The world has entered an age of environmental concern. GM shares this concern and wishes to comply with all local, state, federal and international regulations and laws that impact the packaging of our service parts. We caution all of our suppliers to be aware of the materials they are using and being supplied. GM supports the recycling of packaging materials. Materials such as plastics and corrugated should be identified with standard recycling symbols that indicate content. Other materials should be identified in a standard manner consistent with existing laws and regulations.
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Arrows denote a major update.
Introduction

Purpose: To clearly define packaging, shipping, and labeling requirements for General Motors Customer Care and Aftersales (GM CCA) suppliers. This document and supporting packaging information can be found on the dashboard of the GM CCA Packaging website- Global PKG (gm.gpkg.com) or on the GM Supply Power website (www.gmsupplypower.com)

The path to follow through GM Supply Power is:
If you are not logged into GMSupplyPower, please do so and navigate through the following screens:
GMSupplyPower >Collaborate> Document Library. Search for “Packaging Standards and Requirements” to find the current CCA packaging document. (Sort Descending on the Last Updated column).

Please subscribe to CCA bulletins in Supply Power to ensure important updates are not missed.

A Definitions of Terminology used in this document can be found via the GM CCA packaging specification website (gm.gpkg.com). Please navigate to the Support section on the main Dashboard after login.

Scope: Unitized and bulk packaged parts shipped to GM CCA North America receiving points (i.e. Processing Centers, 3rd Party Packager/Consignment, GM CCA Parts Distribution Centers, or directly to the customer).

Supplier Responsibility

• ALL suppliers, bulk or unitized, are required to register for the GM CCA Packaging website- Global PKG (gm.gpkg.com)
• Parts must arrive to GM CCA without damage, rust/corrosion, or contamination and in a SALEABLE condition.
• Packaging must meet the requirements of this manual, unless otherwise documented in a GM CCA packaging specification.
• Country of Origin certification and package marking (unitized) or part marking (bulk) are REQUIRED.
• Unitized packaging specifications may include Parts Marking and /or Substance of Concern regulatory requirements.
• Suppliers shipping hazardous materials must follow all prescribed regulations as specified in 49 CFR, Research and Special Programs, U.S. Department of Transportation when packing and shipping hazardous material.
• All incoming material to GM CCA receiving points must be identified with a GM 1724 Global Transportation Label.

Delivery Performance Rating: A supplier’s conformation to this document and adherence to packaging standards is factored into the supplier’s delivery performance rating, and failure to comply can result in a Supplier Practical Problem Solving (SPPS).

Suppliers shipping to GM CCA US, Canada, or Mexico locations must review the GMCCA Warehouse Supplier Shipping Requirements for additional details regarding properly shipping material to these locations. (GMSupplyPower location: GMSupplyPower >Collaborate> Document Library. Search for “GMCCA Warehouse Supplier Shipping Requirements”)

Questions:

All questions regarding GM CCA Packaging, e-mail: spopackaging@gm.com
All questions regarding GM CCA Country of Origin, e-mail: coocompliance@gm.com
All questions regarding Substance of Concern (SoC), e-mail: CCA.substanceofconcern.partsmarking@gm.com
All questions regarding Hazardous Materials, e-mail: gmccadgt@gm.com
All questions regarding GM 1724 Global Transportation Labels, e-mail: GMNALabelValidation@gm.com
All questions regarding GM CCA Containerization, e-mail: scgmcontainers@xpo.com
Bulk verses Unitized-Definitions

Suppliers can visit, the GM CCA Packaging website (gm.gpkg.com) on a part number basis to determine if a part is to be unitized or sent in bulk. Suppliers should also check their contracts since some parts might be set up for unitized, however the supplier would be sending to 3rd party bulk for a 3rd party to package. Suppliers should look at the USB field on the website:

If there is an “S” in the USB field=source unitized (could be shipped bulk and 3rd party packaged. See page 5)
If there is a “U” or “B” in the USB field=bulk

