPPLIERS

$$IQF = IQP_{total}$$

#### 4.2.3.2.1. IQP<sub>total</sub> – Quality Index of Lots and Parts Delivered

$$IQP_{total} = 0.5 \times IQP_{parts} + 0.5 \times IQP_{batches}$$

#### 4.2.3.2.1.1. IQP<sub>parts</sub>

Method of determination of IQP<sub>parts</sub>:

The index is related to PPM (defective parts per million) and is obtained according to the following table from the targets set for the supplier:

PPM RANGE	IQP
PPM equal or lower than the target	100%
PPM up to 2 times above target	90%
PPM more than 2 and up to 3 times above target	70%
PPM more than 3 times above target	40%

#### 4.2.3.2.1.2. IQP<sub>batches</sub>

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$$IQP_{batches} = \frac{\text{Batches Delivered} - \text{Defective Batches} (\%)}{\text{Lots Delivered}}$$

**PPM calculation formula:**

$$PPM = \left( \frac{\text{Total Nonconforming Parts}}{\text{Total Parts Delivered}} \right) \times 1,000,000$$

#### **4.2.4. SYSTEM QUALITY INDEX (IQS)**

Suppliers - IATF 16949 – 100% (automotive)

Suppliers – AS 9100 – 100% (aeronautical)

Suppliers - ISO 9001 – 90% (both)

#### **4.2.5. PROCESS AUDIT INDEX (IAP)**

The score obtained in the process audit will be valid until the performance of a new audit.

#### **4.2.5. OTHER PERFORMANCE FACTORS**

The supplier will be downgraded with reduction of points in Supplier Performance (DF) as follows:

- Extra shipping: 1% for each extra shipping
- Line stoppage and field return: 5% for each event
- Metalac customer notices regarding quality or delivery issues: 3% per occurrence.
- Opening of a corrective action report related to quality or delivery issues detected at Metalac: 1.5% per occurrence.
- Delays in responding to corrective action reports: 0.2% per day of delay.
  - If the supplier needs a longer period, this must be previously agreed upon and approved by the involved parties.
- Missing standard screw: 0.5% for each occurrence, regardless of the following submission.
- Documentation sent after the due date (according to item 4.1): 0.2% per day of delay.

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On the other hand, if none of the events above occur, the Supplier Performance (DF) will be increased by 3% in cases where this number is less than 97%.

This calculation will be performed quarterly.

#### **4.2.6. PROCESS AUDIT (CQIs, VDA 6.3)**

##### **4.2.6.1. Criteria**

It is the supplier's responsibility to annually submit to Metalac a CQI or VDA self-assessment in accordance with the scope of service:

- Thermal Treatment – CQI-9
- Galvanoplasty - CQI-11
- Phosphate and organometallic – CQI-12
- Components, screws, adhesives, machining – VDA 6.3

Note 1: For Thermal Treatment and Surface Treatment suppliers only for aeronautical items, CQI-9, CQI-11 or CQI-12 self-assessment will be required, according to Metalac's request.

Note 2: Process audits are required for automotive and **aeronautical suppliers (every 3 years)**; for resale suppliers it will be required only in case of poor performance.

The Supplier Management area will prepare a schedule for these audits, considering:

- Audit cycle;

<b>Audit Rating</b>	<b>Audit cycle</b>
A	<b>3 years</b>
B	<b>3 years</b>
C	<b>Annual</b>

- Low performance according to Item 4.2;
- Customer complaints;
- Recurrences of quality issues in the same product or product family.

Note 2: Process audits may also be performed, even when not scheduled, upon request by the purchase area, customers and parts/services users.

##### **4.2.6.2. Purpose and Method**

The purpose is to assess the supplier's ability to meet technical specifications and the performance of the product realization and measurement process.

The Checklist to be used during the audit is based on applicable CQI (TT and ST suppliers) or VDA 6.3 (other suppliers) checklist and may be made available to the supplier at its own discretion.

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The process audit form has its own questions that should be evaluated against the respective requirements. The evaluation of each question will correspond to a score according to the status of the table below.

Score	Compliance with Requirement
<b>10</b>	Requirements fully met
<b>8</b>	Requirements mostly met (at least ¾ of all requirements have been proven), and there is no special risk
<b>6</b>	Requirements partially met, or presence of major deviations
<b>4</b>	Insufficient requirements met or serious deviations
<b>0</b>	Requirements not met

The final process qualification index will be calculated by the average of the percentage values obtained in each of the general requirements.

The final score of the Process Audit is defined as follows:

Score	Rating
$\geq 90$	<b>A</b>
$< 90 \text{ and } \geq 80$	<b>B</b>
$< 80$	<b>C</b>

**Class A** - supplier processes audited are fully compliant and exceeds Metalac's expectations in some cases.

**Class B** - supplier processes audited are largely compliant and ensure the minimum conditions to commence supply to Metalac. Class B supplier should seek to improve its processes and correct the nonconformities found in the audit in order to become Class A.

**Class C** - supplier processes audited are non-compliant and are unable to ensure the minimum conditions necessary for the scale production of components. The company's production suppliers reclassified as Class C must comply with the action plan and will be subject to management review, in order to define whether they will continue taking part in new quotes and/or component developments, until a new audit is performed and a minimum B rating is achieved.

#### 4.2.6.3. Action Plan

For nonconformities detected, the supplier must develop an Action Plan for the implementation of the necessary corrective actions and submit it to the auditing team for follow-up

#### 4.2.6.4. Action Plan Closure

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Upon receipt of the Action Plan, the auditing team will schedule a date for its closure, which may be through objective "on-site" evidence or by the submission of documents supporting the corrective actions taken. The criteria for Action Plan closure is defined by the auditing team.

**Note: For suppliers with a C classification in the audit, the closing of the action plan will preferably be done "in loco", at Metalac's discretion.**

#### **4.2.7. QUALITY SYSTEM REASSESSMENTS**

The Quality System is reassessed by updating the certificates (ISO 9001, IATF 16949 or AS9100), however an on-site audit may be scheduled at the discretion of the Supplier Management area.

