



Supplier Logistics
Protocol

For all the MHBR
sites

Summary

Summary	2
Preface	3
Introduction	4
Application scope	5
Details of the.....	6
Logistics Agreement	6
1- Cooperation between MANN+HUMMEL and Supplier	6
1.1. Contact persons and availability	6
1.2. Changes' Notification.....	6
1.3. Regular Period of Time for Product Supply	6
2- Materials' delivery schedule.....	7
2.1. Delivery Program.....	7
2.2. Capacity and safety stocks	8
3. Delivery Performance Assessment	8
4. Communication	9
5. EDI / WebEDI	9
6. Packaging.....	10
7. Labels	12
8. Delivery / Collection	12
8.1. Extraordinary delivery order	12
8.2. Work Schedule.....	13
8.3. Receiving Time MANN+HUMMEL	13
9. Invoice	13
10. Debt Notification.....	14
11. Subcontracted material management	14
12. Prototype materials / PPAP parts / Engineering Samples	15
13. Logistics Protocol Validation / Update.....	15
14. Agreement signatures	16
Appendix 1	17
Appendix 2	<u>18</u>

Preface

In order to justify the statement of being a “market leader in filtration”, MANN+HUMMEL set high standards not just for itself, but also for its Suppliers. Not only products and internal processes must be in tune between MANN+HUMMEL and the Supplier; the cooperation must also be as efficient as possible. In order to avoid unnecessary efforts on both sides, clear rules should be set for this cooperation.

This is the reason why MANN+HUMMEL prepared this Suppliers' Manual. Its purpose is to ensure that the Suppliers obtain necessary information in the way they can be guided by clear guidelines for the logistics process. Thus, for example, it is possible to prepare an assertive and effective communication process between MANN+HUMMEL and the Supplier, which saves a considerable amount of time.

This manual serves as a guideline for the logistics cooperation between the Supplier and MANN+HUMMEL. The validity applies to all the Suppliers of the MANN+HUMMEL Group units in Brazil. The deviations of the guidelines of this manual are only permitted in exceptional circumstances and they must be approved previously by MANN+HUMMEL.

The manual consists of a general section containing instructions applicable to all the Brazilian sites and it can be downloaded by the Supplier in Portuguese and in English language on the page of MANN+HUMMEL:

<https://www.MANN+HUMMEL.com/en/the-company/download-center/documents-for-suppliers/>.

All the information of this manual is subject to changes.

Introduction

This document describes the guidelines to be agreed between the parties MANN+HUMMEL and the Supplier focused on the definition of operational rules, errors mitigation and alignment of expectations and responsibilities.

This document has:

- Description of interface between MANN+HUMMEL and its national and international Suppliers, including all the information and agreed rules;
- The purpose of this Protocol is to determine operation's general modes of raw material supplies as well as to set a way of monitoring the flows established in this Protocol.

The relationship between the Supplier and MANN+HUMMEL should be transparent and it should always aim a joint work to carry out preventive and corrective actions, which are necessary for the continuous improvement of logistics processes.

This document should be considered as a tool with continuous progress for all the partners and it should always evolve due to the logistics process, but this protocol does not replace the other existing and agreed documents between MANN+HUMMEL and the Supplier.

If necessary, other documents which detail some specific conditions may be attached to this document.

Depending on the involved operational aspects, other party (ies) (as for example, logistics operators, carriers, etc.), may be required to sign this Agreement.

MANN+HUMMEL will carry out the registration, management and storage of logistics interferences generated by the Suppliers and defined as generators of additional (internal and external) costs for the MANN+HUMMEL processes. These additional costs generated by the Suppliers will be informed previously and later they will be charged to them on a monthly basis.

Application scope

The provisions of this manual are applicable to the following locations:

Corporate Name: MANN+HUMMEL BRASIL LTDA

CNPJ: 57.014.862/0001-90

City / UF: **Indaiatuba / SP**

State registration: 353017763118

Address: Alameda Filtros Mann, 555 – Jd. Tropical

ZIPCODE: 13.330-970

Corporate Name: MANN+HUMMEL BRASIL LTDA

CNPJ: 067.383.299.02

City / UF: **Betim / SP**

State registration: 067.383.299.02-15

Address: Av. Fausto Ribeiro da Silva, 839

ZIPCODE: 32654-805

Corporate Name: MANN+HUMMEL BRASIL LTDA

CNPJ: 057.014.862/0013-24

City / UF: **Sapucaia do Sul /RS**

State registration: 1320161852

Address: Rua Anchieta, 182, Portão E, Bairro Kurashiki

ZIPCODE: 93212-730

Details of the Logistics Agreement

1- Cooperation between MANN+HUMMEL and Supplier

For a good relationship between a MANN+HUMMEL and the Supplier, it is essential that the communication is as clear as possible. In order to do it and to avoid misunderstandings the following rules must be observed.