Definition of Bulk

- Several parts in shippable container where packaging does not contain GM CCA brand packaging/labeling.
- Supplier is design responsible for bulk specification.
- Expected to meet bulk packaging requirements in this manual.
- If supplier is using packaging to protect parts in shipment, supplier’s name, logo, and/or graphics are not acceptable for shipping in packages containing only one part. Supplier graphics are acceptable for bulk shipments if shipping multiple parts in a container.
- Parts that are comprised of two or more pieces must be assembled, attached, combined or put together to form an easily identifiable single unit.
- Parts that are manufactured as multiple parts on a roll, coil, or substrate must be easily separated into a single part.
- Parts that are excessively packaged, above the necessary level for part protection, may be subject to a SPPS.
- Bulk parts should be shipped in packages that are proportionally sized to the part(s) being shipped.

Minimize void space within containers to maximize cube utilization of containers.

Shown below is example of bulk part in the (gm.gpkg.com) website, USB=U and shows a current Processing Plant” is 077.

Below are examples of bulk packaging*:

*Additional examples of commodity specific bulk packaging can be found via the Bulk Packaging Appendix stored on the GM CCA packaging specification website: (gm.gpkg.com). Please navigate to the Support section on the main Dashboard after login.
**Definition of Unitized**

- Individually packaged parts with GM CCA brand labels or graphic packages per GM CCA packaging specification.
- Expected to meet unitized packaging requirements in this manual.
- Supplier graphic or any additional supplier labels, including suppliers name, part number or logo are **not acceptable** on any packaging materials, unless documented on a GM CCA specification.
- Packaging specifications can be found on the GM CCA Packaging website ([gm.gpkg.com](http://gm.gpkg.com))

Below are examples of unitized packaging:

- Plain bag + graphic label on bag
- Graphic label on part
- Graphic packages
- Corrugated box + graphic label

Shown below is example of a sourced unitized part on the **gm.gpkg.com** website, note USB=S and the “Current Processing Plant” shows zeros.

Shown below is an example of a 3rd party packaged part, USB=S and shows a “Current Processing Plant” number (not zeros). Supplier is sending bulk part to 3rd party for them to package it.
GM 1738 CCA Packaging Data Form

The 1738 CCA form serves as a tool for suppliers to provide Unitized packaging information to GM CCA of their proposed packaging concept. A 1738 CCA form is not required to be submitted to GM CCA prior to shipping. Please visit gm.gpkg.com to review and verify unitized packaging specifications.

If assistance is needed, please email: spopackaging@gm.com
Rust Free Shipments of Ferrous Parts

<table>
<thead>
<tr>
<th>Supplier Type</th>
<th>Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bulk</td>
<td>✓</td>
</tr>
<tr>
<td>Unitized</td>
<td>✓</td>
</tr>
</tbody>
</table>

GM CCA requires that the supplier deliver ferrous parts free of rust, unless stated on the engineer drawing/print which takes precedence. All temporary coatings must not affect part appearance or function, and must be environmentally friendly. Additionally, the temporary coatings must be safe, easy to handle, and easy to remove and dispose of.

GM CCA requires all ferrous parts to remain rust free for three (3) years, including all source unitized parts and the commodities listed below:

- Arms
- Bearings
- Brake shoes
- Bushings
- Crankshafts
- Dampers
- Drums
- Flywheels
- Stamped metal (hinges, brackets, oil pans, struts and straps)

- Frames
- Gears
- Hubs
- Levers
- Manifolds
- Pumps
- Rotors
- Shafts

*Exception for sheet metal parts: 30 days shelf life from date of shipment receipt.

To ensure parts are received in usable condition, GM CCA does NOT approve of the following rust prevention methods:

- Thick grease or wax-like coatings that require strong solvents, special cleaning equipment or extra labor to remove.
- Soft coatings that harden with time, and if not completely removed may block or affect other oils or lubricants when part is in use.
- High temperature, water displacing and finger print suppressing oil used in combination with vapor corrosion inhibitors and barrier type package.
GM CCA Country of Origin Requirements

<table>
<thead>
<tr>
<th>Supplier Type</th>
<th>Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bulk</td>
<td>✔️</td>
</tr>
<tr>
<td>Unitized</td>
<td>✔️</td>
</tr>
</tbody>
</table>

Conformance to country of origin requirements and regulations is mandatory to prevent possible marking notices, seizures and/or penalties by Customs Authorities and issuance of a SPPS to suppliers. Please note that country of origin marking requirements for CCA contracts are different than those for OEM production purchasing contracts.