#### **4.2.8. CONTINUOUS IMPROVEMENT**

Metalac expects its suppliers to use and improve failure prevention methods, such as: failure mode and effect analysis (FMEA), statistical process control (SPC), methods of analysis and troubleshooting (MASP) etc.

Metalac is willing to assist suppliers in the use of these tools.

#### **4.3. CALIBRATION SERVICES SUPPLIERS**

Assessed through:

- Updated accreditation certificates and the scope of accreditation.
- Technical visit whenever the Supplier Management area deems necessary.

#### **4.4. ENVIRONMENTAL SUPPLIER ASSESSMENT**

Assessed through:

- Updated documentation, certificates and licenses.

Note: For ISO 14001 certified suppliers, only the certificate may be updated.

#### **4.5. SUPPLIER DISQUALIFICATION**

The disqualification process is started by the Supplier Management area based on:

- The performance assessment of each supplier (2 quarters with "C" rating).
- Request from the areas involved.

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## CHAPTER 5 - FAP / METALAC TRACEABILITY

### **5.1. GENERAL**

The Production Tracking Sheet (FAP) is the product identity record of great importance for production logistics and product traceability.

As the FAP identifies the product and shows the production and inspection status, it must follow all production steps and be completed by suppliers in the operations performed under their responsibility.

This record is maintained for 15 years after the product manufacture. Ensuring the integrity of information requires basic precautions and procedures.

The first procedure is the critical analysis of this record upon receipt of the material. The supplier should carry out his operation only if all fields from previous operations are completed. If one or more lines are not completed, inform Metalac's Supplier Management or Quality Control area, which will define the disposal of the product.

The loss or damage to the integrity of this record must be immediately reported to Metalac's Supplier Management or Quality Control area.

Products without FAP must not be processed under any circumstances; in this case it must be returned and informed to Metalac's Supplier Management or Quality Control area in order to be treated as non-compliant.

The FAP contains the manufacturing order number (OF) and in some cases, depending on the processing stage of the product, also contains the QC number (in the metallurgical laboratory inspection field).

In cases where the QC number is specified in the FAP, it cannot be mixed with other QC numbers even if the OF (manufacturing order) number is the same.

It is the supplier's responsibility to ensure within its process that this mixture does not occur and to train its employees in this regard.

### **5.2. FAP COMPLETION**

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The supplier must complete the FAP in the line of the performed operation, using blue or black pen, indicating:

- Date of service execution;
- Identification of the operator or person in charge;
- Supplier name (may be stamped)

Care should be taken during completion to avoid erasures, filling of line from another operation, or space intrusion from another operation.

Additional information may be added in blank fields available on the front or back page. Contact the Supplier Management area to reserve additional space for continuous use.

For surface treatment suppliers, the thickness or weight (as defined in the product design) of the batch layer must be informed by stamping on the back of the FAP in a blank space, this must be done in all the FAP of the batch, if the information is not filled in, the batch may be considered non-compliant and sent for rework without charge.

### **5.3. BUCKET DETACHMENT**

Each product container, bucket or bin (plastic box), must be accompanied by a FAP packed in a plastic bag.

The buckets must contain a volume of pieces that should not exceed 2/3 of its volume; it is the supplier's responsibility to inform the Supplier Quality Management whenever this occurs.

For suppliers whose processing increases the volume of parts (placement of components, for example), it is their responsibility to request the External Services area to send additional buckets (as many as necessary) so as not to exceed the specified volume, and in this case a bucket separation (detachment) will be required.

The separation (detachment) of a bucket should be avoided and should only be done with the knowledge of Metalac's Production Planning and Control (PPC).

A full FAP reproduction must be provided for the new bucket or bin.

Upon receipt of the separated container, the PPC must stamp the FAP with a separation stamp, indicating the number of the operation where the separation occurred and the identification of the person responsible (plate).

Note: Buckets must not be combined so as to avoid mixing of different lots and also to avoid overfilling the bucket, creating risk of mutilation and mixing.

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## 5.4. FAP REPRODUCTION

### 5.4.1. FAP PAPER COLORS

The following FAP paper colors are used:

- White: Normal production FAP
- Pink: Product rework FAP
- Yellow: Initial sample FAP
- Blue: Prototype FAP
- Blue: Aeronautical items FAP

Note: FAP colors must be maintained in case of bucket separation.

### 5.4.2. FAP COPY

When reproducing a FAP, all two-sided sheets must be copied in their original color. In case of rework the pink FAP must be attached to the white (or yellow or blue) FAP that released and accompanied the production of the original product lot.

The copy of the FAP must be a legible black photocopy in A4 sulfite paper to ensure all information was copied without cuts.

Note: For products delivered without FAP or FAP without the operation field filled out, an FNC will be created and will directly impact the supplier IQP<sub>lots</sub>.

## 5.5. CONTAMINATION CONTROL, FOREIGN OBJECT ELIMINATION (FOE) AND PRODUCT PRESERVATION

### 5.5.1. CONTAMINATION AND FOREIGN OBJECTS (FOE)

Contamination is considered as any element foreign to the product, e.g. chips, dirt and impurities, mixed parts, sludge, oils other than those approved for the parts etc.

It is the supplier's responsibility to map the contamination points in its process (PFMEA) and take action to eliminate the problem.

Special care should be taken with:

- Removal of parts from the Metalac bucket for product processing.
- The bucket must be sanitized and inspected to avoid contamination, foreign objects (FOE) and mixtures, and an established and documented standardization is very important.
- Cleaning of chutes, conveyors, fallen parts on the floor;

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- Parts stuck or tangled in equipment;

Special care should be taken with respect to dry parts for oxidation and oil contamination.

It is the supplier's responsibility to ensure the integrity of Metalac products, when in its possession, avoiding exposure to deterioration points or contamination risks, foreign objects (FOE) and mixtures.

