SUPPLIER MANUAL



10th Edition – June/2015





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TUPY



Summary

8 th Edition – July/20141			
1. PRES	ENTATION	6	
1.1.	THE COMPANY	6	
1.2.	MISSION	7	
1.3.	VISION	7	
1.4.	VALUES	7	
10.1.	MANAGEMENT POLICY	8	
10.2.	ADDRESS OF TUPY UNITS1	0	
10.3.	PURPOSE OF THE MANUAL	1	
10.4.	MANUAL SCOPE1	1	
		2	
11. 3011	SUDDI IERS/ITEM DEVELOPMENT ELOW	2	
11.1.	SUDDI IER REGISTRATION FORM	۔ م	
11.2.	COMMERCIAL ASSESSMENT	- 1	
11.4. 2.4.1 2.4.2 2.4.3 2.4.4	ENVIRONMENTAL ASSESSMENT 1 Assessment of the Environmental Management System 1 Environmental Audit 1 Environmental Operating License: 1 Transportation of Dangerous Products 1	4 4 5 5 6	
11.5. Appli	OCCUPATIONAL SAFETY ASSESSMENT	6 6	
11.6. 2.6.1 2.6.2 2.6.3 2.6.4	ASSESSMENT OF THE SUPPLIER QUALITY SYSTEM	6 7 7 7	
<i>11.7.</i> Appli	FINANCIAL ANALYSIS	8 8	
<i>11.8.</i> Appli	HUMAN RESOURCES ANALYSIS	8 8	
<i>11.9.</i> Appli	LEGAL DEPARTMENT ANALYSIS	8 8	



11.10.	POTENTIAL ANALYSIS	19
2.10	0.1 Risk Analysis;	
2.10	0.2 Process Audit	
11.11.	SUPPLIER APPROVAL	20
11.12.	SUPPLIER RE-ASSESSMENT	
12. PRC	DUCT APPROVAL PROCESS	21
3.1. PP.	AP (Production Part Approval Process)	21
3.1.	1 PPAP Requirements	21
3.1.	2 PAPP Retention/Submission Requirements	
3.1.	3 IMDS - International Material Data System Restricted Substances	
3.2	MATERIAL DEVELOPMENT	
3.2.	REACH – Registration, Evaluation, Authorization and Regulation of Chemicals	23
3.3	PRODUCT APPROVAL	23
13. PER	FORMANCE MONITORING AND ASSESSMENT AND ACTION ON THE SUPPLIER	24
4.1	REQUIREMENTS FOR THE PRODUCT	24
4.1.	1 Material Analysis Certificate	24
4.1.	1.1 Certificate Content:	25
4.1.	1.2 Address of the Recipient	25
4.1.	Product Identification	
4.1.4	4 Products Owned by the Customer:	
4.1.	5 Package	26
4.1.	6 Product Protection	27
4.2	NONCOMPLIANCES	27
4.3	AWARENESS ABOUT NONCOMPLIANT PRODUCTS	27
4.4	DEVIATION REQUEST	27
4.5	HANDLING OF NONCOMPLIANCES	28
4.6	THE TEN COMMANDMENTS OF CORRECTIVE ACTION	29
4.7	CONTAINMENT ACTIONS	29
4.7.	1 Containment of the parts that are at Tupy	30
4.7.	2 Containment in parts that are in the supplier's plant	
4.8	SCRAPING	
4.9	CONTROLLED SHIPPING	
4.9.	1 Determination of the Need for Controlled Shipment	
4.9.	2 Communication of Ingress in Controlled Shipment	
4.9. 1 Q	Controlled Shipment Level I Controlled Shipment Level II	
4.9.	5 Identification Label	



4.9.6	Sending of the Results	32
4.9.7	Criteria to Leave Controlled Shipment	32
4.10	PERFORMANCE INDICATORS	33
4.10	1 Monitoring Graphics	
4.10	2 Metas de Qualidade	
4.10	4 Monitored Products Family (Compare the current families to the new ones)	
4.11	CRITERIA FOR TAKING ACTION	
Stage	e 1 – Monitoring	35
Stage	e 2 – Meeting with Tupy Executive Board	36
Stage	e 3 – Period of Implementation of the Action Plan	
Stage	e 4 - Restart of the Monitoring	
Stag	e^{5} – Period of implementation of the action plan	36
Stag	e 7 - Restart of the Monitoring	
-		
2. SUPI	PLIER QUALITY SYSTEM DEVELOPMENT	
2.1.	Recommendations for the Quality System Development	37
2.2.	Supplier Quality Structure	
3. SUPI	PLIERS' RESPONSIBILITIES	
3.1.	Manufacturing Process Monitoring	38
3.2.	Continuous Improvement	
3.3.	Confidentiality	
3.4.	Contingency Plans	
3.5.	Modification of Product Specification and/or Approved Process	
3.6.	Social Responsibility	
3.7.	Commercial Conduct	40
3.8.	Environmental Responsibility	41
3.9.	Safety and Environmental Requirements for the Product	41
3.10.	Hazardous and Controlled Products	41
3.11.	Update of Certifications	42
3.12.	Environmental License:	43
3.13.	Logistics Commitments with Tupy	43
3.13	.1. Application	43
3.13	.2. Electronic files:	43
3.13	.3. Logistics commitments:	44
3.13	.4. Logistics incidents:	44



	3.14.	Waste	44
4.	SPEC	CIFIC REQUIREMENTS FROM CUSTOMERS	45
	4.1.	QSB	45
	7.2. CC 7.2.1 7.2.2	2/ 09 L. Suppliers of heat treatment services for automotive parts 2. Suppliers of Machining Services and Components	45 45 45
	7.3.	CQ/ 11	45
	7.4.	CQ/ 12	45
	7.5.	Ores from Conflict Zone	45
8.	СНА	NGES	46
Ed	ition 06		46
Ge	eneral R	evision	46
Ed	ition 07		46
lte	em 4.1.1		46
lte	em 4.11		46
Ed	ition 08		46
lte	em 1.5		46
lte	em 2.3		46
9.	GLO	SSARY	47
10	. SUG	GESTED LITERATURE	51

1. PRESENTATION

1.1. THE COMPANY

Tupy is a Brazilian multinational foundry, leader on the market of iron blocks and heads in the western hemisphere. Tupy develops and produces cast and machined components for the automotive sector and



also serves various segments of the industry and civil construction, producing malleable cast iron pipe fittings, shots and grits and continuous cast iron bars.

Founded in 1938, Tupy has two manufacturing plants located in the southern area of Brazil, in the cities of Joinville/SC and Mauá/SP, and two in the state of Coahuila, Mexico, in the cities of Saltillo and Ramos Arizpe. With production capacity of 848 thousand tons per year, Tupy sold approximately 67% of its production to the foreign market in 2013, and it recorded net income of R \$ 3.1 billion.

1.2. MISSION

Contribute to the success of its shareholders and customers by providing casted, machined products and high-value services, while contributing to achieve employees' objectives and supporting the communities in which it operates.

1.3. VISION

Be the global leader in the iron foundry and machining industry, with a differentiated business of high technology components and industrial hydraulics. Recognized for being:

- customers' first choice,
- preferred employer,
- attractive to capital markets.

1.4. VALUES

2. People

We value, recognize and develop people aiming their personal and professional growth. We consider essential teamwork, trust and respect for diversity of opinion.

3. Health and safety

We believe that nothing is so urgent or important that it can be done without observing safety standards or with damage to health.

4. Economic excellence

We continually deliver exceptional results to our shareholders, motivating them to maintain and increase their investment in the company.





- 6. Customer focusWe are committed and prioritize customer service in terms of quality, delivery and services.
- 7. Integrity

We act in an honest and loyal manner to the organization, complying with legislation and observing the Tupy Code of Ethics.

8. Commitment

We act with passion, responsibility and sense of urgency, with the collaboration of all functional areas in pursuit of expected results for the organization.

- 9. Communication We promote timely, open and transparent communication with all stakeholders.
- 10. Learning and Innovation

We value learning and innovation at all levels, through internal and external exchanges of knowledge and seek solutions for continuous improvement.