1. Part marking is required. Unless exempt by law, every non-US origin part destined for sale and/or use in the United States is required to be individually marked with “MADE IN”, “ASSEMBLED IN”, “PRODUCED IN”, “PRODUCT OF”, “MANUFACTURED IN”, etc. followed by the English name of the country of origin (no abbreviations) in a legible, obvious, and sufficiently permanent manner to survive normal distribution, storage and handling. (When a part is made in the United States, no marking is necessary. However, a COO affidavit is still required.)
   • For bulk parts, the country of origin must be marked using ONE of following methods:
     - etched, engraved, embossed, or stamped directly on the part,
     - labeled directly on the part
     - wire tags affixed to the part
     - bagged and labeled on the individual bag
   • For unitized parts, the country of origin must be marked on the part label on the outside of the merchandise packaging.
   • Placement: The country of origin must be in close proximity and of comparable size (equal to or larger) than any address or other country marked on the part.

2. Part certification is required. Suppliers must return country of origin affidavits and free trade agreement documentation to GM CCA on an annual basis. Documentation must be provided to Sandler and Travis Trade Advisory Services prior to the first shipment of a part each calendar year. Suppliers are required to provide revised country of origin affidavits any time origin changes.

All questions regarding Country of Origin Compliance, e-mail: COOCompliance@gm.com

All questions regarding certifications, contact:
Sandler and Travis Trade Advisory Services, Inc,
Phone: (248) 474-7200 (Ask for GM CCA Team)
E-mail: spoteam@sttas.com

For additional training, log in to GM Supply Power, select Collaborate, then Document Library.
- Click on Customer Care and Aftersales and input “Country of Origin” in the search field.
GM 1724 Global Transportation Label

<table>
<thead>
<tr>
<th>Supplier Type</th>
<th>Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bulk</td>
<td>✓</td>
</tr>
<tr>
<td>Unitized</td>
<td>✓</td>
</tr>
</tbody>
</table>

GM 1724 labels are a series of label format standards set by GM to facilitate global trade between GM and its trading partners. All incoming material to GM CCA receiving points must be identified with a GM 1724 label affixed on two opposite sides of each shipping container or product load, unless supplier is using specified distribution label (see Distribution/Unit Load Labeling).

All questions regarding GM 1724 Global Transportation Labels, please email GMNALabelValidation@gm.com or use the link below to access the standards:

If you are not logged into GMSupplyPower, please do so and navigate through the following screens:
GMSupplyPower >Collaborate> Document Library. In the search box, enter “1724 Transportation Label” to find all pertinent 1724 information.

Example of 1724-A label on box.

Example of 1724B-all same part number load.
FAQs for the GM 1724 Label

1) Q: I do not receive certain data from CCA. What do I do?
   A: The following data is not transmitted by CCA and not necessary to print on the labels:
      - Material Handling Code
      - Optional special symbol
      - Reference sub-block #1
      - In reference sub-block #2 the container type will not be submitted

2) Q: How are dock codes transmitted?
   A: For CCA warehoused material, the CCA EDIFACT DELFOR LOC+11 segment will be populated with a numeric character > 0 when the dock is assigned at the CCA destination. When no dock code is assigned by CCA, suppliers may leave the dock code segment of the GM 1724 label/barcode blank.

3) Q: Does the weight have to be in kilograms?
   A: Yes

4) Q: What is the difference between GM 1724-A, GM 1724-B and GM 1724-C labels?
   A: **GM 1724-A**: This label is used on a corrugated shipping box and should be on opposite corners of each carton.
      - Note: For both ACDelco and GM unitized parts shipped on a pallet, use the label that appears on the specification (e.g. 0B037000, 0B038782, etc.) and you do not need to use the 1724-A.
      - If shipping small carrier, i.e. Fed Ex, then a 1724-A is required.
      - For palletized shipments, it is permissible to put both the specified label and the 1724-A label onto packages.
   A: **GM 1724-B**: This label is used to identify a pallet load when all the parts on the pallet are the same part number. GM refers to this as the Master Label.
      - This label identifies the quantity of shipping containers (distribution packs) on a pallet as well as total pieces on the pallet.
   A: **GM 1724-C**: This label is used to identify a pallet of mixed part numbers (different part numbers on a pallet).