#### **5.5.2. PUNCHING AND MUTILATIONS**

It is the supplier's responsibility to map the points of punching and mutilation in its process (PFMEA) and take action to eliminate the problem.

Special care should be taken with:

- Removal and placement of parts in the Metalac bucket for product processing.
- Chutes, conveyors, pinching points;
- Vibrating feeders or even manual feeding;
- Height from where the part falls during processing/handling.

#### **5.5.3. CARE AND PRESERVATION OF PARTS STORED FOR EXTENDED PERIODS**

Parts stored for extended periods under the supplier's care (breaks, holidays, pending scheduling) must be preserved from the weather, site debris, mixtures and physical damage; for this purpose, they must be covered and inspected before processing begins.

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## CHAPTER 6 - PRODUCT SAFETY

### **6.3. PRODUCT SAFETY**

Metalac supplies products for various applications, and some products are critical as they may drastically affect the application and use of the product where it is applied and others may pose a risk to human lives or violate government regulations.

Therefore, Metalac identifies these products so as to make clear their severity.

- C** Critical Product - may affect the application/use of the product where it is applied.
- Y** Safety Product - may pose a risk to human lives or violate government regulations.
- A** Aeronautical Product - may pose a risk to human lives or violate government regulations.

For the products identified in the **DP (product design)** as "S" or "A" (safety item or aeronautical item), the supplier must establish documented procedures for product safety management and must plan, implement and control the processes necessary to ensure product safety throughout the entire product life, as appropriate to the organization and the product, which should include, but is not limited to, where applicable:

- a) identification and controls of safety features related to the product and point of manufacture;
- b) special approval of control plans and process FMEAs;
- c) response plans;
- d) defined responsibilities, escalation process definition and information flow, including top management and customer notification;
- e) training identified by the organization for the product safety personnel related to products and associated manufacturing processes;
- f) product or process changes must be approved prior to implementation, including the assessment of potential product safety effects resulting from process and product changes (see ISO 9001, Section 8.3.6);
- g) communication of product safety requirements throughout the supply chain, including customer-appointed sources;
- h) product traceability per manufactured lot (at last) throughout the supply chain;
- i) lessons learned for the introduction of new products;

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- j) hazard assessment and associated risk management;
- k) analysis and reporting of events that affect safety, communication of these events and training of personnel.

The supplier must elect a representative of the organization as the responsible party for the products/services supplied throughout its scope, in compliance with the requirements of the VDA 6.3 standard and Metalac customer specific requirements.

**The person responsible for the products/services supplied must be trained, know the process, and be a member of top management.**

It is the supplier's responsibility to keep Metalac informed of any change related to the representative informed.

## **6.1. IDENTIFICATION OF THE SPECIAL CHARACTERISTICS**

All product characteristics are important and therefore their specifications must be met; however, there are some characteristics whose excessive deviation may pose risk to human lives, violate government regulations, or drastically affect the application or use of the product.

These characteristics are referred to as **Special Characteristics**.

To facilitate the visualization among the other product characteristics, they are identified in the documents provided by Metalac with the following symbols:

- [ S ] Safety / Regulatory Characteristic
- [ F ] Functional Characteristic
- [ P ] Significant Process Characteristic

It is the supplier's responsibility to pass on to their documents and process, in their own language or in the Metalac language, the special characteristics as identified in the Metalac drawing.

Note: If the company chooses to use its own language, it must have a correlation table of the characteristics.

Metalac expects its suppliers to meet the specified requirements for every product; however, greater attention should be paid to these items and characteristics specified above due to the legal consequences related to the failures of this type of characteristic/product.

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It is the supplier's responsibility to pass on to its documents, as appropriate, this product identification and to train its employees in this regard.

## **6.2. CONTROL**

For **special characteristics (S, F or P)** the supplier shall implement SPC in the process and sample capability study and meet **PPk and CPk  $\geq 1.67$** ; unless otherwise specified or waived as formally negotiated with Metalac.

Note: Where PPk and CPk cannot be met the supplier must implement 100% inspection, 100% visual selection **or other method as agreed with Metalac, to ensure conformity** of the characteristic **and protect the customer** until corrective actions are implemented and the PPk / CPk index is proven to be met.

In addition, it is expected control of the process parameters that is directly related to the product characteristics **(S, F or P)**.

The suppliers are responsible for planning and implementing the process controls necessary to ensure that product specifications are met.

Metalac expects its suppliers to use, whenever possible, poka yoke as the method to ensure process quality and robustness.

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## CHAPTER 7 - HANDLING NONCONFORMITIES

### 7.1. NONCONFORMING PRODUCTS DETECTED BY SUPPLIER

#### 7.1.1. GENERAL

When detecting a nonconforming product, the supplier should segregate it and take the necessary precautions to avoid shipping it to Metalac.

If the nonconforming product has been shipped to Metalac, then the supplier shall formally notify the Supplier Management sector and the Dimensional Laboratory.

The supplier shall use formalized methods for determining cause and action to avoid the problem recurrence.

#### 7.1.2. DEVIATION REQUEST

Prior authorization (deviation) should always be required prior to shipment of products that do not fully meet specifications.

For deviation request, the supplier must use the Metalac form "Deviation Request".

Before requesting a deviation, the supplier must ensure that:

- Nonconformity will not have a significant impact on the product.
- The non-compliance cause has been identified and eliminated.

The deviation granted for further production and release for delivery does not relieve the supplier of the responsibilities and burdens of future customer complaints.

### 7.2. NONCONFORMITY IN PRODUCTS DETECTED AT METALAC OR THE CUSTOMER

Upon detection of nonconformity in products, services and/or components, if the problem is found to be caused by the supplier, the latter may be notified as follows:

#### 7.2.1. NONCONFORMITY NOTIFICATION

The problem must be dealt with by the supplier, but no formal response to Metalac is required unless requested by Supplier Quality Management.

The supplier must open a "Quality Alert" in its process and submit it to Metalac, **until the next business day**.

