

**NORTH AMERICA
CONTAINER
LABEL
REQUIREMENTS
STANDARD**

VERSION 2.0
DECEMBER 6, 2001



The Delphi Automotive Systems *Container Label Requirements Standard* contains specifications on bar code labels for material shipped to Delphi Automotive Systems from external and internal suppliers for North America.

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Preface

Development of the Delphi Automotive Systems *Container Label Requirements Standard* started in the Fourth Quarter of 1999. The original intent of this standard is to clarify Delphi's desired label format to our suppliers.

This is a living document with updates periodically. Contact your division to make sure that you have the latest version released.

Delphi Automotive Systems is comprised of six divisions: Energy & Chassis Systems, Delco Electronics, Harrison Thermal, Interior & Safety, Saginaw Steering, and Packard Electric. Through involvement on the Delphi Label Data & Design Team, all divisions from North America were represented in the development of this standard.

Please note that the Delphi Automotive Systems *Container Label Requirements Standard*, Version 1.3, supercedes all previous divisional container labeling requirements including SAP's Delphi B10 requirement for North America.

Delphi Automotive Systems discourages placing data on its shipping/parts identification label other than described in this practice. However, if state, federal, or country laws are passed which require that information such as country of origin, lot traceability, health, safety, or environmental data be added to the label, Delphi Automotive Systems will notify its trading partners of the changes required.

A Introduction

A.1. Purpose

The Delphi Automotive Systems *Container Label Requirements Standard* provides written requirements for the printing and application of container labels. Suppliers, both internal and external, SHALL use the label formats detailed in this document when shipping to all Delphi Automotive Systems facilities in North America.

The Delphi Automotive Systems *Container Label Requirements Standard* is based on the General Motors 1724, released in October 1998. Since many of Delphi's suppliers had already converted to the GM1724, Delphi decided to minimize the impact of a new label to their suppliers by using a similar format, known as the Delphi B10 label. Label standards from other customers were also referenced to enhance this document.

In this document, the word '**SHALL**' indicates a requirement and the word '**SHOULD**' indicates a recommendation. These words followed by '**NOT**' will help emphasize the opposite of the statement.

In order to facilitate efficient and effective operations, Delphi's labeling requirements SHALL be followed exactly. If there is any concern in meeting these requirements, please contact your divisional representative, listed in Appendix C.

A.2. Hardware and Software

Delphi Automotive Systems recommends the use of bar code software and hardware, which allow flexibility in label generation.

Printers SHALL produce labels that meet AIAG specifications. Thermal printers and laser printers are recommended. Dot matrix printers SHOULD NOT be used.

A.3. Sample Label Approval

Suppliers SHALL submit sample labels to their divisional labeling representative indicated in Appendix C prior to changing their label format*. Written approval will be sent from Delphi to the supplier. Please reference Appendix A for a copy of the approval sheet.

Since much of the label data will be transmitted via EDI, suppliers are encouraged to comply with the EDI certification process. Please reference the *Delphi Electronic Data Interchange (EDI) Requirements Standard*.

* Please refer to Appendix A, B for Label Approval Form and Checklist

B Normative References

AIAG Trading Partner Labels (B-10)

ANSI Data Application Identifier Standard

Delphi EDI Standards

Delphi B/L Standards

Divisional Label Specification (D/C/E/H/I/S/P)

Caterpillar: Shipping/Parts Identification Label Standard Practice 20

Harley-Davidson: Packaging and Labeling for Inbound Parts & Accessories

C Definitions

Container Label

A label used to identify the contents of the container.

Data Identifier

A specified character string that defines the specific data that immediately follows as defined by ANSI MH10.8.2, Data Identifier Guideline

Electronic Data Interchange (EDI)

The computer communication of data between trading partners.

Item

A single part or material purchased, manufactured, and/or distributed.

Label

A card, strip of paper, etc. marked and attached to an object to convey information.

Label Designer

Person responsible for designing label format and determines the exact character heights corresponding to the eight text sizes.

Master Label

A label used to identify and summarize the total contents of a multiple pack of the same container.

Mixed Load Label

A label used to identify the contents of a multiple pack of different part numbers.

Shipping/Parts Identification Label

A single pack, master or mixed load label used to identify the contents of shipping pack.

Standard Quantity Pack

A pack, which contains the same quantity of like items.