5) Q: What do I do when CCA orders less than standard pack quantities?
   A: For the 1724-B and C labels, add “NON STD PK” verbiage when orders are less than standard pack.

6) Q: Does GM CCA transmit PCI segments via DELFOR?
   A: No, GM CCA does not transmit PCI segments. This area on the label can be left blank on the label.

7) Q: What quantity should I enter onto the label that is directly placed onto the carton?
   A: The quantity on the label is to reflect the actual amount of pieces in the specific container that is being labeled and not the total customer order. Example, the customer order is 1000 pieces and the quantity in box “A” is 100 pieces, “100” should be in the “QUANTITY” field on that label on box “A”.

8) Q: What if I have a mixed load and more than eight (8) part numbers?
   A: If using a mixed load label (1724-C) and if you have more than eight (8) part numbers, use a second 1724-C and list the additional part number(s). Also if using two labels in this instance, only put the total weight on one label, leave the other label’s total weight blank.

9) Q: Can the lower portion of the labels be used for supplier information?
   A: Suppliers can use the bottom left corner of the 1724-A label, and bottom right corners of the 1724-B and 1724-C label for their own internal information (and symbols) if needed.

10) Q: What do I do if there are multiple countries of origins (COOs) and these will not fit on the 1724 label?
    A: You may leave this area blank. Any custom documents will address the COO information if required.

11) Q: I am using stretch wrap around my pallet, where do I affix the label?
    A: If using stretch wrap, affix the 1724 labels to the outside of the wrap.

12) Q: I am a ship direct supplier, do I need to use the 1724 label?
    A: No, but permissible to do so if needed.
Package Label & Layouts

<table>
<thead>
<tr>
<th>Supplier Type</th>
<th>Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bulk</td>
<td></td>
</tr>
<tr>
<td>Unitized</td>
<td>✔️</td>
</tr>
</tbody>
</table>

The following sections further define labeling requirements for GM CCA:
- Unitized Label Layouts
- Graphic Package Layouts
- Standard Core Return Layouts
- Distribution Container & Pallet Unit Load Labeling

Label Brand Portfolio

GM CCA’s customers primarily require use of three different style labels on our packages. These labels are used on Retail and Non-Retail product lines and are controlled by the packaging specifications. Supplier graphics, including supplier’s name are not acceptable on packaging materials.

The following Security Labels can only purchased from OpSec Security, contact: gmcustomerservice@opsecsecurity.com

Unitized Label Layouts

Note: Suppliers should not be printing any QR codes in the following label layouts. OpSec Security will be pre-printing all QR codes on all blank GM and ACDelco label stock moving forward. This QR code is a generic brand barcode and not part specific. See below for specific information:

- The following layouts should be in compliance by March 31st, 2020.
- All parts packaged after this date will need the updated layouts.
- Parts packaged with a date code on or prior to March 31st, 2020 (Julian Date: 20091) will not need to be relabeled and can be sent to CCA with out any issues.
- Labels printed without a QR code will be accepted to allow suppliers to use up current inventory (through Dec. 2020).
- CCA does not require suppliers to submit updated security label layouts for approval prior to shipping.

This standard is intended to establish the base for which the imprinting of product identification information onto packages can be held to the quality expectations of GM CCA. The printing quality must provide a level of legibility that will eliminate any potential misinterpretation of part number identification.

GM CCA product identification standards must be referenced for the exact layout, format and location of imprinted information. The most common label layouts are further defined on the next pages. Refer to the label specification assigned on Global PKG (gm.gpkg.com) and barcode detail to determine which layout is applicable on a given part number (all Retail parts will have a UPC style barcode assigned. This will be shown as component B-0A026075 on the packaging specification).