The "Quality Alert" is intended to inform nonconformity and should accompany the process documentation for **at least** 2 lots after the corrective actions are closed by the supplier.

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### **7.2.2. CORRECTIVE ACTION REPORT**

When the Supplier Management area deems it necessary to open a corrective action (8D) report, the supplier shall respond and manage it to ensure that all exit criteria and deadlines have been met:

- a) Appointment of the person responsible for corrective action:
  - Supplier shall designate a responsible person (MASP, PPAP / MSA) to conduct the corrective action process and report to Metalac.
- b) Exit criteria:
  - Containment, Cause Analysis, Corrective Action, Corrective Action Effectiveness Assessment, Feedback PFMEA, Lessons Learned.
- c) Deadlines:
  - A day to respond to the containment action on parts already processed and to avoid further defective lots;
  - A week to answer the remaining steps: definition of the nonconformity root cause and definitive corrective actions.

Note 1: In cases where the end customer has a response time shorter than the above, the deadline established by the customer is valid; and the Supplier Quality Management department shall inform the supplier of this deadline.

Note 2: The supplier has a period of 3 days after receiving the notification to question the nonconformity and, if applicable, it does not account for the indicator.

Note 3: The supplier also has a period of 3 days after receiving the notification to request sample of nonconforming parts; after this period they will be discarded.

- Also, 14 days to implement corrective actions, unless negotiated a different deadline with the Supplier Management sector.
- The deadline for closing the RAC, with evaluation of effectiveness, PFMEA feedback and lessons learned, should not exceed 34 days unless negotiated with Metalac's Supplier Management sector.

In case of delay in the response of the RACs, the scheduling shall be applied as follows:

Delay	1st Charge	2nd Charge	3rd Charge	4th Charge
5 days	Supplier Resp.	-----	-----	-----
10 days	Supplier Resp.	Supplier Manager	-----	-----
15 days	Supplier Resp.	Supplier Manager	Metalac Qual. Man.	-----
20 days	Supplier Resp.	Supplier Manager	Metalac Qual. Man.	Supp. Man. Meeting at Metalac

Note 4: If the 7-day deadlines for cause analysis and definition of corrective actions are not met, the supplier shall receive a downgrade per day late in its indicators.

Note 5: Delays in responses, whether from RAC, audits, developments, PPAP are subject, at Metalac's discretion, to issuing a corrective action process for unsatisfactory service.

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### 7.2.3. CONTROLLED SHIPPING (CS1 and CS2)

The criteria for adopting the controlled shipping process are listed below:

- Failure to contain quality problems noted in RNCs.
- Inadequate resolution of nonconformity resulting in problem recurrence;
- Process unable;
- Rejection by a Metalac customer due to problems with purchased component.
- Quality performance index (DF) systematically below acceptable for more than one assessment (definition from the quality management).

#### 7.2.3.1. Controlled shipping levels:

Depending on the criticality of the nonconformity found, or even the evidence of recurrence of nonconformities, Metalac Supplier Management may place the supplier in Level 1 or 2 Controlled Shipping condition as described below:

##### 7.2.3.1.1. Controlled Shipping Level 1 (CSI)

Upon notification, the supplier shall define an inspection area isolated from the production line, with well-defined parts input and output flow and well-defined inspection situation; inspect the parts 100%, according to characteristics described in the notification letter; highlight the training of operators on the performance of this activity; physically identify the inspected parts as agreed with the Metalac Supplier Management department and place an identification per box / volume on the batches to be shipped with the description "Level 1 Shipment Control" and the characteristics inspected.

Data collected from selection shall be reported to the Metalac's Supplier Management sector.

The period for submitting a corrective action plan to the supplier is 7 calendar days.

Note: Upon removal of Level 1 Shipment Control, records shall be kept for at least 6 months from the date of control removal.

The Controlled Shipping process shall be maintained for a period of 60 days after the corrective actions have been taken to prove their effectiveness.

All expenses for these operations are borne by the supplier.

##### 7.2.3.1.2. Controlled Shipping Level 2 (CSII)

In addition to the descriptions above for level 1 shipment control, the supplier shall contract a Metalac-approved, specialized selection company to conduct the inspection at the supplier's plant or any other location agreed.

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The subcontractor shall report the results of the selections to the Metalac Supplier Management sector and the supplier.

All expenses for these operations are borne by the supplier.

#### **7.2.4. TRC**

TRC is a rejection related to corrosion tests during audits performed by Metalac.

Whenever there is a rejection in the salt spray audits a corrective action process shall be opened and emailed to the surface treatment supplier along with the Chemical Laboratory report.

In such cases the supplier shall respond to the corrective action process as defined in item 7.2.2 of this manual.

#### **7.3. LEARNED LESSONS**

Improvements detected for risk prevention during the corrective / preventive action process and/or improvement work at the company are passed on to the supplier through: design changes, technical specifications and last 5 defects in the FAP.

Note: However, it does not relieve the supplier from the need to maintain its own system of lessons learned in order to prevent risks in the process.

#### **7.4. SUPPLIER DEBTS (NONCONFORMITY COSTS)**

The supplier is responsible for any and all costs related to nonconformities caused in its production. Some costs due to nonconformities are, but not limited to:

- Selection
- Rework / Repair
- Scrapping
- Transport
- Other expenses related to the product, detected at Metalac or in the customer.

*These costs shall be calculated and reported to the supplier via the "Supplier Failure Cost" document, with 5 business days after notification for inquiry; after this date the documents shall be submitted to the Accounts Receivable sector and no further appeal shall be made.*

##### **7.4.1 ADMINISTRATIVE COSTS**

###### **7.4.1.1 METALAC DETECTED ISSUES**

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For non-conformities related to problems identified internally by Metalac including, but not limited to:

- Document issues (item 5.4) – Example:
  - FAP without signature
  - FAP torn
  - FAP with copy error
  - Bucket without FAP
  - Among others
- Missing standard screw (chapter 11)
- Mixtures caused by the supplier
- Non-conformities in the product
- Freight resulting from rework
- Etc....

