

# ROUSH.

## ROUSH ENTERPRISES PACKAGING SPECIFICATIONS INBOUND & OUTBOUND FREIGHT

### Introduction

These guidelines are intended to assist both suppliers and Roush shipping operations in understanding and applying packaging requirements for inbound and outbound packages & freight.

Note that packaging instructions agreed to regarding program specific requirements take precedence over these guidelines. Reference your program agreement for details.

### Corrugated Fiberboard Boxes (cartons)

Selection of fiberboard boxes will be determined by the chart below, as established by the National Motor Freight Classification Item 222.

<b>Box Strength Guidelines</b>			
Maximum Weight of Contents in Pounds	Size Limit of Box in Inches (L+W+D)	Bursting Test in Pounds per Square Inch	Edge Crush Test (ECT) in Pounds per Inch Width
<b>Single Wall Corrugated</b>			
30	75	200	32
40	75	200	40
50	85	250	44
65	95	275	55
80	105	350	NA
<b>Double Wall Corrugated</b>			
60	85	200	48
80	95	275	51
100	105	350	61
120	110	400	71
140	115	500	82
150	120	600	NA

Bursting Test and Edge Crush Test data is displayed in the Boxmaker's Certificate typically located on the bottom of the box. Ideally, best results are obtained where contents of box are limited to about 50% of the maximum gross weight specified.

Boxes must be original containers for the product being shipped or of new construction. The re-use of older boxes is not acceptable.

### **Interior Packaging Protection**

Product should be positioned within center of package, with sufficient protection to prevent damage and eliminate shifting or movement while in transit. Material selected for protection should take into consideration shock & vibration during transit & handling. Protective material must be placed between product and all six walls of the box. A minimum of 1” of padding is required for standard shipments, and 2” required for fragile or heavy / unique shaped items. Environmentally friendly / reusable materials are encouraged.

Types of materials, depending of product shipped and level of protection required can include: cushion wrap, bubble wrap, cotton sockettes, corrugated wrap, cellulose wadding, vermiculite, packing peanuts, expandable foam, etc..

### **Sealing**

Reinforced industrial Kraft sealing tape is recommended. Masking tape, duct tape, cellophane tapes should not be used.

Completely seal all flaps, top & bottom forming an “H” pattern.

Reinforce all 4 vertical corners of heavy shipments with Kraft sealing tape to prevent “burst out”.

Non-metal strapping is required for small – medium sized packages greater than 65 pounds.

### **Palletizing**

When palletizing, the preferred method is column stacking. Interlocking layers may only be used if items inside packaging are rigid such as metal pails.

Overhanging, misaligned stacking, or pyramid shaped loads are not allowed.

Packages must be stretch wrapped to the pallet for load consolidation and then banded to the pallet for load security. Use edge strap guards to prevent banding damage.

### **Pallet Selection**

Pallets should be the standard 40” x 48” size, made of wood, with 4 way entry.

Protruding nails, fasteners, or broken boards are not allowed.

Corrugated pallets are an acceptable alternative providing they are capable of supporting the intended load, have 4 way entry and are undamaged.

Spacing between deck boards should be narrow to ensure proper load support and prevent damage by forks from below.

Pallet must be sturdy enough to support the load.

International shipment wood pallets must meet the specifications required by the European Community.

### **Returnable Dunnage**

The use of returnable dunnage is encouraged. Size, shape and weight of such dunnage will be discussed with and agreed to with the vendor, Roush program manager and a Roush shipping & receiving representative. Dunnage must take into consideration weight limitations of material handling equipment, storage size and capacity, transportation mode capacity. Arrangement for dunnage return is the responsibility of the shipper, within an agreed amount of time. Existing labeling must be obscured or removed prior to return.

### **Marking & Labeling**

All shipments will be clearly marked and labeled, legibly and durably. This will include full name and address of shipper and consignee. Inbound freight will include as well (at a minimum) the Roush Purchase Order #.

Appropriate transportation labels will be securely affixed. Such labels may include: “Fragile”, “Do Not Stack”, “UPS Next Day Air”, etc.

Placement of labels should be on two adjacent sides of each container.

If shipment is secured with an overpack or stretch wrap, markings and labels must also be placed on the outer surface of the shipment.