For suppliers who may be interested in purchasing pre-printed labels, GM’s single approved security label supplier, OpSec Security Inc., offers this service. The pre-printed labels would be provided by OpSec Security per the following product identification standards. The labels would arrive ready to be stamped with a date code and applied to the unitized package.

For more information on this opportunity, contact OpSec Security at gmcustomerservice@opsecsecurity.com

Rev 6/20
Retail vs Non-Retail

Parts that are assigned GM (0B037000) graphics will either be considered Retail or Non-Retail, depending on the assignment of a UPC barcode: This also pertains to the non-graphic Hybrid label (0B041218).

- All GM / Hybrid parts that have a UPC barcode assigned should use the corresponding Retail layout in the coming pages of labels and layouts.
- All GM / Hybrid parts that do not have a UPC barcode assigned should use the corresponding Non-Retail layout in the coming pages of labels and layouts.

Refer to Global PKG (gm.gpkg.com) to determine which label is required in the packaging specification on the website. When a UPC is present, the barcode number will be visible in the part number item detail. Additionally, barcode component B - 0A026075 will be listed in the components of the packaging specification when a UPC is present.

This only pertains to suppliers that are on contract to unitize on behalf of GM CCA.

Important Update for ALL Retail Layouts (GM, ACDelco, & Hybrid)

- All layouts can omit “LC” and “ACD#” if this is information is not assigned to part
- If GM# is equal to ACD#, then “ACD#” and the part number can be omitted from the layout

GM Retail Security Label Layout

Part has UPC assigned

GM Non-Retail Security Label Layout

Part does not have UPC

⇒ Important Update for ALL Retail Layouts (GM, ACDelco, & Hybrid)
Security Label Layouts

Retail Security Label Layouts

GM Number (no leading zeros)
ACDelco Number (no leading zeros)
Package (Container) Quantity
Source Code, Vendor Code, or DUNS #
Core Group
UPC-A Barcode

Date Code
Line Code

GM# 12345678
ACD# 1
QTY.
1

Label
Specification No.
QR code
Serial No.
Group Number (Three digit group numbers shall have one leading zero (ie. 0.059). All other group numbers will have no leading zeros (ie. 1.266, 1.373)
Country of Origin, regional requirements

Specification: 0B037000
GM Genuine Parts

75mm

Specification: 0B038782
ACDelco

75mm

Specification: 0B041218
Hybrid

Rev 6/20

GM Customer Care and Aftersales
Packaging Standards & Requirements

All items listed in RED are pre-printed by OpSec Security.
Please see the Service Part Label Data & Format chart on the following pages for acceptable fonts, sizes, and content definition.

For suppliers sending unitized material directly to CCA Mexico, please refer to the additional NOM labeling requirements stored on GM Supply Power (see below for search instructions).

If you are not logged into GMSupplyPower, please do so and navigate through the following screens:

Core Return Label Layouts

Effective June 2020, both GM and ACDelco core labels (0B034274 & 0B036231) are being eliminated from the CCA label catalog. These labels are being replaced by a single GM branded Core Return label, which has been assigned specification # 0B042176 (Non-perforated and perforated versions are available via OpSec). Please review your unitized packaging specification on Global PKG (gm.gpkg.com) to determine if any of your part numbers are assigned one of these labels.

The deadline for implementing these changes is January 1, 2021. Any parts that are packaged with a Julian date after this deadline will need to be in compliance with these new core label requirements. Parts packaged before this deadline do not need to be relabeled.

- This label can only be purchased from OpSec Security. Please contact them at gmcustomerservice@opsecsecurity.com.
- Please refer to the next page for the Retail and Non-Retail print layouts for this label (review page 12 for help determining between Retail and Non-Retail layouts).
Note: When core label 0A083470 is specified, the label can be omitted if the verbiage listed on the specification is printed directly onto the outside of the merchandise packaging.
1203, 1204 & 0A084657 Labels
Retail & Non-Retail Imprinting Layouts

Note: When a line is omitted, all information moves up to fill space. All information must be centered and equally spaced.