From the second occurrence on, an amount of R\$300.00 per open FNC may be charged, which will be discounted according to item 7.4.

#### 7.4.1.2 ISSUES DETECTED AT THE METALAC CUSTOMER

For non-conformities related to problems identified at the Metalac customer, an amount of R\$300.00 per open FNC may be charged and the costs passed on by the customer will be discounted according to item 7.4.

#### 7.5. MINIMUM REWORK CONDITION

The arrangement for batch reworking shall be established if the reworking process is feasible and possible.

If rework is not considered feasible, parts will be scrapped and costs passed on to the supplier.

If there is a need to select suspect / non-compliant parts, they will be sent to companies approved by Metalac for this kind of service. Any different decision must be approved by the Supplier Management department.

Note: The supplier must request permission to Metalac whenever product rework or repair is necessary.

Whenever rework is authorized, it must be documented and the supplier should maintain different traceability of parts in order to keep a rework history and facilitate process traceability if necessary.

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## **7.6. COUNTERFEIT PARTS**

The organization shall plan, implement and control processes appropriate to itself and the product, to prevent the use of counterfeit or suspected parts and their inclusion in products delivered to the customer.

NOTE: Counterfeit parts prevention processes should consider:

- a) Appropriate training for all employees in the awareness and prevention of counterfeit parts;
- b) Application of an obsolescence monitoring program for parts and products;
- c) Controls for products externally supplied from original or authorized manufacturers, authorized distributors or other approved sources;
- d) The requirements to ensure traceability of parts and components to their original or authorized manufacturers;
- e) Verification and testing methodologies for the detection of counterfeit parts;
- f) Monitoring of reports on external sourced counterfeit parts;
- g) Quarantine and reporting of falsified or suspected counterfeit parts detected.

We may consider as counterfeit parts:

- Use from an unapproved source;
- Use of an unauthorized finish;
- Use of an unauthorized raw material or from doubtful source;
- Unauthorized repair;
- Nonconforming products sent intentionally.

## **7.6. RETURN OF REJECTED PARTS (MACHINING, THREAD ROLLING AND VISUAL SELECTION SUPPLIERS)**

Machining, thread rolling and visual selection suppliers shall return rejected parts found in the process according to the following process:

- Parts should be shipped as follows:
  - Machining / Thread Rolling – should be sent per lot processed in the equipment, restricted to 1 shipping per week;
  - Visual Selection – should be sent by chosen traceability; restricted to 1 shipping per week;
- The parts should be shipped in cardboard box, bins or buckets, depending on the amount of defective parts;

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- The parts must be shipped separately per piece; lot and defects;
- Each package shipped must be identified with a FAP copy and identification label (template below) duly completed;
- Packaging must be properly sealed to avoid mixing with good parts:
  - Cardboard boxes must be sealed;
  - Bins and buckets must be sealed with plastic film.

## **7.7. PRECAUTIONS IN HANDLING AND SELECTING PARTS**

In 100% selection processes or any other type of handling on finished parts, employees must wear gloves, regardless of product, surface finish / treatment or type of selection (Visual / Functional).

This guidance should be formalized in your work instruction and all employees should be trained to this requirement.

A **Quality Alert**, or similar, should also be made available at workstations to remind employees of this requirement.

It is important to remind that the same rule applies when, eventually, parts selection is requested at Metalac customer premises.

## **7.8. USE OF STATISTICAL TECHNIQUES**

The organization shall determine the appropriate use of statistical tools to improve product and process quality and management system. The organization shall ensure the appropriate statistical tools are included in the advanced product quality planning process (or equivalent) and in the process risk analysis (such as PFMEA) and the control plan.

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## CHAPTER 8 - CODE OF ETHICS AND BUSINESS CONDUCT

### SUPPLIER INTEGRITY CODE

Precision Castparts Corp. (PCC), including each of its companies, strives to conduct everything we do with integrity, and we expect the same of our suppliers, contractors, agents, and consultants ("Suppliers"). Suppliers must be equally committed to practices that are legal, ethical, fair and reasonable and must comply fully with legal and regulatory requirements in their dealings with PCC and PCC companies. This guide is in accordance with the PCC Code of Conduct (available at [http://www.precastcorp.com/web/user/content/files/code-of-conduct\\_english.pdf](http://www.precastcorp.com/web/user/content/files/code-of-conduct_english.pdf) and in Portuguese at [www.metalac.com.br](http://www.metalac.com.br)) and is intended to remind Suppliers of the PCC's minimum requirements:

**Supplier Responsibilities:**

As a PCC Supplier you must:

**Safe and Responsible Workplaces:** (i) follow local health and safety rules, policies and procedures; (ii) provide Personal Protective Equipment to all employees who need it to perform their work; (iii) comply with applicable environmental laws and regulations.

**Work environment free of discrimination or harassment:** (i) respect the human rights of its employees and other persons in its operations and in its activities for PCC; (ii) not employ minors under 16 (sixteen) years of age or under the minimum applicable age, whichever is greater, (iii) prohibit discrimination, harassment and retaliation, and (iv) protect employees from violence or threat of violence in the work environment.

**Good Citizenship:** (i) comply with applicable laws and regulations on wages and working hours and conditions; (ii) not employ forced or slave labor, or workers subject to any form of compulsion or coercion, nor engage in or facilitate human trafficking; and (iii) adopt policies and systems to supply tantalum, tin, tungsten and gold from sources that have been verified as conflict free areas, and provide information about such supply chain to PCC when requested.

**Gifts, Loans, Entertainment and Improper Payments:** (i) maintain and enforce policy that requires adherence to legal business practices, including prohibiting bribery of government officials, (ii) not offer or provide, directly or indirectly, anything valuable, including money, gifts, entertainment, bribes or rewards, including job offering, or participation in competitions, games or promotions, to any PCC employee, representative or customer or any government official in connection with any supply, transaction or business negotiation with PCC; (iii) allow PCC to access internal records and controls when required.