Text Lines-per-block (LPB)

The height of text characters is defined by using this unit of measure rather than inches, millimeters, or points.

D General Information

D.1 Size and Material

The label paper SHALL be white in color with black printing.

The size of the label SHALL be determined by a combination of the data requirements and the printing technology used. A label 4.0 inches (101.6mm) high by 6.0 inches (152.4mm) wide SHOULD handle all known conditions.

Adhesive types can be pressure sensitive or dry gummed as long as adherence to the package substrate is assured and application is wrinkle-free.

D.2 Types of Labels

Three types of labels are required by Delphi depending on how material is packaged for shipment as described below:

The Container Label SHALL be used to identify a single pack containing the same part number. It is the most commonly used shipping/parts identification label. Information on a Shipping Container Label includes: Delphi part number Description, Quantity, DLOC, PLT/DOC, revision level, engineering change, lot number, supplier name, supplier DUNs, supplier city/state, manufacturing date, serial number.

A Master Label SHOULD be used for containers, pallets, skids, etc., holding more than one single pack of the same part number.

A Mixed Load Label SHOULD be used for containers, pallets, skids, etc., holding more than one single pack of different part numbers.

E Container Label

The part number, quantity, purchase order number, and label serial number SHALL be displayed in both human readable characters and bar code symbols. The DLOC, Plant/Dock, revision level, engineering change, lot number, part description, supplier name, supplier DUNs, supplier city/state and manufacturing date areas SHALL be displayed in human readable only.

The maximum length of the bar code symbol SHOULD NOT exceed 5.5 inches (140mm).

E.1 Data Areas and Titles

Shown below is a sample container label with the fourteen data areas required: ---

- Delphi Part number
- Quantity
- Purchase Order number or Pull Signal Number
- DLOC
- Serial number
- PLT/DOCK
- Engineering Change
- Manufacturing Ship Date
- Lot No.
- Part Description
- Supplier ID
- Supplier Location's Name
- Supplier Location's Address & Country of Origin



PART # CUST (P) 1234567890 	 123456 QUANTITY (Q) DLOC 12345678
REF # (???) 1234567890 	12345678
SERIAL # (3S) 123456789 	PLT. / DOCK 1234567 1234567890123456789012345 12345678901234567890 12345678901234567890
MFG. / SHIP DATE: 10/22/2001 LOT NO: 1234567890	1234567890123456789012345 1234567890 SUPPLIER ID: 123456789012 1234567890123456789012345 <small>1234567890123456789012345 12 1234567 MADE IN: 123</small>
SUPPLIER FREE SPACE	

Figure 1. Container Label Format

The 'Supplier Free Space' area is not exact. This can be differently proportioned, as long as the Supplier has enough space to apply all required fields.

E.2 Use of Data Identifiers

A data identifier is one or more character that defines a general category type or specific use of bar coded data. The data identifier SHALL immediately follow the star character in the bar code symbol and will identify the type of information encoded in that symbol. Care must be taken that the bar-coded data has the proper data identifier.

The data identifier SHALL be in human readable characters in parentheses under the title for the appropriate data area.

The data identifier SHALL NOT be included in the human readable interpretation of the bar code symbol.

The data identifiers listed below SHALL be used on Delphi labels:

Data Identifier	Data Area
P	Part Number
2P	Engineering Change/Revision Level (if bar-coded)
Q	Quantity
K	Purchase Order Number
15K	Pull Signal Number or Kanban ID
3S	Serial Number – Standard Container Label
4S	Serial Number - Master Label
5S	Serial Number - Mixed Load Label

Figure 2. Data Identifier

Using additional bar code symbols on shipping packages is not encouraged but may be appropriate in certain circumstances.

E 3. Text Lines-Per-Block

The height of text characters is defined by using a unit of measure called Lines-Per-Block (LPB), rather than inches, millimeters or points. This enables the printer of the label to determine the actual height and font of text for a given LPB.

Eight sizes may be specified for text, ranging from one to eight Lines-Per-Block (LPB). The exact character heights corresponding to the eight text sizes SHALL be chosen by the label designer based on the capabilities of the printing process.

Labelers SHALL choose a single height for each of the eight sizes so that clear distinctions SHALL be evident between text sizes. Table below shows suggested point, inch, and metric sizes.