10.1. MANAGEMENT POLICY





POLÍTICA DE GESTÃO

ΠΡΥ

SAÚDE, SEGURANÇA, MEIO AMBIENTE, RESPONSABILIDADE SOCIAL E QUALIDADE

No que diz respeito aos assuntos disciplinados por esta política, a Tupy, fabricante de produtos fundidos, usinados e serviços - com unidades no Brasil, em Joinville/Santa Catarina e Mauá/São Paulo, e unidades no México, em Saltillo e Ramos Arizpe, deverá:

- · Valorizar, reconhecer e desenvolver as pessoas;
- · Realizar as suas atividades sem prejuízo à saúde, de forma segura e consciente, prevenindo riscos;
- · Entregar continuamente resultados excepcionais aos nossos acionistas;
- · Exigir o melhor dos fornecedores internos e externos;
- Atuar na sustentabilidade ambiental, otimizando a utilização de recursos naturais, reduzindo emissões para o meio ambiente, prevenindo a poluição e contribuindo para o bem-estar das comunidades em que operamos;
- · Atender à legislação, normas e demais requisitos aplicáveis;
- · Priorizar a satisfação e a superação das expectativas do cliente em termos de qualidade, entrega e serviços;
- · Assegurar a atuação corporativa ética e socialmente responsável;
- · Promover a comunicação oportuna, aberta e transparente com todos os públicos;
- · Valorizar a aprendizagem e a inovação e buscar soluções para a melhoria contínua do Sistema Integrado de Gestão;
- · Agir com responsabilidade, senso de urgência e colaboração.

Luiz Tarquínio Sardinha Ferro Presidente

Rev. 03 - Jun. 14





10.2. ADDRESS OF TUPY UNITS

Joinville Unity

Rua Albano Schmidt, 3400 89227-901 – Joinville / SC – Brasil Caixas Postais: D-301 e 33 Telephone: (47) 4009-8181 Fax: (47) 4009-8288 Total area: 1,208,000 m²

Mauá Unity

Avenida Manoel da Nóbrega, 424 09380-120 – Mauá / SP – Brasil Telephone: (11) 2763-9800 Fax: (11) 2763-9811 Total area: 100,000 m2

Saltillo Plants 1 y 2

Blvd. Isidro López Zertuche 4003 Zona Industrial Saltillo, Coahuila, Mexico CP 25230 Telephone: +52 (844) 4112000

Ramos Plant (Technocast)

Carretera Mty-Saltillo Km 21.5 Ramos Arizpe, Coahuila, Mexico CP 25230 Telephone: +52 (844) 8660600

website: www.tupy.com.br







10.3. PURPOSE OF THE MANUAL

This manual:

- :: Formalizes activities between Tupy and its Suppliers;
- :: Contains the procedures, requirements and recommendations for the following activities:
 - . Development of new suppliers, materials and production services;
 - . Purchase of materials and services;
 - . Monitoring of supplier performance;
- :: Promotes the development and continuous improvement of Suppliers;
- :: Complies with international standards and customer requirements.

10.4. MANUAL SCOPE

This manual applies to material/service suppliers that have direct impact on the quality of Tupy products, approved or under development. Which includes the following groups:

Raw material Supplier/Manufacturer

Definition: Materials specified by Tupy Technical Standards which, after their processing, are incorporated into the final product.

Scrap Metal

Definition: Recycled material specified by technical standard.

Components

Definition: Finished goods, specified by drawings, which are mounted onto Tupy products in the Machining line.

Process material

Definition: Materials specified by Tupy Technical Standards, required by the manufacturing process, which are not incorporated into Tupy products.

Foundry Accessories

Definition: Materials specified in drawing which take part in the manufacturing process, but are not incorporated into Tupy products.

Service provider in External Environment on Tupy Part

Definition: Services performed on Tupy parts specified by standards or drawings.

Transportation Services

Definition: Services performed to transport supplier materials or Tupy products.





Calibration Services

Definition: Companies that provides services for calibration and maintenance of measuring instruments, devices and equipment.

Packages

Definition: Materials used in packaging process of Tupy product.

Foundry Tools

Definition: Companies that project and manufacture foundry tools.

Foundry, Finish and Control Devices

Definition: Companies that project and manufacture of Devices. Note: For suppliers which have a supply contract with Tupy, the clauses established in contract shall prevail.

MRO Supplier

Definition: Integrators of electrical, safety, mechanical and construction materials, chemicals, rolling bearings, and hydraulic and pneumatic materials.

11. SUPPLIER AND MATERIAL DEVELOPMENT PROCESS

11.1. SUPPLIERS/ITEM DEVELOPMENT FLOW

The chart on the following page shows the steps for the development of the supplier/item. The documentation exchanged between Tupy and the supplier may vary according to the family of the item to be supplied:







[13]





11.2. SUPPLIER REGISTRATION FORM

During pre-selection, the **Supplier Registration Form - Model 31274** will be sent to the supplier, requesting information and documents from the supplier. This information will be evaluated by the responsible areas at Tupy in order to check the compliance with the minimum supply requirements.

Double click the icon below to view the supplier registration form.



11.3. COMMERCIAL ASSESSMENT

Based on the registration form, the Supply Department evaluates the following commercial requirements:

- :: Period of time the company has been established
- :: SERASA (credit bureau list of people and companies that fail to pay a debt)
- :: Articles of incorporation and bylaws
- :: Location permit
- :: State Tax ID
- :: Simplified company certificate or registration in notary office.

11.4. ENVIRONMENTAL ASSESSMENT

Based on the registration form, the suppliers will be evaluated to verify the compliance with the following environmental requirements:

2.4.1 Assessment of the Environmental Management System

Application:

This requirement is applicable to the following groups of production services:

- :: Painting;
- :: Galvanizing;





- :: Machining;
- :: Finishing

Tupy wishes the suppliers of these categories to be certified as per ISO14001 standard by a third party entity (BV, DNV, SGS, BSI, Vanzolini etc.).

If the supplier is certified, it will be exempt from the environmental audit, and it must send the certificate to the Supplier Development Department.

2.4.2 Environmental Audit

If not certified according to ISO 14001, in the approval stage and/or after the approval, an environmental audit may be performed in the supplier's plant in order to verify the compliance with the following requirements:

• Environmental Management: Implementation of the environmental management system, investments;

- Legal Requirements: compliance with the legal requirements, environment licenses;
- Solid Waste Management: Classification of waste according to NBR 10.004 and management: segregation, collection, storage, disposal and compliance with the legislation;

• Hydric Effluents Management: Characterization, segregation of sanitary and industrial hydric effluents and respective treatment systems, analysis and monitoring of the standard established by the legislation in force;

• Atmospheric Emission Management: Characterization of the atmospheric emission sources and respective treatment systems and monitoring system of the legal standards of air quality in force;

• Noise/Vibration Management: Identification, monitoring, control system and compliance with the legal standards in force;

• Natural Resource Management: Monitoring and reduction or optimization of the use of natural resources;

- Environmental Liability Management: Identification of the existence of environmental liabilities, points of contamination and monitoring;
- Compliance with the conditions of the environmental license.

2.4.3 Environmental Operating License:

This requirement is applicable toe the following groups:

:: Raw Materials;

:: Process Material;

:: Foundry Accessories and Components.



The supplier is required to send the Environmental Operating License, which is mandatory to supply to Tupy.

2.4.4 Transportation of Dangerous Products

For suppliers that provide transportation services of dangerous products (waste, chemicals and flammable products), the following requirements must be observed:

:: Keep Internal Self-Inspection Program and Correct Fleet Maintenance (Diesel Vehicles) as required by IBAMA Directive 85/1996;

:: Keep external emergency action plan;

:: Identification of vehicle(s) according to ANTT Resolution 420/2004 and NBR 7500/2013;

:: Driver Qualification (training for handling and operation of dangerous products) according to ANTT Resolution 420/2004;

:: Environmental License for Transportation of Dangerous Products;

:: Environmental authorization of IBAMA (Brazilian Institute of the Environment and Renewable Natural Resource) for interstate transportation of dangerous goods, if applicable.

11.5. OCCUPATIONAL SAFETY ASSESSMENT

Application

Requirement applies only to providers of services on Tupy parts in internal environment.