**Information Security and Data Privacy:** (i) respect the rights to privacy and keep the data of PCC employees, customers and suppliers secure; (ii) and implement and maintain physical, organizational and technical measures to ensure the security and confidentiality of PCC data.

**Intellectual Property:** (i) respect the intellectual property and other proprietary rights of PCC or third parties, including all patents, trademarks, and copyrights; and (ii) avoid transfer of PCC technical information to any third party without PCC's express written permission.

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**Competition Requirements:** (i) avoid sharing any competitive price, cost or information with any third party with respect to any proposed supply, whether active or inactive; and (ii) avoid engaging in illegal dealings (completion) with any third party.

**Import and Export Controls:** (i) comply with all import export laws and regulations when importing, exporting, re-exporting or transferring (within the country) products, services, software, technology and technical data; (ii) researching customers and suppliers to ensure that any embargoes and economic restrictions are observed, and (iii) provide internal country-of-origin and product classification information to the PCC when requested.

**Legal Accounting Practices:** (i) ensure that all invoices or similar documents sent to PCC or government authorities or audited by third parties in connection with transactions involving PCC accurately describe the products and services provided and the price of those products and services; (ii) and ensure that all documents, communications and accounting are accurate and honest.

**Report any concerns:**

As a PCC Supplier, you are expected to report any concerns related to the PCC Code of Conduct and this Guide, in accordance with local law and its restrictions, as soon as an issue arises. This applies whether you are directly involved as a Supplier or not. We would also like you to take reasonable steps to assist the PCC in investigating the reported concern. The PCC will not tolerate retaliation against anyone for reporting a concern involving the PCC Code of Conduct or this

Guide. Please use the following sources to make your report:

- Local management of the PCC company involved;
- PCC's Ethics Hotline: 1-800-261-8651 [or our local number - (15) 3334-3517 or [www.brk-hotline.com](http://www.brk-hotline.com) or;
- Any employee of the PCC Legal Department.

These guidelines related to the code of conduct should be disseminated throughout the company at all hierarchical levels and submitted to their suppliers in order to improve working conditions, quality of life and the environment.

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## CHAPTER 9 - DEVELOPMENT OF PRODUCTS AND PROCESSES

### 9.1. QUOTATION OF NEW PRODUCTS

Prior to initiating any activity with a new supplier or developing a new item with an already approved supplier, the Supplier Quality Management area shall conduct a pre-assessment of the potential for meeting the qualitative and quantitative supply requirements.

It is the supplier's responsibility to submit the completed "SUPPLIER COMMITMENT TO VIABILITY" form whenever consulted on the development of a new item.

### 9.2. DEVELOPMENT OF NEW PRODUCTS AND PROCESSES

The development of new products or processes must be done according to the AIAG APQP/PPAP manuals version in effect (automotive and aeronautic items); for aeronautic items it may be requested, at Metalac's discretion, the FAI according to the standards in force.

Metalac's purchasing sector will specify that this is an initial sample and will send the necessary documentation for the execution of the sample / pilot lot (including parts when it comes to services) such as: Product Design, Technical Standard and/or Technical Specification, Dimensional Reporting template, etc.

The supplier shall deliver the sample and documents required by Metalac according to the type of product supplied, as specified below:

SUPPLIER QUALITY SYSTEM REQUIREMENTS		
Supply Category	Requirement for initial sample approval and re-submission.	Normal Supply
Automotive Screws		
Raw Material		Quality Certificate
Components		
Surface Treat. Service		
Secondary Operations		Exempt
Heat Treat. Service		
Adhesive and Nylon Patch Services		Quality Certificate

Note 1: When Metalac deems it necessary, it may require from the supplier another level of PPAP submission as a requirement for product / service approval.

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Note 2: For all PPAP level 5 the supplier must inform the responsible for Supplier Management in advance for process follow up.

Note 3: PPAP approvals must necessarily be performed by the Supplier Management Officer; CP's or anyone else from the quality area may only follow and assist in the approval process.

Note 4: For safety features the supplier must meet 1.67 CPk; unless derogation formally negotiated with Metalac.

Note 5: When deemed necessary by Metalac, through Supplier Management, it may request freezing of certain information with the PPAP documentation at the supplier's plant. This freezing will be stamped on a supplier's document and audited during the process audits. Change in these freeze parameters can only be made by the supplier upon formal approval by Metalac according to item 9.3.

## **9.2. INITIAL SAMPLE / PILOT LOT APPROVAL**

The initial samples / pilot lot are inspected by the Metallurgical, Dimensional and Chemical Laboratories, upon receipt within each field of activity.

In the event of sample and/or documentation disapproval, a new sample or documentation correction will be requested or the supplier will be disqualified for this service / product.

Upon approval of the sample and during normal delivery, the supplier shall submit to each delivery lot the documents for normal delivery as indicated in the table above.

## **9.3. NOTIFICATION OF PRODUCT AND PROCESS CHANGE**

The Supplier must notify Metalac 60 days in advance about any need to change the product / process supplied, **the implementation of the change can only be implemented after Metalac and its final customer approval, as applicable. The supplier shall follow the criteria in the AIAG APQP/PPAP manuals for submitting changes.** Metalac shall decide whether the supplier should re-submit the documents for change approval, **if the following situations occur:**

1. Use of a different construction or material than was used in the prior approval of the part.  
Note: In the case of surface and adhesive treatment, raw material means changes in products used as a basis for treatment.
2. Production through new or modified tools (except perishable tools), die, mold, model, etc., including additional or replacement tooling.
3. Production following refurbishment or rearrangement of existing tooling or equipment.
4. Tooling production and equipment transferred from a different or an additional plant.
5. **Change of subcontractor that affects or influences the adjustment, form, function durability, quality or performance of the customer requirements.**

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6. Product provided after tooling has been inactive for production for twelve months or more.
7. Product and process change related to the components of manufactured product production affect the fit, shape, function, performance and/or durability of the product. Additionally, Metalac must agree to any requests from a supplier before submitting to the customer.
8. Inspection / test method change – new technique (does not affect the acceptance criterion).
9. **Change of plant/address and/or corporate name.**

#### **9.4. LAYOUT INSPECTION**

Layout inspection is a complete measurement of all product dimensions shown in the design record (s); and must be performed for each product as specified in the control plan. Results must be available for customer critical analysis.