### **Bar Coding**

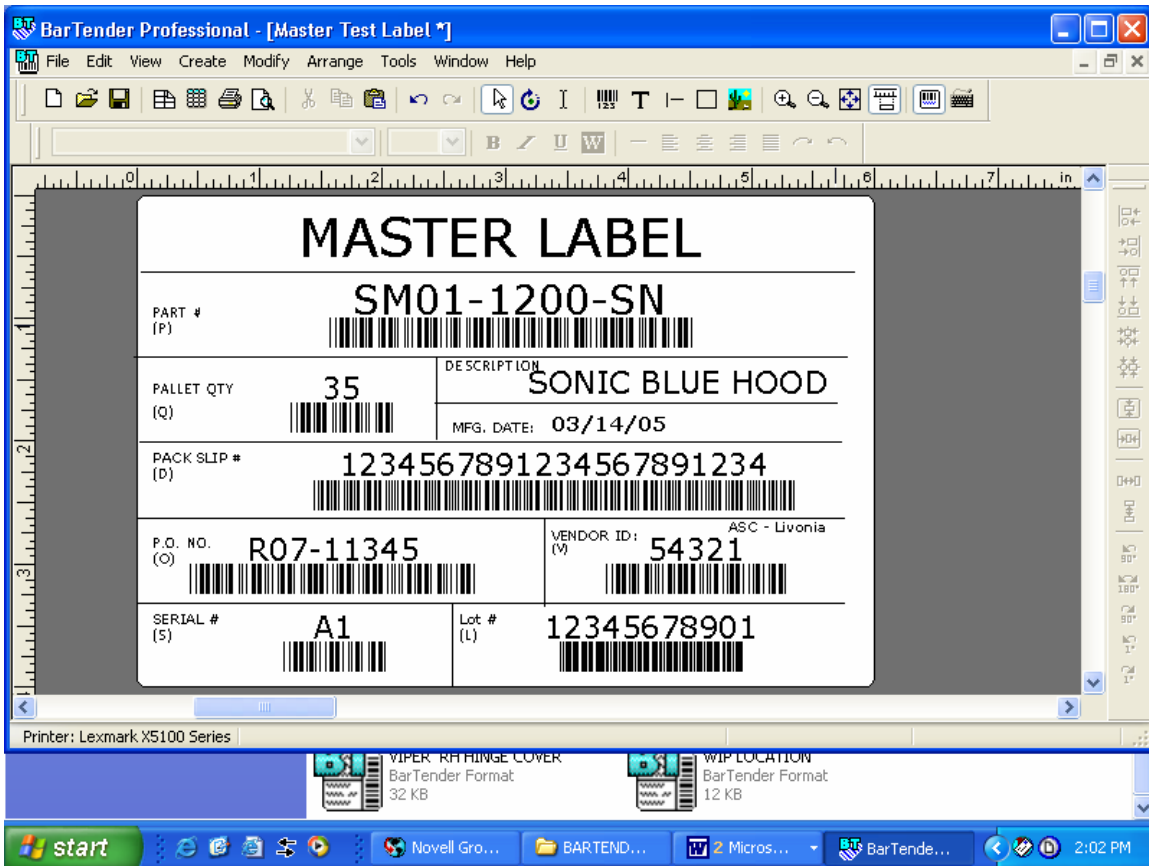
Barcodes will be formatted to AIAG Standard B4. Please refer to that standard for detail specifications.

Certain vendors will be directed to apply the Roush specified bar code label agreed to for each shipment. Detail examples are provided below.

Each pallet will be bar coded with a master label (example below). The master bar code label will be affixed to the center of each of the 4 vertical sides. Pallet bar code labels will contain information specific to the contents of the individual pallet.

Each parts container on the pallet will have the individual bar code label (example below) affixed to the upper right hand corner of two adjacent vertical sides.

## **MASTER BAR CODE LABEL EXAMPLE & SPECIFICATIONS**



**Roush requirements for all incoming shipments, labeled with Bar-Codes according to the following:**

General Label Requirements

**Label Size:** 4 inches by 6 inches, which divide into 4 horizontal blocks and sub-blocks

**Bar-Code Symbol:** Code 128

**Bar-Code Dimensions:** Bar-Code density is medium or about 12 mil  
 Bar-Code height is 0.50 inches  
 Overall Printed Height of Part # MUST be 0.50

**Data Identifiers:** Each field bar code will begin with the specified Data Identifier - P, D, Q, V, S, O, and L (P for Part #, D for Packing Slip #, Q for Quantity #, V for Vendor # or Supplier #, S for Serial #, O for P. O. #, and L for Lot number (when required)).