Based on the registration for of the supplier, the supplier will be evaluated for compliance with the requirements described in the following documents:

- :: ERPP (Environmental Risk Prevention Program)
- :: TRWEC (Technical report of the work environment conditions

:: OHMCP – Occupational Health Medical Control Program

11.6. ASSESSMENT OF THE SUPPLIER QUALITY SYSTEM

2.6.1 Certification of the Quality Management System

Based on the registration form, the compliance with requirements of the quality management system will be evaluated, as described below:





2.6.2 ISO 9001 Certification

ISO 9001 certification by a third party accredited entity is required for the suppliers of the following groups:

:: Raw Materials (materials that are part of the chemical composition of Tupy parts). Note: Except for suppliers of scrap, which are considered suppliers of recycled materials.

:: Process material, foundry accessories, machining tools, laboratory items, packaging and nonproductive services: It is encouraged the ISO 9001 certification by an accredited third party entity. It will be considered an advantaged in the decision making process for supply. Certified suppliers will have priority.

2.6.3 ISO TS 16949

It is encouraged the development of the Quality Management system based on ISO/TS 16949 for the following groups:

:: Automotive Components (Products supplied ready to be assembled onto Tupy products in the machining line, such as screws, valve guides, cylinder sleeves and rolling bearings.)

:: Productive Services (Painting and Machining of Tupy products.) Note: The mandatory certification by a certifying body based on ISO 9001 is the first step to accomplish this objective.

2.6.4 ISO/IEC 17025

In order to supply services that involve activities related to the scope of ISO/TS 16949, the Laboratories of Calibration and Testing Services must be Accredited by the Brazilian Calibration Network (RBC/Inmetro), Anfavea Calibration Network or a national equivalent (Ukas, Cofrac, Namas, etc.).

The Laboratories that supply services that do not include activities related to the scope of ISO/TS 16949 (for example, ISO 9001, ISO 14001 and Occupational Health and Safety) do not have to be accredited by RBC/Inmetro or national equivalent. Nonetheless, they must be evaluated by the Metrology Laboratory by means of form model 40.446 (based on NBR ISO/IEC 17025), or by means of a self-assessment, and it is up for the Metrology to request evidences of compliance and, if necessary, make a formal visit.

In this case, Tupy Metrology Laboratory must have the following documents: :: Copies of the ISO/IEC 17025 or RBC/RBLE or Assessment Registration according to NBR ISO/IEC 17025, Model 40,446;





:: Copy the scope of the laboratory; and

:: Copy of the certificates of the standards used in the respective services (for non-accredited suppliers only).

11.7. FINANCIAL ANALYSIS

Application

This item is applicable to all suppliers.

Based on the registration form, the supplier will be evaluated for compliance with the requirement: ::Enquiry to Serasa (credit bureau list of people and companies that fail to pay a debt).

11.8. HUMAN RESOURCES ANALYSIS

Application

This item is only applicable to service suppliers in internal and external environment on Tupy parts. Based on the registration form, the supplier will be evaluated for compliance with the following requirements:

:: Federal certificate of good standing from the Treasury Department - Social Security Debts :: Certificate of Good Standing with FGTS (Employment Security Fund) and CEF (federal bank that

:: Certificate of Good Standing with FGTS (Employment Security Fund) and CEF (federal bank that administrates de FGTS)

Receipt of payment of social security contributions by the employees and employer
 GFIP – Complete with list of employees (document listing the payments of the FGTS-Employment Security Fund and providing information to the Social Security).

11.9. LEGAL DEPARTMENT ANALYSIS

Application

This item is only applicable to service suppliers in internal and external environment on Tupy parts.

Based on the registration form, the supplier will be evaluated for compliance with the following requirements:

- :: Certificate of good standing for labor debts
- :: Labor lawsuit certificate
- :: Certificate of good standing for federal debts Treasury Department







11.10. POTENTIAL ANALYSIS

The potential analysis is performed based on the procedures described in CQI 19 and VDA 6.3. It is used to evaluate new and unknown suppliers, plants and technologies and, if necessary, the development potential of the supplier's process. The potential analysis is also used prepare the submission of the order, based on comparable manufacturing processes and products.

The analysis of positive potential is not necessarily linked to the issue of the order; however, a negative analysis excludes the submission of the order.

The potential analysis is composed of two phases:

:: Risk analysis;

:: Process audit.

2.10.1 Risk Analysis;

The risk analysis is performed in order to detect potential risks regarding the future supply of the potential supplier. It has questions based on the CQI 19 standard.

Double click on the following link to view the risk analysis form.



Analise de Risco.xlsx

2.10.2 Process Audit

The audit process is performed based on the selected questions of the elements P3 and P5 to P7 of the VDA 6.3.

In this step, the supplier will be evaluated by the supplier development department by means of the audit process to be held in the premises of the supplier or by means of self-assessment.

The supplier is evaluated according to the following requirements:

:: Planning of Product and Process Development: Verification of issues relating to the item in the planning phase.

:: Suppliers / Raw Material: Approval of suppliers and purchased materials, storage, identification and quality of purchased materials, handling of materials received from customers;



:: **Production / Stages of Manufacturing:** Batches/quantities, Means of production/installation, product handling, storage, packaging, means of measurement, defect analysis, corrective/preventive actions and continuous improvement;

:: Quality Before the Costumer: Customer support, handling and response to complaints and specific requirements.

The assessment is based on the Process Audit form – Suppliers – Model 31.189-16 (double click the icon below to view the form).



11.11. SUPPLIER APPROVAL

After the analysis has been performed by the relevant areas, the supplier may be approved if it meets the minimum requirements in the pre-selection phase.

The supplier will be considered approved if all the assessments described above approve the supplier. Otherwise, if one of the assessments fails, the supplier may be conditionally approved according to decision of the group.

11.12. SUPPLIER RE-ASSESSMENT

Accredited suppliers that have not supplied for more than two years shall undergo new assessment.







12. PRODUCT APPROVAL PROCESS

3.1. PPAP (Production Part Approval Process)

This requirement applies to suppliers of Components and Machining and Painting Services.

The approval of the sample must obey the conditions of the latest edition of the PPAP (Production Part Approval Process) Manual. Unless otherwise specified, the supplier must use level 3 as the default for all submissions.

Tupy reserves the right to request additional requirements regarding the submission of the PAPP from the supplier for a specific product or application.

The objective of the Production Part Approval Process (PPAP) is to determine whether the requirements of Tupy engineering specification are properly understood by the supplier and whether the process developed for a specific product has the potential to produce the product consistently the specified production rate.

Questions related to specific requirements of the PPAP must be forwarded to Tupy representative in charge.

The supplier must obtain the PPAP approval by Tupy in the following situations:

- A new part or product;
- Correction of a discrepancy on a part previously sent;
- Product modified by an engineering change (e.g.: drawings or materials);
- All changes or activities that affect the fitting, shape, durability or performance of the product or assembly;
- Manufacturing process and location changes.

3.1.1 PPAP Requirements

Parts sent with the PPAP must be taken from a batch of significant production. This phase must be normally one hour to one production shift long, with the specified amount of production with at least 30 consecutive parts. Any difference must be discussed with Tupy Quality department. This production phase must be conducted at the production site, at the production rate, using production tooling, production gauges, production process, production material and production operators. In the case of bulk material, the amount produced must be from a batch during linear operation of the process.



During the PPAP phase, any result out of specification is a reason for preventing the sending of a PPAP sample part/product, documentation and/or records. When this occurs, Tupy must be notified immediately and the supplier must fix the process. If, upon receiving the request to quote the item, the supplier deems itself unable to meet the PPAP requirements, Tupy must be contacted before the sending of the quote to determine the most appropriate corrective action.

3.1.2 PAPP Retention/Submission Requirements

The supplier must generate and keep detailed documentation as defined by the PPAP (Part Approval Process Production) Manual in its latest edition, regardless which documents are submitted to Tupy. We are requesting an update annually PPAP document (PRODUCTION PROCESS PARTS OF APPROVAL) for all components and machined parts supplied on the last year.

The PPAPs have to be forwarded to the email address: gestaofornecedores@tupy.com.br always in March.

The reason for this request is to keep our system updated.

We make a request for all PPAPs that were sent already, have to be send the PSW again with the update date.