1.1. Contact persons and availability

At the beginning of any supply, the Supplier must nominate a person who MANN+HUMMEL can contact for questions related to logistics. The contact person or his/her substitute must be available on business days between 8:00 am and 5:00 pm. Out of these times; an emergency contact phone number with proper person should be informed. It is necessary to inform immediately MANN+HUMMEL about factory vacations and extraordinary stops.

1.2. Changes' Notification

MANN+HUMMEL must be immediately notified about any changes by side the Supplier which are relevant for the cooperation with MANN+HUMMEL. These changes include change of production location and change of contact person/substitute.

1.3. Regular Period of Time for Product Supply

The lifetime of the product will be defined by the parameters named “Product life start” (phase-in) and “Product end of life” (phase-out).

a. Phase-in: *In this phase all the information necessary for the supply of item must be defined. PRFPP (Product Requirements for Purchased Parts) should be filled in and sent back to the commercial contact of MANN+HUMMEL. The Supplier should plan its product production start (MP) according to the schedule sent by the Material Planning Department via SAP contract.*

b. Phase-out: *At the end of acquisition of any product (MP) due to the fact that it is not necessary anymore, MANN+HUMMEL will inform the Supplier with prior notification at least within 30 (thirty) days and during this period of time the Supplier should produce according to the requests of MANN+HUMMEL via SAP contract. Any surplus produced quantity will not be absorbed by MANN+HUMMEL and it will be returned to the Supplier on its own responsibility. In the event, it is necessary an adjustment, it will be negotiated between the parties.*

2- Materials' delivery schedule

If there is any doubt in relation to the order, the Supplier must get in touch with MANN+HUMMEL.



2.1. Delivery Program

The Delivery Program presents a firm horizon of material delivery for 2 weeks.

The document may have a material schedule composed of estimated deliveries for the next 30 (thirty) days or 8 (eight) weeks and/or 6 (six) provisional months.

The Supplier will receive an update of Delivery Program always on Mondays and eventually it may have changes in volumes due to market oscillations. The dates stated in the delivery programs are the dates that the goods should be available at MANN+HUMMEL plant and/or CONTRACTED LOCATION.

The requested quantities of the delivery programs should be multiples of the packaging.

If found orders with quantities different from the multiple of the packaging, the Suppliers should consider rounding up, that is, if the order is 100 parts, but if the packaging has 12 parts, then 108 parts should be delivered, which is the closest multiple and above. By finding this error, the Supplier should send a deviation communication between packaging x program and wait for the OK of MANN+HUMMEL programmer in order to send the requested item.

After the sending the Delivery Program by MANN+HUMMEL, the Supplier should carry out its analysis. If it disagrees, it should send a formal communication to MANN+HUMMEL via e-mail, within 3 (three) business days. If the Supplier does not inform within this time, MANN+HUMMEL will understand that the proposed program was accepted by the Supplier.

If the Supplier does not receive the weekly Delivery Program or Release until 12:00 on Monday of each week, the Supplier should inform immediately the MANN+HUMMEL programmer in the way the transmission is made again.

The manifestation on the contrary by the Supplier in relation to the sent order does not mean an acceptance by MANN+HUMMEL, and the parties should negotiate new conditions.

MANN+HUMMEL will update the programming according to the item classification described below.

2.1.1. MRP Items: Programming is weekly updated.

2.1.2. Kanban Items: Programming is updated according to the delivery frequency.

2.2. Capacity and safety stocks

The Supplier must guarantee the reserve of its productive capacity needed to meet the MANN+HUMMEL demand. If there is a lack of capacity, MANN+HUMMEL must be informed immediately.



MANN+HUMMEL must also be notified if the delivered quantities are not according to the requested quantities. The Supplier should have in its production chain suitable stock levels for the supply of informed demand considering the following variation.

- Fifteen days: fixed period of time
- Current month: 10 to 35 %
- Next month: 35 to 60 %
- Third month: 60 to 100 %

In the event of noncompliance with deliveries, the Supplier will be subjected to demerits / debts due to the failures – [Appendix 2](#).