**Quiet Zone:** A ¼” of an inch (the white spaces between the bar code and the vertical edge of the label or the vertical line inside the label), is considered the quiet zone with no printing. Refer to the label for more details.

**Mandatory Fields:** All fields are mandatory unless a deviation is authorized Roush materials management.

**Detail Requirements for Each Block:**

Each Block or sub-block will have its own title such as PART NO. (P) or QUANTITY (Q) etc. Refer to the label for more detail.

**PART NUMBER Block 1-0 “P”**

Maximum bar code encoded 18 characters.

Maximum human readable length 18 alphanumeric characters for part number.

**QUANTITY Block 2-0 “Q”**

Maximum bar code encoded 15 characters.

Maximum human readable length 15 characters for the quantity: Decimal positions are not mandatory, but usable when needed

**DESCRIPTION Block 2-1 and 2-2**

Maximum of 20 readable characters for the part description.

Date parts are manufactured.

**PACKING SLIP Block 3-0 “D”**

Maximum bar code encoded 22 characters.

Maximum Human readable length 20 characters

**PURCHASE ORDER NUMBER Block 4-0 “O”**

Maximum bar code encoded 15 characters. R07 identifies the business unit from the 5 or 6 digit numerical PO number separated with a (-) dash, IE R07-11672.

Maximum Human readable length 15 characters for the P. O. Number.

**SUPPLIER/VENDOR NUMBER Block 4-1 “V”**

Maximum bar code encoded 10 characters. Vendor/supplier number will be provided by Roush Purchasing Department.

Maximum human readable length 10 digits for supplier/vendor number.