Lines Per Block	Max. Characters Per Line	Point	Inches	MM
1 LPB	8	64	9.00	22.0
2 LPB	18	32	0.40	11.0
3 LPB	28	20	0.25	7.0
4 LPB	34	16	0.20	5.0
5 LPB	42	12	0.15	4.0
6 LPB	48	10	0.12	3.0
7 LPB	59	8	0.10	2.0
8 LPB	68	6	0.08	1.5

Figure 3. Text Line-Per-Block Table

Note: Based on label width of 6.0 inches and block height of 1 inch, specific font size will depend on the capability of the suppliers' printer and software

E 4. Data Area Characteristics

E 4.1 Top Block Left -- Delphi Part No.:

The part number SHALL be designated by Delphi Automotive Systems. In the absence of a specific part number, the Purchase Order line item numbers (for example Item1, Item2, etc.) SHALL be used.

The part number has a maximum length of eighteen (18) alphanumeric characters. The human readable part number characters SHALL be bold and a minimum 2 LPB high*.

The bar code symbol for the part number SHALL be directly below the human readable characters, SHALL be a minimum of 0.5 inches (13mm) high, and SHALL contain the data identifier (P).

E 4.2 Top Block Right -- Quantity:

The maximum length for the quantity is six (6) numeric characters.

The human readable quantity characters SHALL be bold and a minimum of 2 LPB high.

Unit of measure is assumed as EACH. Any other unit of measure must appear in human-readable text only, next to the interpretation of the bar code.

The bar code symbol for the quantity SHALL be directly below the human readable characters, SHALL be a minimum of 0.5 inches (13mm) high, and SHALL contain the data identifier (Q).

E 4.3 2nd Block Left – Reference No:

* Refer the definition of LPB (Lines-per-block) to section C: Definitions

This section data varies by Delphi facility. In the case of Kanban Number (also known as Pull Signal) or Engineering Change (ECL) is included in EDI transmission to supplier, the Kanban Number and the corresponding bar code with the correct label identifier should be in this area. If the Kanban Number or ECL Number is not included in EDI transmission to supplier, the Purchase Order number assigned by Delphi should be in this area.

* The default will be the Purchase Order number assigned by Delphi.

This field has a maximum length of ten (10) alphanumeric characters, the human readable characters SHALL be bold and a minimum 2 LPB high.

The bar code symbol for this item SHALL be directly below the human readable characters, SHALL be a minimum of 0.5 inches (13mm) high, and SHALL contain the data identifier (K) for Purchase Order Number, (15K) for Kanban Number, or (2P) for ECL Number.

If multiple REF segments are transmitted, such as Kanban, Purchase Order, and ECL, this becomes a text block with no bar code.

E 4.4 2nd Block Right -- DLOC

The DLOC information is from *PCI segment* from EDI transmission building block #1. It normally indicates Plant Delivery Location. The data is whatever precedes '11Z' in the *PCI* segment.

The text of DLOC SHALL be bold and a minimum 2 LPB high.

E 4.5 3rd Block Left --- Serial Number

Each shipping container or pack SHALL have a unique number called a serial number. This number is assigned by the supplier, not Delphi, and does not necessarily need to be in sequential order. This unique number helps link the bar code data on the labels to EDI for tractability.

The serial number SHALL NOT be repeated to Delphi on another label within a twelve-month period.

The serial number has a maximum length of nine (9) alphanumeric characters + Data Identifier (3S)

The human readable serial number characters SHALL be bold and a minimum 2 LPB high.

The bar code symbol for the serial number SHALL be directly below the human readable characters, SHALL be a minimum of 0.5 inches (13mm) high, and SHALL contain the data identifier (3S).

E 4.6 3rd Block Right -- PLT/DOCK

The PLT/DOCK information is from *PCI* segment from EDI transmission building block #2.

Line1: The data SHALL be bold and a minimum 2 LPB high, with a maximum length of 8 characters. It normally indicates Plant and Dock designation. It is whatever precedes '12Z' in the *PCI* segment.

Line2: The data SHALL be a minimum of 6 LPB high, with a maximum length of 25 characters. It is whatever precedes '13Z' in the *PCI* segment

Line3: The data SHALL be a minimum of 6 LPB high, with a maximum length of 25 characters. It is whatever precedes '14Z' in the *PCI* segment

Line4: The data SHALL be a minimum of 6 LPB high, with a maximum length of 25 characters. It is whatever precedes '15Z' in the PCI segment

E 4.7 4th Block Left -- MFG. /SHIP DATE, LOT NO

MFG. SHIP DATE SHALL be minimum of 5 LPB high, and formatted as MM/DD/YYYY.