3. Delivery Performance Assessment

MANN+HUMMEL will evaluate periodically the performance of its Supplier. The delivery performance rating obtained by the Supplier may be a factor for eventual expansions or even the termination of the delivery. It is interest of both parties to improve continuously the delivery process of materials for the production.

The tool utilized by MANN+HUMMEL is the VRS (Vendor Rating System) – available in the electronic version at address:

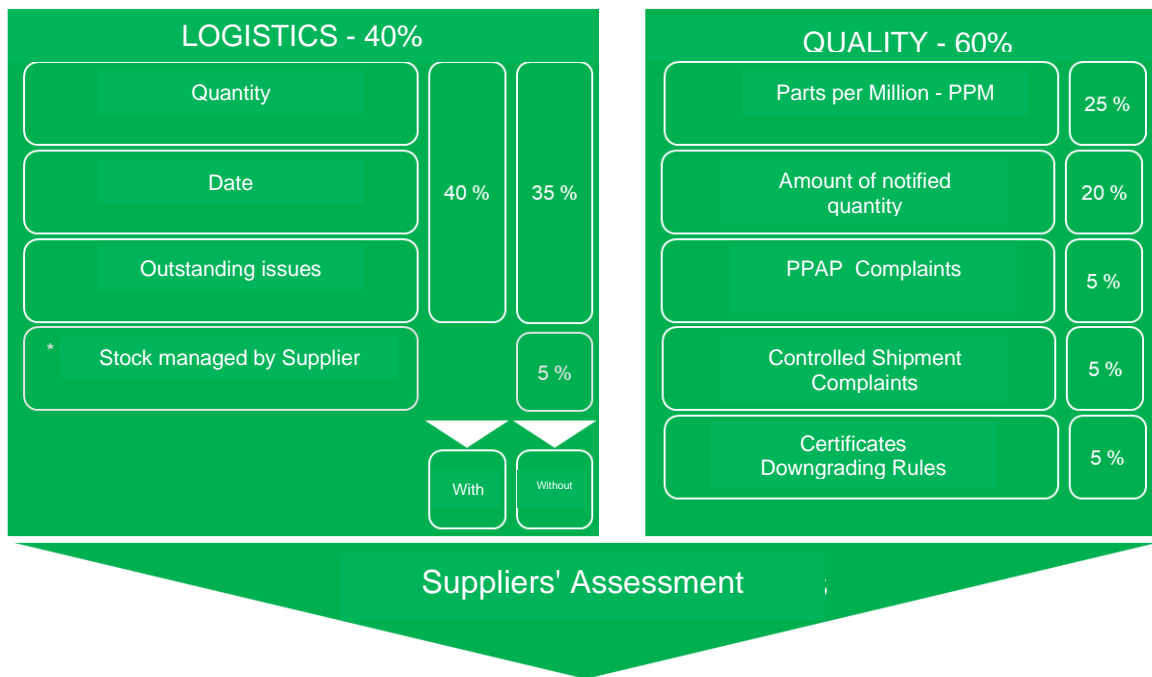
[Suppliers \(MANN+HUMMEL.com\)](http://Suppliers (MANN+HUMMEL.com))

This tool considers the delivery failures arising from quality questions, such as breakdowns, wrong labels and packaging, exchanged material, palletization outside the established standard and other reasons that make it impossible to supply the requested material.

3.1. Logistics Assessment Criteria.

The supplier delivery performance is based on the following key performance indicators.

- Delivery service.
 - Quantity reliability.
 - Date reliability.
 - Outstanding issues.
- Stock managed by the Supplier.

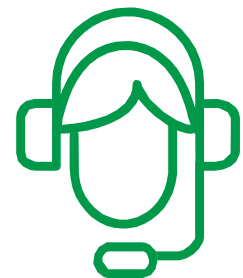


- **If implemented the stock is managed by the Supplier, it is considered with 5%.**

Note: Other information about calculations and considerations, see the manual, item 5.2

4. Communication

MANN + HUMMEL has a central EDI system. In order to be able to benefit from the advantages of this system, it is important that the Suppliers also have an EDI connection. Therefore, the capacity of exchanging data electronically (EDI or WebEDI) of the Supplier is a prerequisite for starting a commercial relationship with MANN+HUMMEL.



5. EDI / WebEDI

These systems allow the data exchange between MANN+HUMMEL and the Supplier is carried out electronically.

It is mandatory when the Supplier implements one of the systems (EDI or WebEDI) at the time of its registration with the Purchasing Department for the electronic receiving of releases.