ACDelco Part Number 16 pt.
16 pt. (10") ± 10%

GM Part Number 16 pt.
16 pt. (10") ± 10%

Group Number 12 pt.
(used periods, no dashes) 11 pt. ± 10%

Core Group 12 pt.
(11") ± 10%

Source Code and Date Code 12 pt.
(11") ± 10%

(11") ± 10%

1203 (1") LABEL

- Group Number
  Three digit group numbers shall have one leading zero (i.e. 0.659). All other group numbers will have no leading zeros (i.e. 1.266, 10.373).

1204 (2") LABEL

Example of label placement on label only parts.

Fold label over to adhere backing of label together. Keep barcode as whole

This area is reserved for barcode placement. Retail parts will receive a UPC Version A barcode and Non-Retail parts will receive a Code 39 barcode (examples below).

- Barcode (UPC & Code 39) to be oriented on label in the direction shown in the above example.

* The shaded areas shown above represents the variable imprint area. Information within this area is to be located as shown when specified or required by law.

Rev 6/20

GM Customer Care and Aftersales
Packaging Standards & Requirements
Graphic Carton Imprint Layouts

All printing on graphic cartons must conform to unitized label layouts.

Certain information must be on the carton:

<table>
<thead>
<tr>
<th>GM Packages (Non-Retail)</th>
<th>GM Packages (Retail)</th>
<th>ACDelco Packages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date code/source code</td>
<td>Date code/source code</td>
<td>Date code/source code</td>
</tr>
<tr>
<td>GM Part Number</td>
<td>GM Part Number</td>
<td>GM Part Number</td>
</tr>
<tr>
<td>Code 39 Barcode</td>
<td>UPC Barcode</td>
<td>UPC Barcode</td>
</tr>
<tr>
<td>Quantity</td>
<td>Quantity</td>
<td>Quantity</td>
</tr>
<tr>
<td>ACDelco Part Number</td>
<td>Line Code</td>
<td>ACDelco Part Number</td>
</tr>
</tbody>
</table>

The product identification is to be located on the carton front end panel. When placing product identification directly onto a carton, it can be applied in the following ways:

1) Imprinted directly onto a graphic package on the white/non-graphic area of the package.
2) Printed onto a white label then applied to a graphic carton with label placed on white/non-graphic area. (GM or ACDelco graphic security labels are acceptable for use on graphic cartons)

If graphic carton is preprinted with the variable data (GM#, ACDelco# and barcode) you do not need to print the date code, source code, group #, line code or quantity.

If imprinting with limited space on a carton the format/point size to be adjusted according to package material width and height. Minimum font size is 8 point. Product name can be omitted from the end panel when there is insufficient space.
Product Identification can be preprinted, imprinted or plain label placed onto the graphic packages. (GM or ACDelco graphic security labels are acceptable for use on graphic bags).

All product identification (labeling or printing) should be done in the available white space of the above layouts.
# Service Part Label Data & Format