3.1.3 IMDS - International Material Data System Restricted Substances

In order to meet the requirements of our end customers and the Directive of the European Community (*Directive, 2000/53/EC (End-of-Life Vehicle*) regarding the prohibition and/or restriction of use of heavy metals, such as Mercury, Cadmium, Lead and Hexavalent Chromium on vehicles and vehicle parts, suppliers must, when applicable, register the raw material and its chemical composition in the IMDS (www.mdsystem.com) and make the declaration of conformity when developing new items or replacing raw material and/or changing processes, and any other situations to which this requirement applies and/or when required by Tupy.

In order to send the IMDS registration, use the **ID 7096.** The submission of this requirement has become part of the PPAP documentation and is mandatory requirement for approval.

3.2 MATERIAL DEVELOPMENT

Requirement applicable to the development of Raw Materials, Process Materials and Foundry Accessories.

The first batch of these materials must be delivered identified as described in item 4.1.7, and the supplier must simultaneously send to the proper Technical Department the following documents:

• Technical Bulletin;





- Safety Report (CPSDS Chemical Product Safety Data Sheet);
- Material Quality Certificate.

3.2.1 REACH – Registration, Evaluation, Authorization and Regulation of Chemicals

All suppliers of products to the European market must comply with the REACH EC 1907/2006 legislation - the rules and sheets can be found at the European Chemicals Agency (ECHA) website: http://echa.europa.eu/home_pt.asp

Information required for new developments:

- 1) The contact person responsible for the REACH subject (representing all production units different tax IDs) name, company, phone and e-mail.
- 2) The Chemical Composition substances present in products supplied to us, including your CAS number unique identifier of the substance (see www.cas.org) and its average percentage in the composition. Also inform the product weight (kg).
 For supplicity of notice product weight (kg).
 - For suppliers of polymeric materials, inform the monomer used.
- 3) Inform the substances that do not require pre-registration/registration. For this task, ECHA released a "browser" that can be accessed at the following address and it simplifies the process: http://reach.jrc.it/navigator_en.htm

3.3 PRODUCT APPROVAL

After the item has been evaluated by the involved areas regarding the technical, commercial, quality, environmental and safety requirements, it may be approved. In case one of the areas does not approve it, approval will be subject to the assessment of the group.

Upon being approved, the supplier will receive the technical standard with the requirements for the product (Item applicable to suppliers of Raw Materials and Process Materials).







13. PERFORMANCE MONITORING AND ASSESSMENT AND ACTION ON THE SUPPLIER

The system used to monitor and take actions in relation to the supplier is shown in the following figure:



4.1 REQUIREMENTS FOR THE PRODUCT

4.1.1 Material Analysis Certificate

All material delivered to Tupy must have a Material Analysis Certificate or Inspection Report, except for abrasive materials and machining tools.

The absence of the document may is a reason for rejection or conditional release of the of the product. It is important to note that the batch without its respective certificate or inspection report will imply demerit in the MQI - Material Quality Index.





4.1.1.1 Certificate Content:

The Quality Certification shall include, at least:

a) Shipment data:

- . Supplier batch number;
- . Product description and code;
- . Invoice;
- . Quantity.

b) Product data:

- . Material;
- . Data on the inspection performed;

. Result of the measurements of the controlled characteristics as specified in the Tupy Technical Standards or drawing.

4.1.1.2 Address of the Recipient

The Material Quality Certificates must be sent by e-mail to avoid inconveniences, such as delay/failure to send or losses, and also to facilitate the filing process.

Therefore, the certificates must be sent to the following addresses:

Mauá Unity: insprec_maua@tupy.com.br

Joinville Unity: insprec@tupy.com.br

Saltillo Plants lizbeth.almaraz@tupy.com.mx, inspeccion.recibo@tupy.com.mx

Ramos Plant carmen.alvarez@tupy.com.mx

Attention: The certificates must be sent on the material shipment date or in advance to ensure that, when the receipt inspection is performed, the certificate is at hand to approve and release the material.





4.1.2 Calibration Certificate

The means of measurement must be delivered with the calibration certificates.

4.1.3 Product Identification

Unless otherwise specified in Tupy Standard Technical Specification of the item, the supplied product or part must be identified with at least the following information:

- Supplier's name;
- Product description;
- Tupy part or product code;
- Expiration date (if any) must be legible and prominent;
- Batch number;
- Quantity.

4.1.4 **Products Owned by the Customer:**

Tools, Equipment and Products Owned by Tupy and/or Customers

The products supplied by Tupy and/or customers (products, tools, means of testing, packaging, transportation) must be identified and marked as "Property of Tupy" and must be controlled in order to allow a quick check of their location and conservation conditions. For tools owned by the end customer, identification shall be as agreed with Tupy. It is responsibility of the supplier to inspect, store, transport, handle, preserve the quality (expiration date) and identify the property.

4.1.5 Package

The supplier must develop along with Tupy the package so as to ensure the integrity of the product supplied, simplifying handling and storage. It must be previously approved by the Environment, Safety and Occupational Health department, because it must observe limits of capacity, form, identification and other applicable legal requirements. It encouraged the use of reusable and recyclable materials. For wood packages, the supplier must meet the requirements of ISPM 15 - International Standard for Phytosanitary Measures - and perform the phytosanitary treatment.





4.1.6 Product Protection

Item applicable to suppliers of scrap and other materials used in induction furnaces.

Note: Scrap codes: 100416, 105516, 100032, 19123, 100097.

The materials described above must be transported appropriately so as to ensure that the materials will not get wet during transportation. Failure to comply with this recommendation generates risk of explosion during application, with fatal accidents.

4.2 NONCOMPLIANCES

It is considered noncompliance subject to the issue of noncompliance report and penalty in the supplier's performance indicator:

- Product documentation incorrectly sent or not sent as requested. E.g.: Material Quality Certificate;
- Material shipped with some characteristic that does not meet technical specifications;
- Expired materials;
- Mixed products;
- Damaged packages;
- Incorrect identification;
- Failure to comply with agreements made with Tupy.

The noncompliances below are not subject to noncompliance report, but are subject to action plan and penalty in the performance indicator.

- Early/late delivery;
- Excess/insufficient amount;
- Delay in responses.

4.3 AWARENESS ABOUT NONCOMPLIANT PRODUCTS

The supplier must promote internal awareness of the implications of shipment of noncompliant products, rework at the customer's premises, downtime and costs involved as a result of faults at the supplier.

Forms to raise awareness may be evidenced in process audits.

4.4 DEVIATION REQUEST



It is considered product with deviation the product that has been produced, or that for any reason needs to be produced, with some characteristic noncompliant with Tupy specifications.

Products with deviations can only be shipped upon negotiation and release from the relevant technical department. In order to do so, the supplier must request and fill out the Request of Approval for Deviation/Change of Product/Process Approval form - Model 31.365-2 and send it to the Supplier Development department. (Double click the icon below to access the form)



Aprovação de Devio Alteração

4.5 HANDLING OF NONCOMPLIANCES

In the event of noncompliance, the supplier receives the SNCR - Supplier Noncompliance Report in order to determine the root cause of the problem and establish definitive corrective actions.

These 8D report need to be answer on the deadline requested. All delays will be a demerit on

the SQI according information's below:

- 1) IRP according deadline
- 2) IPC according criteria below:
 - a. Procedimentos Tupy
 - b. Agilidade

Besides, action will be apply even occur:

Deadline above of 30 days – supplier New Business On Hold

Deadline above 60 days - we will start with disqualification Process

Unless otherwise provided in the contract, it is responsibility of the supplier:

• Selection, removal and replacement of the noncompliant material delivered to Tupy;

• Retention and re-inspection of products corresponding to non-conformities, in transit or at the premises of the supplier;

- Prompt action to solve the problem;
- Compensation for damages and downtime
- Compensation of costs resulting from the quality deviations caused by faults.





4.6 THE TEN COMMANDMENTS OF CORRECTIVE ACTION

Tupy expects that suppliers, in case of receiving the SNCR, observe the following commandments:

1) Never analyze a NCR without the participation of the operators involved.

2) RNCs must not be answered in meeting rooms – they must be answered where the problem occurred.

3) Neither is lack of training of the operator accepted as a root cause, nor is the re-training of the operator, awareness, etc. accepted as a corrective action. These are indications of lack of depth in the analysis. They can be complementary actions, but not the main one.