Group 1 suppliers, who provide automotive products and services, should annually perform a layout inspection covering all specifications defined in the product design, whether dimensional and metallurgical ones, assays and tests.

Records must be kept and made available to Metalac upon request.

**It can be done by product family, as long as it is previously agreed with Metalac.**

#### **9.5. PASS THROUGH ITEMS**

Whether Metalac performs a receipt inspection or not, it is the supplier's responsibility to ensure the quality of the product / service delivered.

However there are some services that cannot be retained awaiting a receipt inspection due to specific characteristics; in such cases, it is the supplier's responsibility to implement a robust inspection and especially a process control system to prevent non-compliant products from reaching the end customer.

## **CHAPTER 10 - DOCUMENT CONTROL, SKILLS, AND DEROGATIONS**

### **10.1. DOCUMENTED INFORMATION CONTROL**

#### **10.1.1. STANDARDS, SPECIFICATIONS AND DRAWINGS CONTROL**

Standards, specifications, drawings and other product-specifying data may be sent electronically to the supplier.

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Supplier shall always use the latest submitted version of the documents to perform production and/or service and discard the obsolete copy whenever it receives an update.

It is the supplier's responsibility to control filing and review of documents under its custody in order to prevent misuse and use of obsolete copies.

When there is an update of any document (standards, specifications and drawings), Metalac engineering will send a documentation update letter along with the document informing the new version, it is the supplier's responsibility to evaluate the change and return it signed within one week, ensuring the application and conformity to its processes and sub-suppliers, as applicable; for aeronautical products the documentation may be sent with each order.

### **10.1.2. RETENTION OF DOCUMENTED INFORMATION AND RECORDS**

Supporting product and process documents and records shall be retained for 15 years as required by the assembly industry.

### **10.2. SKILLS AND AWARENESS**

#### **10.2.1 SKILLS**

The supplier shall provide the necessary competence of the person (s) performing work under its control that affects the performance and effectiveness of the quality management system, the product and process performance, and the quality of the product or service delivered to Metalac.

Competency requirements shall include any required personnel qualifications; including but not limited to:

- a) Training of qualified persons in the awareness and prevention of counterfeit parts;
- b) Product safety training throughout the entire product life cycle, as appropriate to the organization and the product;
- c) Training in the prevention, detection and elimination of foreign objects (FOE).
- d) Qualification of appropriate functions in relation to MASP (Methodology, Analysis and Problem Solving).

  

- e) Qualification regarding requirements:
  - CQI-9 – Heat Treatment Suppliers (Automotive)
  - CQI-11 – Surface (Electroplating) Treatment Suppliers (Automotive)
  - CQI-12 – Surface (Phosphate and Organometallic) Treatment Suppliers (Automotive)
  - NADCAP – Heat Treatment and Surface Treatment (Aeronautical) Suppliers

#### **10.2.1.1 COMPETENCIES OF THIRD PARTY EMPLOYEES WITHIN METALAC**

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For suppliers who perform services within the Metalac plant: The supplier is responsible for ensuring they are competent for the function and trained in all internal procedures related to such activity.

To do so, the supplier must contact the HR department before the employee starts working, in order to verify and perform the applicable required training, thus presenting evidence to Metalac's HR department that skills needs were met.

### **10.2.2 AWARENESS**

The supplier must establish an awareness process to ensure people acting on its behalf and working under its control are aware of the following:

- a) their contribution to product and service compliance;
- b) product and process associated risks;
- b) their contribution to the effectiveness of the quality management system, including the benefits of improved performance;
- c) implications of non-compliance with the product and quality management system requirements;
- d) special characteristics related to the products;
- e) their contribution to product safety, including reporting of events that affect product safety;
- f) developing a risk mindset;
- g) the importance of ethical behavior and compliance with the code of ethics as defined in Item 8 of this manual.

### **10.3. DEROGATIONS**

The Supplier Quality Management area has exclusive and formal assignment for issuing derogations on the technical requirements of this Manual and/or project.

Derogations must be documented and formalized, and no verbal agreements are acceptable.

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## CHAPTER 11 - STANDARD SCREW FOR FRICTION TEST

### 11.1. PROCEDURE

In order to allow the friction coefficient analysis at Metalac and the supplier, the Standard Screw (P288-14 or **P575-17**) was established which, for this purpose, must be treated together with the relevant product in the same bath.

**The PD (Product Design) will inform the need of applying the standard screw, as well as in the FAP (product follow up sheet) in the surface treatment operation.**

The supplier must observe **the DP and FAP** in the relevant process operation whether the standard screw application is requested.

The Standard Screw must strictly enter the bath along with the processed screw and is not allowed to be processed with other process parameters / adjustments before or after product processing.

**The standard screw will be sent to the supplier by the** Metalac receiving department. The supplier will issue an invoice of this material as “free of charge” and the supplier will be responsible for contacting the receiving department **before the material runs out** to make a new request. It is mandatory that the return invoice is issued by the supplier in order for the write-off to be performed in Metalac.

**If the standard screw is missing due to a supplier's lack of request, it will be deducted from the indicator according to item 4.2.6.**

If the product **DP and/or FAP** requests a standard screw and the supplier does not have it, parts should not be processed. The supplier must immediately contact Metalac and place an order.

It is the supplier's responsibility to place the standard screw on the inside of the product bucket for shipment to Metalac.

The standard screw must be sent together with the processed parts (in the bucket), but separated in a plastic bag and **placed inside the bag** and identified with the label according to the model below.