<table>
<thead>
<tr>
<th>Supplier</th>
<th>Contact Name</th>
<th>Email</th>
<th>GMCCA Label Specification #’s</th>
</tr>
</thead>
<tbody>
<tr>
<td>GM Part Number</td>
<td></td>
<td>Font Size (Min): 18- <strong>BOLD</strong></td>
<td>GM: Numerals left to right</td>
</tr>
<tr>
<td>ACDelco Part Number</td>
<td></td>
<td>12- <strong>BOLD</strong></td>
<td>ACDelco: numerals, and in some instances, letters left to right</td>
</tr>
<tr>
<td>Quantity</td>
<td></td>
<td>18- <strong>BOLD</strong></td>
<td>Numerals left to right</td>
</tr>
<tr>
<td>Country of Origin</td>
<td></td>
<td>8, except for Canadian COO which can be 5.5</td>
<td>&quot;MADE IN&quot;, &quot;ASSEMBLED IN&quot;, &quot;PRODUCED IN&quot;, &quot;PRODUCT OF&quot;, &quot;MANUFACTURED IN&quot; followed by the English name of the country of origin</td>
</tr>
<tr>
<td>Source Code / DUNS / Vendor Code</td>
<td></td>
<td>8, Arial, Eurostile, Helvetica (except oblique), Stone Serif, Universe 47 or 67 Condensed</td>
<td>GM CCA 5 digit source code as established by the GM CCA Supply Chain Dept. Also available in the label data from Global PKG website.</td>
</tr>
<tr>
<td>Date Code</td>
<td></td>
<td>8, Julian Date code of when part was packaged- two digit year followed by three digit Julian Date</td>
<td>For Retail &amp; Non-Retail part numbers</td>
</tr>
<tr>
<td>Line Code</td>
<td></td>
<td>8, Three digit group number shall have one leading zero (ie. 0.659), all other group numbers will have no leading zero (ie. 1.266)</td>
<td></td>
</tr>
<tr>
<td>Group Number</td>
<td></td>
<td>8</td>
<td>(CG) number is only required for certain parts and is shown with a number in the Core Group Field</td>
</tr>
<tr>
<td>Core Group</td>
<td></td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>Code 39 Barcode (Non-Retail)</td>
<td></td>
<td>The data encoded in the Code 39 barcode is the GM part number only. No leading zero’s, no asterisks and no data identifiers. The Code 39 barcode “field” should be centered on the label. Symbol size for Code 39 is variable. The height is .2 inches or 15% of length whichever is greater. The length is determined from the number of characters printed and the x and n dimension chosen for a particular piece of printing equipment.</td>
<td></td>
</tr>
<tr>
<td>UPC A Barcode (Retail)</td>
<td></td>
<td>UPC Version A barcode on the merchandise package is required in place of the Code 39 barcode. All UPC barcodes must be scannable. The minimum recommended size is 1.175&quot; wide by 0.816&quot; high. Size may vary depending on package design and printing conditions. UPC symbology is administered by the Uniform Code Council. Uniform Code Council - <a href="http://www.gs1us.org">www.gs1us.org</a></td>
<td></td>
</tr>
</tbody>
</table>

## Approved Supplier List

<table>
<thead>
<tr>
<th>Supplier Name</th>
<th>Contact Name</th>
<th>Email</th>
<th>Available GMCCA Label Specification #’s</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advanced Systems &amp; Forms</td>
<td>Mark Schmidt</td>
<td><a href="mailto:marks@advancedmarketingpartners.com">marks@advancedmarketingpartners.com</a></td>
<td>1203, 1204, 0B035864, 0B034274, 0A062935, 0A084596, 0A084657, 0A085450, 0A083470, 0B036231, 0B039922, 0B039923</td>
</tr>
<tr>
<td>Mac Arthur Corp.</td>
<td>Tressela Gilbert</td>
<td><a href="mailto:Tressela.gilbert@macarthurcorp.com">Tressela.gilbert@macarthurcorp.com</a></td>
<td>1203, 1204,1724A-C</td>
</tr>
<tr>
<td>OpSec Security, Inc.</td>
<td>Susan Bond</td>
<td><a href="mailto:gmcustomerservice@opsecsecurity.com">gmcustomerservice@opsecsecurity.com</a></td>
<td>0B037000, 0B038782, 0B038783, 0B038784, 0B038785, 0B039549, 0B039550, 0B039975, 0B041218, 0B042176</td>
</tr>
<tr>
<td>Whitlam Label Co., Inc.</td>
<td>Hannah Peterson</td>
<td><a href="mailto:hpatterson@whitlam.com">hpatterson@whitlam.com</a></td>
<td>1203, 1204, 0A060856, 1724A-C</td>
</tr>
</tbody>
</table>
Product ID cannot be handwritten onto a label or package.

Character Clarity
- Characters shall have clear and open center holes. (See illustration to the right.)
- Characters cannot have breaks or gaps in their body (X) or missing ends, tails or sections (Y). (See illustration to the right.)
- Printing must be free of spotting, streaking, smudging and smearing.
- Marks caused by rubber type base edges are unacceptable.
- Characters shall have crisp, non-jagged inner and outer perimeter edges with no visible wicking or bleeding.

Character Density
Character density must be such that it will pass one of the following tests:
1) When measured with a X-Rite densitometer, the density value must be greater than 1.00 with a tolerance of -.30.
2) When measured with a RJS Enterprises Codascan, the print contrast signal (PCS) value must be a minimum of .75.