4) Studying, verifying, analyzing, reviewing, etc. are not accepted as corrective action. These are steps necessary to reach the corrective actions and should not be mistaken by them.

5) Time limit of 24h to define containment actions and 5 working days for filling out the NCR in the system, including corrective actions – it a is commitment.

6) Containment actions are those that ensure that other defective parts will not reach the customer until implementation and verification of corrective actions. For this purpose, the review of stocks is not enough – this is just a first step. All other batches MUST be inspected and the parts properly identified (with a Blue or Green mark). The boxes (packages) MUST also be identified in order to facilitate handling at Tupy plant.

7) If the Production Managers do not participate in the NCR, they must at least know the root cause and monitor the implementation of the containment actions and corrective actions.

8) Only complaints in which the complaint and the root cause are the same can be grouped in the same NCR.

9) For each RNC the root cause (source of the problem) and the cause for non-detection (because the problem was not detected) must be analyzed, as well as corrective actions must be taken for both.

10) If 100% inspection is defined as containment action, the location and necessary resources regarding devices, documentation, labor, organization, etc. must be discussed and specified. Cases of rejection must be recorded and analyzed, and we must be able to track who released each part.

4.7 CONTAINMENT ACTIONS





4.7.1 Containment of the parts that are at Tupy

If problems occur in the application of the supplied material, the supplier may be requested, according to Tupy's decision, to perform immediate containment at Tupy or to hire an outsourced company, at Tupy's discretion (according to letter of explanation from internal service provider company), to perform 100% inspection.

After the initial containment of the suspicious batches at Tupy plant, as described above, Tupy will inspect 20% of the three following batches by hiring an outsourced company, which will set the charges directly with the supplier.

If the outsourced company detects recurrence of the problem in the 20% sample of the inspected batch, the supplier will go into controlled shipment level 1 (See Item 7) and this batch will be 100% inspected.

4.7.2 Containment in parts that are in the supplier's plant

Upon being notified of the problem, if there are parts in stock at the supplier's plant, it is expected that the supplier performs 100% inspection on this product. These parts have to be identified by the suppliers as "100% Inspected" batches.

4.8 SCRAPING

If necessary, the noncompliant material can scrapped at Tupy. This must be negotiated with contacts in the Supplier Quality Management department.

Tupy reserves the right to return or dispose of the noncompliant material in the way that presents the best cost effectiveness when this is not timely done by the supplier, for example, due to return shipping costs.

4.9 CONTROLLED SHIPPING

4.9.1 Determination of the Need for Controlled Shipment

If the company's corrective actions are not effective, Tupy will determine the need for controlled shipment. One or more of the following aspects can be considered when determining the implementation of controlled shipment:

- Defect(s) detected at Tupy;
- Recurrent faults;





- Downtime and/or major interruptions in line;
- Severity of the problem;
- Inadequate containment action allowing the noncompliant parts to reach TUPY or its customers.
- Non-capable production process.

Based on the problem severity, Tupy will decide whether Level I or Level II will be the most suitable.

4.9.2 Communication of Ingress in Controlled Shipment

Tupy Supplier Quality department notifies the supplier's responsible person, requesting a written acknowledgement (Double-click the attachment below to view the letter of controlled shipment).



4.9.3 Controlled Shipment Level I

The supplier implements at its plant the process of 100% inspection to ensure the supply of parts without defect.

4.9.4 Controlled Shipment Level II

If non-conforming parts are identified in the system of shipment Level 1 at Tupy, the supplier will be placed in Shipment Level 2 automatically.

In this case, the inspection of the products is carried out in the premises of the supplier or at Tupy by an outsourced company (hired by Tupy), which will represent the interests of Tupy specific to the containment activity.

The outsourced company is approved by Tupy and paid by the supplier.

Note: Upon the notification of ingress in controlled shipment, the supplier shall take the following actions:

- Control all noncompliant parts at the supplier's, in warehouses, in transit and at Tupy.
- Provide an area of redundant/additional inspection, separate from the normal production area. Note: This inspection area must be clearly identified and must be properly illuminated and equipped.
- Review all the necessary PPAP documentation and submit it to Tupy again.
- Plan and implement a corrective action plan.



• Not make repairs and rework in the containment area. The containment process must be conducted independently from the production process, and, when possible, a containment may be applied to the defect generating process.

• Store all the necessary information in charts and tables. They must be updated and continuously reviewed by supervision. This information must be used to guide the solution of problems, establish controls and block errors.

• Clearly define an efficient flow of material in the containment area, avoiding the mixture of defective materials with approved materials (define areas for input and output of materials and parts).

4.9.5 Identification Label

The supplier must identify each package sent with products under controlled shipment with proper identification label. (Double click the icon below to view the identification label)



Note: Inform the name of auditors qualified to perform the final release and sign the identification label.

4.9.6 Sending of the Results

Records of these inspections must be kept, and the supplier must send the spread sheet filled out with the inspection results weekly. (Double click the attachment below to view the result spreadsheet).



4.9.7 Criteria to Leave Controlled Shipment

The period of stay in this system will be tied to the criteria listed below:



• Inspection data without any records of noncompliant material in the inspection area for at least 60 days after the implementation of the action plan.

• Evidence that a complete process of problem solving was used, that the root cause of the problem was discovered and that the corrective actions have been implemented and validated.

Note I : The supplier must remain in controlled shipment until it receives a written permission from Tupy to leave this condition.

Note II: Process Statistical Control must be used, when appropriate, to confirm the stability and effectiveness of the process for 60 days after the implementation of the corrective action plan.

4.10 PERFORMANCE INDICATORS

4.10.1 Monitoring Graphics

The new SQI (Supplier Quality Index) is calculated according to the following spreadsheet:



4.10.2 Metas de Qualidade

O fornecedor deve estabelecer um processo de melhoria contínua cujo objetivo seja a consecução de zero defeito para a qualidade dos produtos entregues.

4.10.3 Delivery Time

The supplier must establish a system to enable a delivery performance of 100% within the required deadline, as well as the monitoring of such performance.

In case of deviations of the quantity and/or delivery, the registration system of Tupy logistics department (STA) will send a notice informing of the deviation and the corresponding penalty in the performance indicator.

If the supplier does not agree with the penalty, it must justify his position directly in the portal within 5 **working days** from the date the notification was sent. If justified by the deadline, the justification will be evaluated by the logistics department of Tupy.



If 5 working days elapsed without justification, the system will understand that the supplier must be penalized in DQI (Delivery Quality Index).

Note: The supplier must not be penalized in DQI for divergences regarding the delivery of items under development (GDF); however, the products are expected to be delivered as agreed.

4.10.4 Monitored Products Family (Compare the current families to the new ones)

Tupy monitors the performance of its suppliers according to the family to which the supplied item belongs.

(Double click the icon below to view the monitored items family)



4.11 CRITERIA FOR TAKING ACTION

The suppliers' results are evaluated monthly. If the supplier remains for three months in a row presenting nonconformities, the following criteria for taking action will be adopted:

MONTHLY SQI	SQI CLASSIFICATION		CRITERIA FOR TAKING ACTIONS REGARDING THE SUPPLIERS
90 - 100	А	VERY GOOD	Emission of SNCR
80 - 89.9	В	GOOD	Emission of SNCR
70 - 79.9	С	FAIR	 1) Emission of SNCR 2) Notice of meeting at Tupy 3) Request of Improvement Plan 4) Monitoring of the improvement plan at Tupy.





60 - 69.9	D	BAD	 1) Emission of SNCR 2) Notice of meeting at Tupy 3) Request of Improvement Plan 4) Audit to verify the implementation and effectiveness of the improvement plan. 5) Blocked for new business 6) Entry into controlled shipment Level 1 or 2 (Valid for productive parts and services). 7) Possibility of disqualification.
0 - 59.9	E	VERY BAD	 1) Emission of SNCR 2) Notice of meeting at Tupy 3) Request of Improvement Plan 4) Audit to verify the implementation and effectiveness of the improvement plan. 5) Entry into controlled shipment Level 1 or 2 (valid for productive parts and services). 6) Possibility of disqualification.

Note 1: The criteria above can be adopted after only one month, depending on the severity and location of the problem.

Note 2: The above criteria do not apply to scrap dealers.