LOT NO. is the supplier assigned lot control number (when needed). It SHALL be minimum of 5 LPB high, with a maximum length of ten (10) characters.

E 4.8 4th Block Right -- Description, Supplier ID, Supplier Name, Supplier City, State, Zip, Country of Origin

The part description has a maximum length of ten (10) characters, and SHALL be bold and a minimum 3 LPB high.

Supplier ID SHALL be the 'Ship From' DUNS No. and a minimum of 6 LPB high, with a maximum length of twenty (20) characters.

Supplier Name SHALL be minimum of 6 LPB high, with a maximum length of thirty (30) characters.

Supplier City and State SHALL be minimum of 6 LPB high, with a maximum length of twenty (20) characters.

Supplier Zip Code and Country SHALL be minimum of 6 LPB high, with a maximum length of twenty (20) characters.

Country of Origin SHALL be a minimum of 6 LPB high, with a maximum length of ten (10) characters.

E.5 Electronic Data Interchange (EDI) Coordination

When EDI is used in conjunction with the Shipping/Parts Identification Label, the data areas SHALL be coordinated. If you send Advance Ship Notice (ASN 856 or DESADV Transactions) to Delphi, the bar code data on the label must be consistent with the transmitted ASN data.

F Master Label

A master label as shown below SHOULD be used to identify the total contents of a multiple pack load of the same part number if you have 1 or more skids of the same part number being shipped at one time giving the total quantity.

If the multiple common item load is in a closed container, the container SHALL bear a label identifying the receiving facility and delivery location.

Each subpack of the multiple pack SHOULD be identified with a single pack label, except shipping parts & service support material or unless otherwise instructed in the Delphi Purchase order.

- The Master Label Format is optional. At this time, Delphi North America does not plan on requiring a Master Label Format from its suppliers. This will vary by division but will be required by some divisions.

(Master Load Example)

MASTER LOAD	
PART # CUST (P) 1234567890 	 QUANTITY (Q) 123456
REF # (???) 1234567890 	DLOC 12345678
SERIAL # (4S) 123456789 	PLT. / DOCK 1234567 1234567890123456789012345 12345678901234567890 12345678901234567890 1234567890123456789012345
MFG. / SHIP DATE: 11/21/2001 LOT NO: 1234567890	1234567890 SUPPLIER ID: 123456789012 123456789012345678901234567890 12345678901234567890 12 12345 123
SUPPLIER FREE SPACE	

G Mixed Load Label - Multiple Single Packs of Different Part Numbers

A mixed load label as shown below SHOULD be used to identify a load of multiple single packs of different part numbers.

If the mixed load is in a closed container, the container SHALL bear a label identifying the receiving facility and delivery location.

Each sub-pack of the mixed load SHOULD be identified with a single pack label.

* The Mixed Load Label Format is optional. At this time, Delphi North America does not plan on requiring a Mixed Load Label Format from its suppliers. This will vary by division but will be required by some divisions.

(Mixed Load Example)

MIXED LOAD	
PART # CUST (P) 1234567890 1234567890	 QUANTITY (Q) 123456
REF # (???) 1234567890 	DLOC 12345678
SERIAL # (SS) 123456789 	PLT. / DOCK 1234567 1234567890123456789012345 12345678901234567890 12345678901234567890
MFG. / SHIP DATE: 1/21/2001 LOT NO: 1234567890	1234567890 SUPPLIER ID: 123456789012 123456789012345678901234567890 12345678901234567890 12 12345 123
SUPPLIER FREE SPACE	

H Placement

Labels SHOULD be placed no closer than 1.25 inches (32mm) from any container edge. Label placement toward the center of the sides of rectangular, corrugated containers SHOULD be avoided because excessive abrasion damage may result during transportation and render the label not usable.

For placement on various types of containers, labels SHOULD be applied in an easily accessible location* .

For unit loads, the placement of the label SHALL be on the upper half of the unit load. The bottom edge of the label SHALL NOT be higher than 60 inches (152cm) from the bottom of the unit load.

Unit loads SHALL have identical labels on two adjacent sides.

NOTE: Additional labeling requirements may be dictated by each individual plant as needed.

I Bar Code Symbology

In compliance with the current AIAG B10 Shipping Label Specs, the symbology used SHALL be Code 39.