**The bag must be sent inside the bucket.**

**Bag:**

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Identification label

 <b>METALAC</b> <small>Presente em cada movimento</small>		Logo do fornecedor
<b>PARAFUSO PADRÃO</b>		
Fornecedor: <input type="text"/>	Data saída: <input type="text"/>	
NF Fornec.: <input type="text"/>	Data de Processo <input type="text"/>	
Produto: <input type="text"/>	CQ: <input type="text"/>	OF: <input type="text"/>
Tratamento Realizado: <input type="text"/>		
<b>Atenção</b> <ul style="list-style-type: none"> <li>- O fornecedor deverá providenciar 10 peças do parafuso padrão (exceção de Scania e Volvo que são 20 peças), dentro de saco plástico, para ensaio na Metalac.</li> <li>- Na Metalac as peças deverão se coletadas apenas pelo Laboratório Metalúrgico.</li> </ul>		

## 11.2. DEMERITES AND PENALTIES

If failing to do so, and parts are processed and shipped without the standard screw, they shall return to rework free of charge to be processed with the standard screw.

In addition, an internal FNC shall be opened and impact the supplier indicator on IQP<sub>lots</sub> and also on "Other Performance Factors" as per item 4.2.6.

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Prepared by: Marcos Paulo de Araujo Jr		Approved by: Silas E. Pereira	

## Chapter 12 - SUPPLIER IDENTIFICATION, TRACEABILITY AND QUALITY CERTIFICATE

### 12.1. IDENTIFICATION AND TRACEABILITY

The supplier shall have a system capable of performing all product traceability from the product identification data and invoice number to ensure access to all product process information at the supplier plant.

### 12.2. QUALITY CERTIFICATE

For every component and service provided, the supplier must **electronically** submit the quality certificate to e-mails: [qualidade@metalac.com.br](mailto:qualidade@metalac.com.br) [asousa@metalac.com.br](mailto:asousa@metalac.com.br), and [lbarros@metalac.com.br](mailto:lbarros@metalac.com.br).

This certificate must contain all specifications that prove the product quality and the following information:

- Invoice number;
- Supplier's name;
- Part / component code;
- Traceability number (Metalac OF or QC);
- Quantity;
- Result of applicable inspections;
- Approved by;

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## CHAPTER 13 - CONTINGENCY PLAN

### 13.1. CONTINGENCY PLAN

Suppliers must prepare and maintain a contingency plan available to protect Metalac's product supply in the event of an emergency. Metalac may request this plan to the supplier at any time. The plan should address, but not be limited to the following:

Critical Item	Event
Fire	Damage to the life and the Company assets
Natural phenomena	Damage to Company assets
Electricity	Power supply interruption
Water	Water supply interruption
Compressed air	Compressed air system failure
Transport	Transport strike
Transport	Lack of special transport resulting in manpower deficit
Equipment	Key Process Equipment Failure
Equipment	Lack of spare parts for key process equipment
Epidemic	Employees with some kind of epidemic
Paredista Movement	Lack of workforce due to strike
Invoice issuance	Internet shutdown for communication with SEFAZ
Shipping area	Shipping area block due accident or others.
Cyber attacks	cyber attacks on information technology systems

Contingency plans must be annually validated.

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## CHAPTER 14 - ENVIRONMENTAL MANAGEMENT

For the Environmental Management System, the supplier must, even if it is not ISO 14001 certified, have environmental responsibility as one of its working guidelines. Therefore, in order for this system to be disseminated, the concern with pollution prevention, the environmental conditions and the compliance to the relevant environmental legislations must be priorities.

As a recommendation, Metalac encourages its suppliers to implement the requirements below

- Environmental Policy;
- Established Environmental Objectives (Indicators);
- Systematic Management of Environmental Aspects and Impacts established;
- Compliance with Legal Requirements (laws);

In Metalac's GAIA (Management of Environmental Aspects and Impacts) document, some Environmental Aspects and Impacts relevant to the components and/or services purchased were identified, being:

- **Aspect:** Consumption of Natural Resources, Minerals, Lubrication Oil, Fuel Oil, Grease, Natural Gas, Etc.
- **Impact:** Soil contamination, Water contamination, Air contamination, depletion of natural resources.
- **Mitigation:** As a measure to reduce and control the impact generated, the component acquisition process follows the approval systematics based on Metalac product development procedures and the AIAG reference manuals. All components have IMDS approval, which restricts the acquisition of products with restricted and/or prohibited materials, as well as the tracking of conflict minerals for the main automotive customers. Thus, demonstrating the concern with the Product Life Cycle.

Thus, the supplier is responsible for ensuring that all the waste generated during its acquisition, production and delivery process is controlled and sent for recycling, landfill and/or environmental treatment appropriate to the type of waste generated, with companies that meet the applicable environmental laws.

For sub-suppliers whose part supplied to Metalac has Scania as final customer, the sub-supplier MUST be ISO14001 certified.

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## Supplier Acknowledgement

*To be returned by suppliers via e-mail to: [qualidade@metalac.com.br](mailto:qualidade@metalac.com.br)*

### Confirmation:

We hereby confirm that we have received and understood the Metalac Supplier's Quality Manual - Rev. below.

We agree to meet the requirements at all of our Metalac product work facilities and to extend the requirements of this manual to our suppliers; we also agree and give plant access to client Metalac and regulatory agencies whenever necessary.

We understand that it is our responsibility to ensure that only the latest version of this manual is used, rendering previous versions unusable whenever an updated version is received.

We acknowledge that it is our responsibility to always use the latest submitted version of the documents to perform production and/or service and to discard the obsolete copy whenever we receive a new update.

We also understand we are responsible for providing this manual in current and future facilities working with Metalac products.

We understand that any point we do not agree with regarding the Metalac Supplier's Quality Manual should be negotiated through formal waiver with the Supplier Management sector.

**Supplier's name:**

**Contact name:**

**Contact phone:**

**Contact e-mail:**

**Position/Area:**

**Date:**

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### Signature

*Note 1: Signature by the authoritative board member*

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