MANN+HUMMEL will give the necessary support, on request.

It is mandatory the electronic transmission of Shipping Notification (ASN) to MANNHUMMEL at the moment the material is sent (at the moment at DANFE issuance).

By eventual failure in one of the information systems. the information may be sent by e-mail.

The non fulfillment of sending the Shipping Notification (ASN) will imply in material returning or demerit/debt.

6. Packaging

Every product provided to MANN+HUMMEL should be defined its packaging according to the packaging standard defined in Appendix 1. Items with special packaging needs should be dealt separated through PRPFF (Requirements for Purchased Parts). The form PRPFF is the document which defines all the quality requirements that a purchased part should have. Among them, the type of packaging which should be utilized for the supply of a determined product, the quantity of parts that this packaging supports, its unit and total weight, and other technical information.

The SUPPLIER should ensure the product integrity against knocks, oxidations and other damages, from its production to the usage point.

The definition and/or approval of the packaging form does not exempt the Supplier of its responsibility to ensure the product integrity.

The Supplier is responsible for the fulfillment of the form and its sending for validation/ approval by MANN+HUMMEL. This submission should occur after its designation and before sending the prototype parts, pre-series or modification. No delivery will be authorized without proper approval of PRPFF and the failure to comply with this definition is liable to debt and demerit.

The purchase of packaging to meet the production volumes of new projects will be negotiated between MANN+HUMMEL and the Supplier, the Supplier will be also responsible for the cleaning, conservation, maintenance and replacement of damaged packaging. The number of packaging should be calculated based on the production volumes and packaging capacity, complying with the PRPFF definitions.

When detected an increase of the volume in relation to the received schedule, the Supplier should evaluate it and it should request the change in an official form, in order to ensure its deliveries.

The disposable packaging must follow the same dimensions as returnable packaging.

The packaging quantity in the delivery flow should comply with MANN+HUMMEL parameters according to the table below:

Below are only the parameters for help, by the most important is that all the packaging quantities in the flow are validated together with the person responsible for its development by MANN+HUMMEL.

Delivery Frequency	Daily		
MANN+HUMMEL Parameters	Items A	Items B	Items C
Days at Supplier	3	5	10
Days at MANN+HUMMEL	3	5	10
Days in transit	2	2	2
Total quantity in flow*	8	12	22

Delivery Frequency	2 x week		
MANN+HUMMEL Parameters	Items A	Items B	Items C
Days at Supplier	4	10	12
Days at MANN+HUMMEL	4	10	12
Days in transit	2	2	3
Total quantity in flow*	10	22	27

Delivery Frequency	3 x week		
MANN+HUMMEL Parameters	Items A	Items B	Items C
Days at Supplier	5	8	12
Days at MANN+HUMMEL	5	8	12
Days in transit	3	3	4
Total quantity in flow*	13	19	28

Delivery Frequency	1 x week		
MANN+HUMMEL Parameters	Items A	Items B	Items C
Days at Supplier	10	12	14
Days at MANN+HUMMEL	10	12	14
Days in transit	5	5	5
Total quantity in flow*	25	29	33

* in days (based on the average of consumption/month)

If it is needed the sending of products in packaging different from the packaging approved by MANN+HUMMEL in the form PRPFF, it will necessary a prior notification to the MANN+HUMMEL programmer, who will obtain the approval of the Quality, Production and Logistics Departments in order to meet “temporarily” the deviation.

If the material is sent in packaging different from specified packaging without prior authorization of MANN+HUMMEL, the Supplier will receive a notification about this deviation and it will be charged (according to the suppliers' performance) considering the transportation costs and possible stops in the production line.

In relation to the returnable packaging flow we reinforce that it is Supplier's responsibility the packaging request to meet the material deliveries at MANN+HUMMEL. The Supplier should request it to the responsible programmer by e-mail, in a timely manner in the way there is no deviations in deliveries.

Returnable packaging of MANN+HUMMEL property cannot have labels which generate glue residues.

Extraordinary costs generated by the non-compliance with deliveries (even due to lack of packaging) and box cleaning will be billed to the Supplier.

7. Labels

Every packaging should only have one material's identification label, containing information according to the Appendix 1 and the label should be positioned in a visible place during the transportation.

If there is an old identification label on the packaging sent to Supplier, it should be removed.

In the absence of this identification label, the Supplier will be notified and it will receive a demerit according to the Suppliers' Performance Program . The identification labels should be attached on packaging considering each of the standard packaging types.