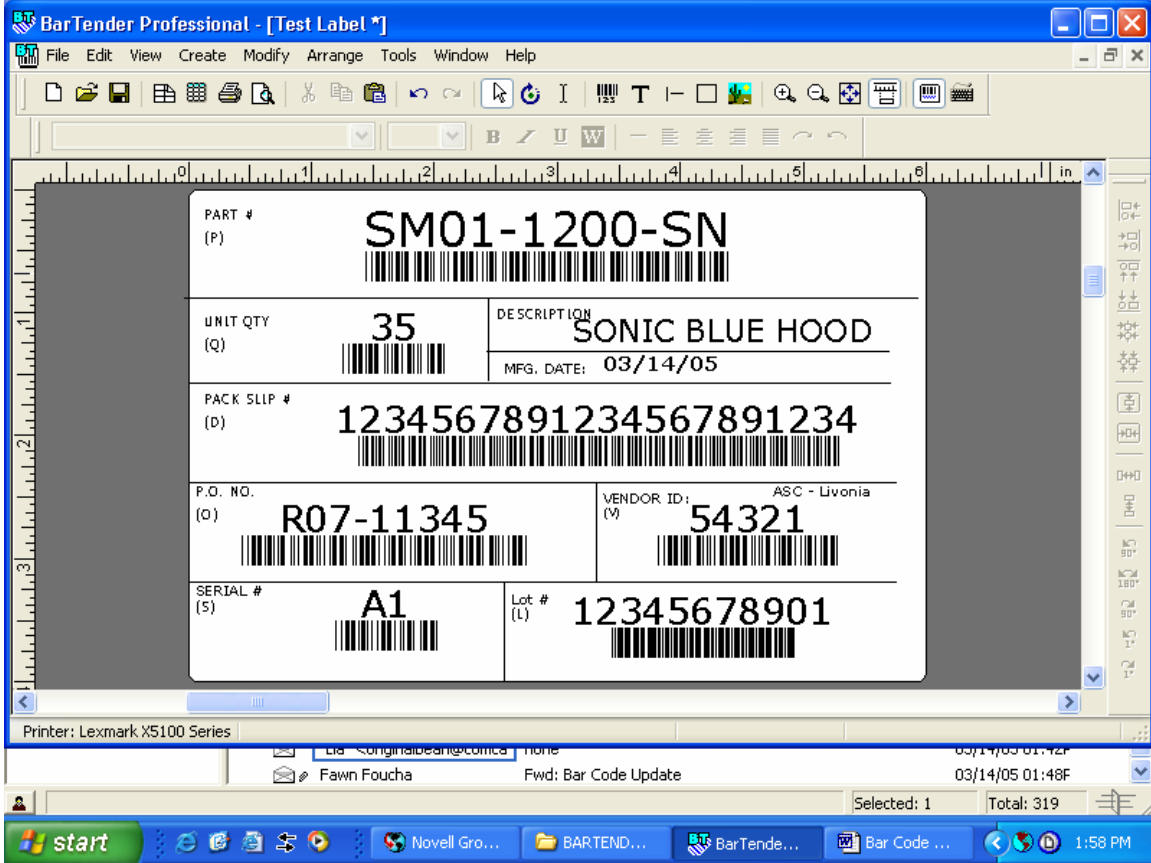
**SERIAL NUMBER Block 5-0 “S”**

Maximum bar code encoded 20 characters. Purpose of the Serial number is to uniquely identify a specific item. Note serial number CANNOT be repeated.  
Maximum human readable length 20 can be either numeric or alphanumeric characters for the Serial number.

**LOT NUMBER Block 5-1 (used only if and when required) “L”**

Maximum bar code encoded 11 characters.  
Maximum human readable length 11 alphanumeric characters.

**INDIVIDUAL COMPONENT BAR CODE LABEL EXAMPLE & SPECIFICATIONS**



**Roush requirements for all incoming shipments, labeled with Bar-Codes according to the following:**

**General Label Requirements**

**Label Size:** 4 inches by 6 inches, which divide into 5 horizontal blocks and sub-blocks

**Bar-Code Symbol:** Code 128

**Bar-Code Dimensions:** Bar-Code density is medium or about 12 mil

Bar-Code height is 0.25 inches  
Overall Printed Height of Part # MUST be 0.50

**Data Identifiers:** Each field bar code will begin with the specified Data Identifier - P, D, Q, V, S, O, and L (P for Part #, D for Packing Slip #, Q for Quantity #, V for Vendor # or Supplier #, S for Serial #, O for P. O. #, and L for Lot number (when required)).

**Quiet Zone:** A ¼” of an inch (the white spaces between the bar code and the vertical edge of the label or the vertical line inside the label), is considered the quiet zone with no printing. Refer to the label for more details.

**Mandatory Fields:** All fields are mandatory unless a deviation is authorized Roush materials management.

**Detail Requirements for Each Block:**

Each Block or sub-block will have its own title such as ITEM NO. (I) or QUANTITY (Q) etc. Refer to the label for more detail.

**PART NUMBER Block 1-0 “I”**

Maximum bar code encoded 18 characters.

Maximum human readable length 18 alphanumeric characters for part number.

**UNIT QUANTITY Block 2-0 “Q”**

Maximum bar code encoded 15 characters.

Maximum human readable length 15 characters for the quantity: Decimal positions are not mandatory, but usable when needed

**DESCRIPTION Block 2-1 and 2-2**

Maximum of 20 readable characters for the part description.

Date parts are manufactured.

**PACK SLIP NUMBER BLOCK 3-0 “D”**

Maximum bar code encoded 22 characters.

Maximum Human readable length 20 characters

**PURCHASE ORDER NUMBER Block 4-0 “O”**

Maximum bar code encoded 15 characters. R07 identifies the business unit from the 5 or 6 digit numerical PO number separated with a (-) dash, IE R07-11672.

Maximum Human readable length 15 characters for the P. O. Number.

**SUPPLIER/VENDOR NUMBER Block 4-1 “V”**

Maximum bar code encoded 10 characters. Vendor/supplier number will be provided by Roush Purchasing Department

Maximum human readable length 10 digits for supplier/vendor number.

**SERIAL NUMBER Block 5-0 “S”**

Maximum bar code encoded 20 characters. Purpose of the Serial number is to uniquely identify a specific item. Note serial number CANNOT be repeated.

Maximum human readable length 20 can be either numeric or alphanumeric characters for the Serial number.

**LOT NUMBER Block 5-1 (used only if and when required) “L”**

1. Maximum bar code encoded 11 characters.
2. Maximum human readable length 11 alphanumeric characters.

**Shipment Documentation**

Packing slips clearly identifying shipment contents, order #, purchase order, shipper and consignee (at a minimum) must be included with each shipment. Packing slip may be attached to exterior of shipment in clear envelope marked “Packing Slip”, or packed inside of a package clearly labeled “Packing Slip Inside”.

**Dangerous Goods Shipments**

All Dangerous Goods shipments will be processed (Identify, Classify, Package, Mark, Label & Document) according to laws established by IATA and performed by an employee certified in Dangerous Goods shipments.