** Code 128 will be accepted and when the new AIAG Shipping Manual is published in 2001, this section will be changed to "SHALL be code 128."*

I.1 Code Configuration

The four characters (\$, /, +, %) SHALL NOT be used on the Shipping/Part Identification Label.

I.2 Check Digits

For code 39, the check digits SHALL NOT be added to the bar codes or human readable interpretation. When the new AIAG standard of code 128 is launched, the check digits SHALL be "built in" the bar-code and would not appear in the human readable interpretation.

I.3 Code Density and Dimensions

This standard requires that the bar code meets a minimum height and that the bars and spaces maintain specific sizes and ratios. Acceptable (100%) scanner read rates also require that quiet zones and gap widths be a specific size.

I.3.1 Bar Height

The bar height SHALL be a minimum of 0.5 inches (13mm)

I.3.2 Narrow Elements

The bars and spaces in a symbol are called elements. For each bar code 39 symbol, the narrow element width (known as the X dimension) SHALL be within the range of 0.013 to 0.017 inches (0.33 to 0.43 mm).

I.3.3 Wide to Narrow Element Ratio

The ratio for code 39 of the average width of the wide elements to the average width of the narrow elements SHALL be 3:1, with an allowable range of 2.8:1 to 3.2:1.

I.3.4 Quiet Zone

For optimum scanning, a symbol's leading and trailing clear area known as the quiet zone SHALL be at least 0.25 inches (6.4mm).

J Quality Check

Suppliers have a responsibility to provide bar coded labels that meeting Delphi standards and Delphi has a responsibility to alert suppliers of any persistent label non-conformance.

The ANSI X3.182, Bar Code Print Quality Guideline SHALL be used to determine bar code symbol print quality. It is suggested that the supplier's minimum internal print quality grade SHALL be (B) 3.0/10/660, to guarantee a customer print quality grade of (C) 1.5/10/660 where:

- Minimum print quality grade = 3.0 (B)
- Measurement aperture = 0.010 inch (0.254 mm)
- Inspection wavelength = 660 nanometers +/- 10 nanometers.

It is recommended that verification audits be used in conjunction with statistical process control to assure label quality.

Appendix

Appendix A: Label Approval Form

For approval of the shipping label format, fax this form to:

Name: Delphi Labeling Divisional Representative (App. C)
Company
Phone
Fax

Stick label here

Approval Signature: _____
Approval Date: _____

From: Name
Company
Phone
Fax

Appendix B: Label Approval Checklist by Delphi Internal Usage

DELPHI LABEL APPROVAL CHECKLIST

Date:

Supplier:

From:

Phone:

Fax:

Data Area	Quality Grade (3.0/B)	Passed Yes	Passed No	Comments
01. Delphi Part #				* Part # should match P.O.
Valid Delphi Part #				
Barcode scanable				
Barcode contains identifier				* Identifier should be P
Barcode matched data				
Position on label valid				
02. Quantity				
Maximum 6 characters				
Barcode scanable				
Barcode contains identifier				* Identifier should be Q
Barcode matched data				
Position on label valid				
03. P.O. #, Pull Signal #, or ECL #				
Assigned by Delphi				
Barcode scanable				
Barcode contains identifier				* Identifier should be 'K' with P.O., '15K' with Pull Signal, or '2P' with ECL Number.
Barcode matched data				
Position on label valid				
04. DLOC				
Position on label valid				
05. Serial #				
Maximum 9 characters				
Barcode scanable				
Barcode contains identifier				* Identifier should be 3S for standard, 4S for master, and 5S for mixed load labels.
Barcode matched data				
Position on label valid				
06. PLT/DOCK				
Position on label valid				
07. Lot # (if needed)				
Position on label valid				
08. MFG date				
Position on label valid				
09. Description				
Position on label valid				
10. Supplier ID				* Make sure its 'Ship From' DUNS #.
Position on label valid				
11. Supplier Name				
Position on label valid				

12. Supplier Street, City				
Position on label valid				

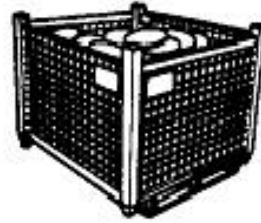
Appendix C: Delphi North America Labeling Contact List by Each Division