The labels should be easy to remove and it should not leave residues on the boxes.



8. Delivery / Collection

MANN+HUMMEL has 03 (three) types of Delivery / Collection processes:

- Direct delivery at the plant: The material orders requested by MANN+HUMMEL will be delivered directly by the Supplier at the destination plant. In this process the Supplier will be met according to the pre-established time window.
- Delivery at transportation company: The orders should be delivered at intended transportation company according to the pre-established time window.
- Collection at Supplier: The orders will be collected at the Supplier's plant with day and time scheduled by MANN+HUMMEL. For this, the Supplier should inform on scheduled day the cargo availability in order the schedule/collection may be carried out. The delivery programs requested by MANN+HUMMEL should be delivered /made available according to the request. Deviating quantities and/or late delivery will be returned to the Supplier and all the extraordinary costs arising from the failure to deliver will be only the Supplier's responsibility. In this case, a notification will be opened for the Supplier, informing all the details of demerit carried out and these will be displayed via Charge Back – Appendix 2.



For each open notification an administrative cost will be deducted to be charged later by the Finance Department.

8.1. Extraordinary delivery order

For a better flexibility with our Customer and unforeseen events in the logistics operation, we should foresee the occurrence of special/extraordinary delivery orders, with supplementary

quantities of agreed and fixed period of time in the Material Delivery Program.

Thus, we have the following procedure:

- Supplier should check with the Programmer the feasibility of meeting the Special/Extraordinary Delivery Order;
- Supplier should inform its effective situation and its best delivery date;

After concordance of MANN+HUMMEL, the confirmation of this Special/Extraordinary Delivery Order will be sent by e-mail, with agreed date and quantity and the Release or Material Delivery Program should be immediately updated.

The transport to pick up the Special/Extraordinary Order should be requested by the MANN+HUMMEL Programmer if the inclusion of this special/extraordinary order is not possible in the normal delivery vehicle.

8.2. Work Schedule

MANN+HUMMEL and the Supplier undertake to inform:

- With 1 week in advance in the event of an unscheduled day off work;
- With 1 month in advance in the event of collective vacations.
- With 2 weeks in advance in the event of 1 additional business day.

In days off and without material receiving, the Supplier should carry out the deliveries corresponding to that day in advance or according to the negotiated with the MANN+HUMMEL Programmer.

In the event of additional day; if foreseen, the quantities should be delivered with the previous delivery quantities.

In the event of collective vacations, the weekly delivery orders will be equal to zero and they will not be received at MANN+HUMMEL, the Supplier will be informed about it in advance.

8.3. Receiving Time MANN+HUMMEL

- Monday to Friday: from 7:00 am to 5:00 pm
- Lunch time: From 12:00 to 1:00 pm

The Supplier should arrive 30 minutes before the window time in order to proceed with company's tax and reception procedures as well as being aware of the recommendations and regulations related to the MANN+HUMMEL company.



9. Invoice

The Supplier should issue an invoice with the description of every item, MANN+HUMMEL part number and the program number of item shipment.

XML file should be sent by e-mail (MANN+HUMMEL.nfe@sawluznet.com.br, nfe@sawluznet.com.br, MHBRRecebimentoFiscal@MANN+HUMMEL.com) at the time of invoice issuance.

For the packaging return (MANN+HUMMEL property), the Supplier should issue an invoice, describing the packaging code and doing reference to the shipment invoice issued by MANN+HUMMEL.

The invoice should mandatorily contain the provision of the ICMS Regulation for the return of packaging, as transcribed below: Exempt of ICMS, according to article 8 cc, Article 82, items II of Appendix I of Decree 45.490/00.

10. Debt Notification

The Supplier will be notified by e-mail about any recurring costs of quality and logistics problems caused to MANN+HUMMEL. The details of these costs will be given via Charge Back and charged by means of Debit Note.

The Supplier may contest this notification within 3 business days. After that, it will be charged by the MANN+HUMMEL Financial Department

11. Subcontracted material management

The material will be sent to the Supplier as industrialization shipment and at receiving it, the Supplier should check the material against the invoice.

In the event of physical and tax deviations, the Supplier should inform MANN+HUMMEL immediately, in order to solve the physical and tax deviations. The lack of communication of possible discrepancies makes the Supplier responsible for them.

After material industrialization, the Supplier will issue an invoice making reference to the invoice of industrialization shipment sent by MANN+HUMMEL and the quantity utilized in this industrialization process.