CRITERIA FOR DISQUALIFICATION

Unless otherwise provided in contract, the following criteria for taking action will be adopted until the disqualification of the suppliers:



Stage 1 – Monitoring

At this stage, in case of noncompliance, the supplier will receive a SNCR (Supplier Noncompliance Report) for each month in order to be filled out, indicating the corrective action for the reported problem(s).

If the supplier remains three months in a row in the "D" or "E" classification, which correspond to an SQI below 60%, the supplier will be summoned to attend a meeting with the Executive Board at Tupy.





Stage 2 – Meeting with Tupy Executive Board

When summoned to attend the meeting, the supplier will be asked to present an action plan (AP) to improve the performance.

Stage 3 – Period of Implementation of the Action Plan

The supplier must provide a deadline for the implementation of improvements. During this period, the SQI grades will not be taken into account for the purpose of taking action. If new cases occur during this period, new SNCRs will not be issued.

Stage 4 - Restart of the Monitoring

After the implementation of the improvement action plan, we will restart the SQI monitoring based on the same criteria as Stage 1. If the supplier remains three months in a row again in classification "D" or "E", the supplier will be summoned for the second time to attend the last meeting with the Tupy Executive Board.

Stage 5 – Meeting with Tupy Executive Board

In this stage, the action plan presented at the first meeting will be deemed ineffective, and the supplier will be asked to present a new action plan.

Stage 6 – Period of implementation of the action plan

The supplier will provide a deadline for the implementation of improvements. During this period, the SQI grades will not be taken into account for the purpose of taking action. If new cases occur during this period, new SNCRs will not be issued.

Stage 7 - Restart of the Monitoring

After the implementation of the second improvement plan, the monitoring will restart based on the same criteria above. If the supplier remains again for three months in a row in classification "D" or "E", the process of contract termination and/or disqualification will start (Stage 8).

Note I. Stage 7 does not apply to single-source suppliers.

Note II: The criteria set out above do not apply to suppliers of scrap.

PROCESS AUDITS

The supplier will be audited periodically at intervals specified by Tupy. Therefore, the supplier must allow Tupy to access its premises and its subcontractors to verify if the product complies with the specified



requirements, and Tupy will also be allowed to perform system, process and/or product audits when necessary, applying the VDA, D/TLD or FIEV audit models.

The frequency of audits is described in the following table:

Audit Note	SQI Annual Average	Audit Frequency
> = 90 %	>=90	Reassessment in place every 3 Years + Annual Self-Assessment
> =80 and < 90 %	Regardless of Grade	Reassessment in place every 2 Years + Annual Self-Assessment
< 80	Regardless of Grade	Revaluation every 6 months with possibility of blocking of purchase until a grade above 80% is obtained.

The standard audit form is based on VDA 6.3 standard. Double click the icon below to view the report.



2. SUPPLIER QUALITY SYSTEM DEVELOPMENT

2.1. Recommendations for the Quality System Development

Requirement applicable to suppliers of Components, Productive Services and Raw Materials.

For the development of the Quality System, we recommend that suppliers use the following AIAG and/or IQA Manuals in their latest versions:

- FMEA Manual Failure Mode and Effect Analysis;
- APQP Manual Advanced Product Quality Planning;
- MSA Manual Measurement System Analysis;
- SPC Manual Statistical Process Control;





• PPAP Manual – Production Part Approval Process.

2.2. Supplier Quality Structure

The supplier must have a quality organizational structure that ensures the fulfilment of Tupy's requirements and needs and that enables the supply of products with the desired quality, quantity and punctuality.

3. SUPPLIERS' RESPONSIBILITIES

3.1. Manufacturing Process Monitoring

The supplier must monitor the performance of its manufacturing processes, using charts and applicable indicators, such as productivity, lead time, etc. This monitoring will be verified at the process audits carried out by Tupy when necessary.

3.2. Continuous Improvement

The supplier must use and improve the methods to prevent faults, such as:

- Failure Mode and Effect Analysis (FMEA);
- Statistical techniques (SPC);
- Troubleshooting methods, etc.

3.3. Confidentiality

The supplier undertakes to keep confidentiality regarding all information relating to the contracted services, technical or non-technical information, patentable or non-patentable information and other data that may come to compose the works analyzed, executed or monitored, during and after the effectiveness of this agreement, being subject to the penalties of the applicable law.

The parties shall not, directly or indirectly, disclose or make available to third parties or use outside the company, during or after the effectiveness of the contract, any information obtained by any kind of direct or indirect communication between the parties without the prior written consent of the Coordinator appointed by the parties.





3.4. Contingency Plans

Suppliers shall have Contingency Plans (e.g.: alternative manufacturing, packaging, transportation, use of third-party capacity in case of power interruption, failure in critical equipment and return of products) to ensure the supply of products and/or services in emergency events, excluding inclement weather or other reasons of force majeure.

3.5. Modification of Product Specification and/or Approved Process

Modifications in manufacturing process, product project, components, packaging, sub-contractors, or change in the place of manufacture of the previously approved products must follow the recommendations of the latest edition of the PPAP Manual and/or as defined by Tupy.

No technical change is allowed without prior consent of Tupy. The supplier shall inform Tupy Supplier Development Department and Relevant Technical Department of any change in the approved manufacturing process when that means a change in the performance of the product supplied to Tupy. In order to do so, the supplier must request and fill out the appropriate form: Application for Approval of Modification of Product/Process and Concession - Model 31.365-2 (Double click the icon below to view the form)



Aprovação de Devio Alteração

3.6. Social Responsibility

Tupy expects its suppliers to have a minimum standard of social responsibility in accordance with applicable laws, and to comply with it is a mandatory component of all Tupy businesses, covering the following aspects:

a) Respect for the employees

The supplier must always act in accordance with all labor and social security laws applicable to its activities, including those related to freedom to continue in the job, compensation of working hours and limits of working hours (regular and overtime), freedom of the employees to get associated, as well as maintain satisfactory levels of salary and benefits to fulfill the basic needs of the employees. Tupy shall not maintain business relationship with any company that uses forced labor or the like.





b) Maintenance of a safe and healthy workplace

The supplier must maintain a safe and healthy workplace and not tolerate sexual and moral harassment or any kind of discrimination (race, color, religion, gender, age or physical condition), fostering creativity and enthusiasm, in accordance with the applicable health and safety laws.

c) Protection of the environment

The supplier must always perform its activities in accordance with the environmental laws and regulations, avoiding waste, preventing pollution and conserving energy, as already explained in section 3.3.6. We encourage the search for external verifications of its environmental performance, for example, the ISO 14001 certification.

d) Safety in the supply of products and services

The supplier shall implement all the safety measures to provide at least reasonable conditions to design, execute and deliver products and/or services. It is mandatory to inform any deviation related to the safety of a service and/or product offered to Tupy.

3.7. Commercial Conduct

a) Gifts, favors and entertainment

Gifts, commissions, benefits and favors whose value and/or circumstances may give rise to any suspicion of undue favoritism shall neither be provided, nor be accepted, except for gifts that characterize a mere kindness in relationships, such as business meals and impersonal institutional gifts, such as pens, shirts, caps, key rings etc. The influence on the selection of a process through improper favoritism (in disagreement with criteria of quality and price of products and/or services) is not allowed.

b) Fair and honest negotiation

The exchange of information during negotiations prior to a supply must be accurate and in compliance with all applicable laws (including those relating to competition and unfair practices), not allowing any aspects that may lead to error.

c) Business relationship

The practice of the conducts listed herein contributes significantly to strengthening the business relations with Tupy, creating an ethical and respectful environment for everyone and for the society.





3.8. Environmental Responsibility

Tupy expects the supplier to support our position in terms of awareness regarding environmental aspects and impacts, both in its own businesses and in relation to Tupy business. This must be demonstrated by an appropriate management policy and an environmental program. It is responsibility of the suppliers:

• Observe and comply with environmental legislation in force and its requirements.

• Keep updated any permits or licenses required by environmental agencies (operating license, transportation licenses, emergency plans, etc.) relevant to its activities to supply products and/or services to Tupy.

• Commitment to a sustainable development, pollution prevention and responsible consumption of natural resources.

• Keep its environmental documentation updated and always available for Tupy, when required.

• Mange the legal requirements to avoid government intervention that may generate interruptions in the supply and/or delivery of products to Tupy.