Division	Name	Phone	Email
Headquarters	Kevin Klapp	(248) 267-0722	kevin.l.klapp@delphiauto.com
	Geno Bury	(248) 267-0720	gene.bury@delphiauto.com
Delco Electronics Systems	Yan Bai	(765) 451-4087	yan.bai@delphiauto.com
	Cassie May	(765) 451-4083	cassie.l.may@delphiauto.com
Energy & Chassis Systems	Amy Peltier	(810) 257-5016	amy.peltier@delphiauto.com
	Greg Rosborough	(810) 257-8088	greg.rosborough@delphiauto.com
	Kathy Stark	(810) 341-0718	kathy.stark@delphiauto.com
Harrison Thermal Systems	F. Alfonso Mulela	(915) 782-7751	alfonso.muela@delphiauto.com
Safety & Interior Systems	Don Heydens	(248) 655-0977	don.g.heydens@delphiauto.com
Packard Electric Systems	Debra Baker	(330) 373-2024	debra.l.baker@delphiauto.com
Steering Systems	John McInerney	(517) 757-3512	john.mcinerney@delphiauto.com

Appendix D: Suggested Label Placement

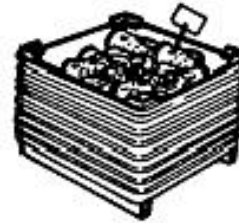
BASKET, WIRE MESH CONTAINER

Identical labels **SHALL** be located on two adjacent sides.



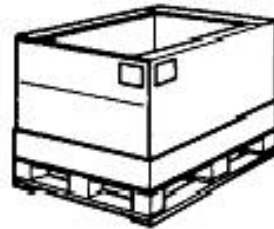
METAL, BIN or TUB

Tag one visible piece near top or use a label holder.



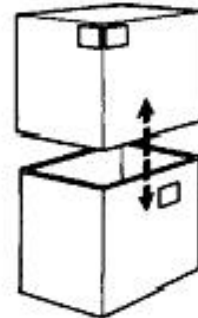
PALLET BOX

Identical labels **SHALL** be located on two adjacent sides.



TELESCOPE OR SET- UP CONTAINERS

Identical labels **SHALL** be located on two adjacent sides of the outer box. Some applications may also require identification of the inner box.



BUNDLE

Identical tags **SHALL** be located at each end.



BAG

Place one label at the center of face.



ROLL

Hang one tag 2.0 in (51 mm) from end of material.



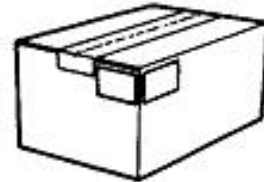
RACK

Tag one visible piece near top, or use a label holder.



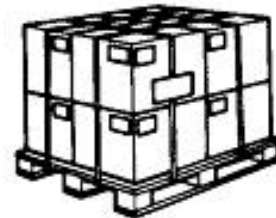
BOX or CARTON

Identical labels **SHALL** be located on adjacent sides.



CARTONS ON PALLET

Identical Master Load or Mixed Load Labels **SHALL** be used on adjacent sides.



***DRUMS, BARRELS, or
CYLINDRICAL CONTAINERS***

Identical labels **SHALL** be located on the top and near the center of the side.



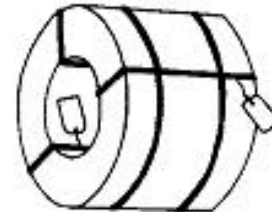
BALES

Identical labels **SHALL** be located at the upper corner of an end and the adjacent side (wraparound label acceptable).



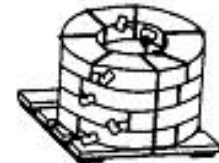
SINGLE COIL

Identical labels **SHALL** be used. Locate one on the inside of the coil and one on the outside.



SLIT COILS

Identical labels **SHALL** be used. Locate one on the inside of each coil and one on the outside of each coil.



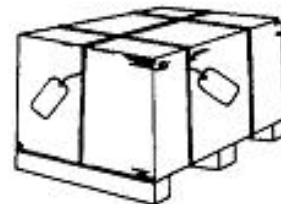
TUBING and BARS

Identical labels **SHALL** be used. Attach one to each end of the bundle.



SHEETS/CUT LENGTHS/BLANKS

Identical labels **SHALL** be located on two adjacent sides.



RETURNABLE CONTAINERS

Refer to applicable AIAG standards (RC-1 through RC-8).