If there is scrap generation caused by process failure, the subcontracted material should be sent back to MANN+HUMMEL, identified accordingly and addressed to the Quality Department and it will carry out the inventory write-off/adjustment.

In this case, the responsibility for the scrap costs is of the Supplier. If found that the nonconformity is of the raw part, the costs will be of MANN+HUMMEL responsibility. The sending of scrapped parts should be on a monthly basis, avoiding the accumulation and possible inventory discrepancies.

The material balance should be controlled by the Supplier by doing the correct reference to the shipment invoices and respective returns. This balance should be informed in a report to the MANN+HUMMEL Controlling on a monthly basis until the third business day each month.

Once the Supplier had received the material, it will be responsible for accounting for the existing balance in its stock.

The Controlling Department may schedule audits and inventories to check the material balance maintained by the Supplier.

In the event of evidenced discrepancies, the Supplier will be responsible for the deviating material costs.

12. Prototype materials / PPAP parts / Engineering Samples

The materials should be sent in packaging which ensures the parts' quality and integrity.

All the packaging for prototype materials, engineering samples and parts for PPAP approval should have a different identification label in yellow color, attached on all four sides of the packaging with the same information requested in Appendix 1.

Also identify with the name of responsible person and work area on A4 sheet.

13. Logistics Protocol Validation / Update

This Logistics Protocol applies to the supply of (current) series items, that is, the items under development phase, whose following topics are still under definition or regularization will not be subjected to these rules. They are:

- ✓ PPAP
- ✓ Packaging / Label Definitions
- ✓ Transportation
- ✓ EDI / WebEdi

as well as all the appendices requested in these topics, filled in and approved.

Aiming to improve continuously the relationship between the Supplier and MANN+HUMMEL, whenever necessary, the protocol may have modifications and updates which will be informed to the Supplier.

14. Agreement signatures

By signing this agreement, the involved parties agree with all its contents.

Logistics at
MANN+HUMMEL
Name:

Logistics at Supplier
Name:

Purchasing at
MANN+HUMMEL
Name:

Purchasing at Supplier
Name:

Indaiatuba, _____ 20__.

Appendix 1

Packaging standards

KLT 3215 Lego Bottom

	Ext. Meas.	Int. Meas.
C	300mm	230mm
L	200mm	150mm
A	150mm	110mm

Weight 0,7 kg



KLT 6415 Lego Bottom

	Ext.Meas.	Int. Meas.
C	595mm	545mm
L	395mm	345mm
A	150mm	122mm

Weight 2,1 kg



Assembly of de pallets box KLT Lego Bottom



The KLT Lego Bottom standard boxes allow the stacking in the way the bottom fitting avoid displacements during the transportation and unloading.

KLT 4315 Lego Bottom

	Ext. Meas.	Int. Meas.
C	400mm	330mm
L	300mm	250mm
A	150mm	110mm

Weight 1,4 kg



GLT Box

	Ext. Meas.	Int. Meas.
C	1210mm	1122mm
L	1010mm	920mm
A	865mm	675mm

Weight 1,4 kg



Stacking of KLT boxes per pallet

Pallet 1,00x1,20x0,14*

KLT	Layers/Level
3215	10
4315	10
6415	10
6429	5
GLT	2

Maximum weight per box: 14 Kg

*Standard measurement of Pallets (m)

Standard Identification of Supplier

Labels INFO

Supplier Name

Production shift

Production day

Batch

Quantity

PN Supplier

PN Mann Code

All the volumes should be identified individually and the labels should state mandatorily the above mentioned data.

KLT 6429 Lego Bottom

	Ext. Meas.	Int. Meas.
C	600mm	530mm
L	400mm	350mm
A	350mm	245mm

Weight 3,2 kg



GLT Cover

	Ext. Meas.
C	1229mm
L	1030mm

Weight 3,2 kg



Appendix 2

Costs of Non-Quality and Stop of Production Process Caused by the Supplier			
Item code			Date:
Product description			RPS Number
Supplier			Repetition?
Production	Stopped MOD costs		0,00
	Stopped machine costs		0,00
	Scrap costs		0,00
	Other costs		0,00
Quality	8D Administration		500,00
	Containment action		0,00
	Scrap costs	0,00	0,00
Logistics Dept. Costs			0,00
Other costs			0,00
...			
...			
...			
...			
Administration fee			0,00
Total costs [BRL]			500,00
Comments			
Prepared by:			
Phone:			
E-mail:			