3.9. Safety and Environmental Requirements for the Product

Tupy requires that all products and materials are delivered in compliance with all laws in force, in particular environmental, health and safety regulations, including those related to controlled dangerous material products, restricted substances, and toxic (proper handling recycling, disposal of hazardous material, Operating License, extraction, transportation etc.).

The suppliers must conform to all regulations of necessary processes in their own country and the finished product must meet the Brazilians government, environmental and safety regulations.

3.10. Hazardous and Controlled Products

When delivering hazardous products, local regulations relating to the identification and transportation must be observed, as well as the correct labeling and packaging of materials.

Only chemicals with Material Safety Data Sheets (MSDS) previously approved by Tupy environment, safety and occupational health department can be delivered.

Suppliers must meet those requirements promptly. Thus, a document of safety data on materials must be filled out and delivered in accordance with the instructions of Tupy, including at least:

(a) a list of ingredients contained in the products and any other goods or property brought by any of the supplier's employees, agents or contractors to Tupy plants;

(b) the quantity of such ingredients;



(c) information regarding any change or addition in such ingredients.

The supplier shall notify Tupy in writing and in advance of all changes made in materials, compositions and ingredients (including updated material safety datasheet) and receive Tupy's approval before sending them to production.

Before and along with the shipment of hazardous products and materials, the supplier shall provide Tupy and all carriers with written warnings and notes, including appropriate labels on goods, containers and packages, together with any special handling instructions, safety measures and precautions that may be necessary to comply with the applicable law.

You should also inform Tupy and all carriers of any applicable legal requirement so as to avoid personal injury and damage to property in the best way during handling, transportation, processing, use or disposal of products and materials, containers and packaging.

The hazardous material shall be transported only by carriers which are licensed and authorized by the competent authorities. The conditions of the vehicle used for transportation will also be checked before the permission to access Tupy manufacturing plant.

For the supply of controlled products, the supplier and the carrier must have the proper licensing by the competent authority. Likewise, in case of products controlled by the Army, the supplier must provide the relevant documents.

3.11. Update of Certifications

It is responsibility of the supplier to keep Tupy informed of the updates of certifications of its Quality, Safety and Environmental System. After the expiration of the certificates, if we have not received the updated certificates, they shall be deemed invalid, and consequently, depending on the impact of the supplied product on Tupy product, prevent the acquisition of the material.

Suppliers with expired ISO 9001 certificate will be considered noncompliant. If the updated certificate is not presented in the portal by the expiration date, the supply may be suspended.

6.11.1 Item applicable to Brazil plants

In order to include certificate(s) in the portal, please, follow the steps below:

1) Access:

http://apps10.tupy.com.br/AvaliacaoFornecedor/

2) Enter login and password to access the portal already used by the company to access the procurement portal and STA.

login: registered login email: registered email





Note: If you forgot your password, access the link: http://extapps.tupy.com.br/Senha , click on forgot my password and enter the registered login and email.

If you still have problems send an e-mail to: suporteportal@tupy.com.br

3) Then proceed as follows:

-Enter the supplier's Code
-Select the Quality department (for ISO 9001) or Environment department (for ISO 14001)
-Select the file and upload it
-Enter the expiration date
-Click on add Inform contact data
-Click save

3.12. Environmental License:

In order to supply any product, productive services or transportation of dangerous products, it is mandatory to have the relevant Environmental Licenses and keep them updated, seeing that their renewal must be requested at least 120 days in advance, as established by law. It is responsibility of the supplier to send Tupy the updated Environmental License of its activity or the receipt of the request for renewal when it is expired.

3.13. Logistics Commitments with Tupy

3.13.1. Application

This requirement is applicable only to Brazil plants.

We ask the material Suppliers – both those who are already using the Electronic Invoice system ("NF-e") and those who will now use it – to fully meet the logistics commitments described below;

3.13.2. Electronic files:

The contracted party, if issuer of NF-e, undertakes to send the XML file to the email address recebe.nfe@tupy.com.br, according to §7^o, clause7^a, of the Adjustment SINIEF 07/2005.

The contracted party, if issuer of NF-e, undertakes to inform, in the <xped> field of the XML file, the number of the O.C.



Lack of maintenance/sending of digital files is punishable, according to article 81-B of Law No. 10,297, of December 26, 1996.

Further details on the technical specifications of the NF-e can be obtained in the NF-e Taxpayer Integration Manual, available at www.fazenda.gov.br/ONFAZ.

For questions about the NF-e, please, contact Gerson Patrício, Fiscal Controller Department of Tupy, on the phone (47) 4009-8819 or by the email gersons@tupy.com.br.

3.13.3. Logistics commitments:

It is mandatory to include in your Invoice/*Danfe* the number of our Purchase Order ("O.C.") and Purchase Request. Each supplier must observe the quantities and deadlines agreed in the Purchase Request, obeying any delivery gaps indicated by the Logistics and Materials Department of Tupy by means of logistics portal provided by Tupy.

3.13.4. Logistics incidents:

Possible logistics incidents will be considered in the analysis of the supplier's performance, positively or negatively affecting the closing of future purchases.

Important Note

To ensure the integration into our ERP, it is imperative that the O.C. number be indicated in the <xPed> field of the XML file.

Thus, you can optimize and streamline the process of receiving tax documents, with advantages for both Tupy and suppliers, at their physical presentation at the entrances.

3.14. Waste

All materials and products owned by the supplier, agent or subcontractor of the supplier brought to Tupy plants must be removed and/or disposed of in accordance with the applicable law by the supplier, which shall bear all expenses.

The Supplier must comply with all environmental rules and regulations of Tupy. All waste resulting from some work performed within Tupy premises shall be handled according to the internal procedures relating to waste management.

Companies that are responsible for transporting and disposing of waste must be licensed, follow all laws in force and dispose of the waste in accordance with applicable laws.



Companies that are responsible for the disposal of waste shall issue the Certificate of Final Destination and send it to Tupy Waste Management, along with the Waste Transport Manifest.

4. SPECIFIC REQUIREMENTS FROM CUSTOMERS

4.1. QSB

Suppliers with direct application of the product for GM and FIAT customers must practice the GM QSB (Quality Systems Basics) and specific requirements;

7.2. CQI 09

7.2.1. Suppliers of heat treatment services for automotive parts

This group of suppliers must implement the CQI 09 standard (AIAG) and submit to Tupy the result of the self-assessment as requested.

7.2.2. Suppliers of Machining Services and Components

Suppliers of machining services and components which perform heat treatment in automotive parts supplied to Tupy must implement the CQI 09 standard (AIAG) and submit to Tupy the result of the self-assessment as requested.

Note: The same system must be applied to subcontractors.

7.3. CQI 11

Suppliers of machining services and components which perform surface protection in automotive parts supplied to Tupy must implement the CQI 11 standard (AIAG) and submit to Tupy the result of self-assessment as requested.

Note: The same system must be applied to subcontractors.

7.4. CQI 12

Suppliers of painting service for automotive parts must observe the CQI 12 standard (AIAG), as requested by Tupy;

7.5. Ores from Conflict Zone.



Tupy is concerned about the origin of the ore used in the manufacture of tin. These ores must not be obtained from countries considered as conflict zones, especially the Congo. Tupy supplier of tin acknowledges this restriction and declares that the tin supplied to Tupy is not from conflict zones. This information will be verified at the moment of approval of the item and in subsequent audits.

8. CHANGES

Edition 05

Revision of item 1.6 Revision of the table in item 1.7 Complement of the text in item 3.1 Revision of the text in item 3.2 Complement of the text in item 3.3.5 Complement of the text in item 4 Addition to item 8.9 and its sub-items. Addition of item 8.10

Edition 06

General Revision

Edition 07

Item 4.1.1

Item 4.11

Edition 08

Item 1.5 Item 2.3

Edition 09 Appendix I

Edition 10

Item 4.5







9. GLOSSARY

Corrective Action

It is the action taken to eliminate the causes of potential or existing noncompliances or undesirable situations in order to avoid their recurrence.

Preventive Action

It is the action taken to eliminate the causes of potential noncompliances or other undesirable situations in order to prevent their occurrence.

Environment

It is all conditions involving or affecting the manufacture and quality of a part or product. The environment will vary for each plant, but it usually includes: cleaning, lighting, noise and safety risks related to housekeeping or 5S activities.

Failure Mode and Effect Analysis (FMEA)

It is a set of activities prepared aiming at:

- 1) recognizing and assessing a potential fault of a product/process and its effects;
- 2) identifying actions that could eliminate or reduce the chance of this potential fault to occur;
- 3) documenting the process. See reference manual. See Suggested Literature FMEA.

Audit

It is an activity of local inspection based on a sample used to determine the effective implementation of a supplier's documented quality system.

Assessment

It is a process which includes a document review, an audit in the facilities and an analysis and report. There is also the self-assessment process where the analysis is done by the supplier.

Benchmarking

It is a technique used to determine the "best" practices for a specific process or product.

Calibration

It is a set of operations that compares the values obtained from an inspection, measuring and test device with a known standard under specific conditions.

Capacity

It is how to assess whether a particular manufacturing process is capable of meeting a particular specification.

Cp and Cpk are indices that measure capacity. See Initial Process Studies.

Special Characteristics



They are product characteristics or parameters of the manufacturing process assigned by the customer or chosen by the supplier by means of knowledge, which can affect the safety or compliance with regulations, specifications, function and performance or subsequent processing of the product.

Product Part Submitted Certified

It is a standard industry document required for all products in which the supplier confirms that inspections and tests on production parts confirm compliance with the customer's requirements. See Suggested Literature – PPAP.

Components

Any product purchased that is incorporated into Tupy product without processing. Example: Screw, seal ring, seal, valve guide, etc.

Statistical Process Control (SPC)

Technique used to statistically monitor, by means of control charts, a certain process and identify variations which jeopardize or may jeopardize its stability and consequently its capacity. See Suggested Literature – SPC.

Supplier Development

It refers to all activities designed to improve the performance of the fundamental quality system of the supplier.

Legal Diplomas

Laws, Decrees, Resolutions, Directive, Normative Instructions prepared by the Executive or Legislative powers.

Hydric Effluents

Disposal of wastewater in the environment.

Package

It is a unit that provides protection and enclosure to items, besides the ease of manual or mechanical handling.

Controlled Shipment

It is a process of additional inspection (containment) to select noncompliant parts/products until the definition and implementation of the problem solution plan of supplier.

Air Emissions:

Emissions (particles, gases, pollutants) to the environment.

Initial Process Studies



They are short-term initial statistical studies of one or more process characteristics (defined together jointly by Tupy and Supplier) in order to obtain information in advance about their capacity.

R&R Studies

R&R means repeatability and reproducibility.

This is a study that assesses the interaction between the measuring instruments, operator and environment.

Process Flowchart

It is the description of the sequence of operations of the manufacturing process of a certain product, from the receipt of raw materials to its shipment. See Suggested Literature – PPAP.

Excessive Freight

Additional costs or charges besides those contracted for delivery. Note: This can be caused by method, quantity, delayed or non-scheduled deliveries, etc.

SDG – Supplier Development Group

Multifunctional group coordinated by Tupy Supplies department, whose function is to assess and develop new items and suppliers of products and services.

Laboratories

It is a test facility that can include chemical, metallurgical, dimensional, physical, electrical, reliability or validation tests.

Qualified/Accredited Laboratory

It is the laboratory that has been evaluated and approved by a nationally recognized accrediting entity in accordance with ISO/IEC Guide 25 or national equivalent. For example: INMETRO – National Institute of Metrology, Standardization and Industrial Quality.

Predictive Maintenance

Activity based on process data, aiming at avoiding maintenance problems by prediction of failure modes.

Preventive Maintenance

Planned action to eliminate causes of equipment failures and unexpected downtime.

Noncompliant

It is a product or material that does not comply with the requirements or specifications of the customer.

Parts per Million (PPM)



It is a method of describing the performance of a process in terms of real noncompliant material. PPM data can be used to determine priorities for corrective actions. It is usually the ratio of defective material to material delivered in compliance.

Corrective Action Plan

A corrective action plan is a document in which you specify the actions to be implemented to correct a quality issue or problem in a process or material with established responsibilities and dates.

Reaction Plan

A reaction plan is specified by a control plan, or other quality system documentation, to be started when a noncompliant product or instability in the process is identified.

Control Plan

It is a document that aims at guiding the inspection of certain material in production. It defines who, when, how and where to inspect.

Quality Records

They are documented evidences that the supplier's processes were performed according to the quality system documentation (e.g.: inspection and test results, calibration data) and records of the results.

Repeatability

It is the variation of measures obtained with a measuring instrument or device from the same part or characteristic several times by an operator.

Reproducibility

It is the average variation of the measurements obtained with a measuring instrument or device from the same part or characteristic by different operators.

Waste Class II Hazardous waste.

Waste Class II Non-inert waste.

Waste Class III Inert waste.

Solid Waste

Waste in solid and semi-solid states, which result from the activity of the source community: industrial, domestic, hospital, commercial, agricultural, sweeping services. It is included in this definition sludge from water treatment systems, waste generated in equipment and plant for pollution control, as well as certain liquids whose characteristics make it impossible to dispose of it in the public sewage system or



water bodies, or which require technically and economically feasible solutions considering the best available technology.

10. SUGGESTED LITERATURE

ABNT – ASSOCIAÇÃO BRASILEIRA DE NORMAS TÉCNICAS

Website: www.abnt.org.br

NBR ISO 9001 – Sistemas de Gestão da Qualidade NBR ISO 14001 – Sistemas de Gestão Ambiental

IQA – INSTITUTO DA QUALIDADE AUTOMOTIVA

Website: www.iqa.org.br

PPAP – Processo de Aprovação de Peça de Produção CEP – Fundamentos de Controle Estatístico do Processo FMEA – Análise de Modo e Efeitos de Falha Potencial MSA – Análise do Sistema de Medição

AIAG – AUTOMOTIVE INDUSTRY ACTION GROUP

Website: www.aiag.org

TS ISO/TS 16949 - Quality Systems - Automotive Suppliers

LEIS, DECRETOS, RESOLUÇÕES E PORTARIAS

Lei 11.347/2000 (SC) – Dispõe sobre resíduos sólidos potencialmente perigosos. Lei 12.375/2002 (SC) – Dispõe sobre a coleta e o destino final de pneus. Lei 9605/1998 – Lei de Crimes Ambientais. Lei 6938/1981 – Política Nacional de Meio Ambiente. Lei 9.509/1997 – Política Estadual de Meio Ambiente. Lei 10.888/2001 – Dispõe sobre o descarte final de produtos potencialmente perigosos. Decreto 14.250/1981 (SC) – Proteção e a melhoria da qualidade ambiental do estado. Decreto 8468/1976 (SP) – Proteção e a melhoria da qualidade ambiental do estado. Resolução Conama 20/1986 – Classificação de Águas. Resolução Conama 3/1990 – Estabelece padrões de qualidade do ar. Resolução Conama 313/2002 – Inventário Nacional de Resíduos Sólidos Industriais. Resolução Conama 237/1993 – Dispõe sobre o licenciamento ambiental. Resolução Conama 257/1999 – Dispõe sobre o uso de pilhas e baterias. Resolução Conama 258/1999 – Dispõe sobre pneus. Portaria ANP 81/1999 – Dispõe sobre refino de óleos. Portaria ANP 125/1999 – Regulamenta a atividade de recolhimento de óleo, coleta e destinação final do óleo lubrificante.





APPENDIX I

Dear Suppliers

This Manual present all requirements and rules to supply to Tupy S/A

However if supplier had a Contract with Tupy, supplier need to attend all rules of this contract.

Signature shall be necessary to start all commercial relationship between Tupy and Suppliers.

If the supplier refuse to signature this manual all potential and current commercial relationship will be automatically cancelled.

All these requirements follw the usual practices of automotive field and our main customers.

Tupy always attend all customer requirements, therefore need to extend for all suppliers.

We are request your signature acceptance on mark below

This page need to be scanned and send to e-mail address: gestaodefornecedores@tupy.com.br







Commitment Agreement

The Company______agree with all requirement and rules of this Supplier Manual and commitment to attend 100%. I'm aware of action and implications even not fulfill these requirements

Date:

Responsible Name

Responsible Signature

Responsible Function