Ink Color
Labels:
- Imprinting ink color to be black unless specifically accepted by special individual container artwork, or special packaging instruction.
Imprinted chipboard and corrugate containers:
- Ink color can be black or the same color as the printed carton graphics.

Alignment-Vertical
- Characters must be positioned 90° to the horizontal edge of the container graphics, or label graphics or container edge for non-graphics containers whichever is applicable within ±3°. (See illustration to the right.)

Horizontal
- Characters must be in line with each other on a horizontal line within ±5% of the character height.
- The horizontal line must be parallel to the container graphics or container edge for non-graphics containers within ±3°. (See illustration to the right)

Date Codes
Every service part that is packaged is to have a date code designating the unitizing date (the date the part is packaged or is labeled) imprinted or stamped. This date code is to be included on the product identification label or imprinted package.
NOTE: The date code should be the actual date the part is packaged but can be +/- 2 days of the pack date.
Example, part packed out on February 2, 2019 date code can be 19031 to 19035.
Shown below is the required layout:

```
The date code includes the source code followed by a space and then the two digit year and then the three digit Julian date.
Example: These parts were unitized on Feb 2nd, 2019.

01234 19 033
Source Code Year Julian
(Example) (2019) Date
To appear on package: 01234 19033
```
Barcodes

AB scannable and human readable barcodes are required on all packages, and must follow the unitized label layouts. There are three barcode symbologies used depending on the packaging specification. Examples of each are below.

1) **Non-Retail (Formerly GM Product Line):** Code 39 barcode is used for the merchandise and distribution packages. The standard barcode required is the Uniform Symbology Specification Code 39 as defined by AIM USA and approved by ANSI (American National Standards Institute).

2) **Retail (Formerly ACDelco & GM National Accounts Product Line):** UPC Version A barcode on the merchandise package required in place of the Code 39 barcode. All UPC barcodes must be scannable. The minimum recommended size is 1.175” wide by 0.816” high. Size may vary depending on package design and printing conditions. UPC symbology is administered by the Uniform Code Council.

3) **Retail (Formerly ACDelco & GM National Accounts Product Line):** The UCC-14 (I 2 of 5) barcode is required on full distribution packages and pallet loads.

The standards for the two barcodes may be obtained from the following sources:

- AIM USA - www.aimglobal.org
- The quality standard for barcodes is ANSI X3.182, *Barcode Print Quality - Guideline*. GM CCA requires a quality level of A or B. A quality level of C will require improvement. A quality level of D or F will **not** be acceptable for sale and will require rework. ANSI X3.182 can be ordered from: American National Standards Institute - www.ansi.org

If a part is specified for a label only, do not wrap the label around the part so the barcode becomes unscannable.

1) **Non-Retail (Formerly GM Product Line):** Code 39

   - The data encoded in the Code 39 barcode is the GM part number only. No leading zero’s, no asterisks and no data identifiers. The Code 39 barcode “field” should be centered on the label.
   - Symbol size for Code 39 is variable. The height is .2 inches or 15% of length whichever is greater. The length is determined from the number of characters printed and the x and n dimension chosen for a particular piece of printing equipment.

   Example of a code 39 barcode:
   ![Code 39 Barcode Example](image)

2) **Retail (Formerly ACDelco & GM National Accounts Product):** UPC Version A

   Example of a UPC-Version A barcode:
   ![UPC Version A Barcode Example](image)

3) **Retail (Formerly ACDelco & GM National Accounts Product):** UCC-14 (I 2 of 5)

   Example of a UCC-14 barcode:
   ![UCC-14 Barcode Example](image)
Non-Graphic Merchandise Pack Label Placement
The product identification label for non-graphic merchandising cartons is to be on the carton's smallest (width) panel. This label should be centered and be placed at upper edge of panel. If the width panel is too small to accommodate the label, place label on face panel. The label should be easily visible to the receiving personnel, and consistently facing the same direction. If package has up arrows, the product identification label then should be placed on the up arrow panel unless otherwise specified.

DO NOT:
- Staple through the label
- Tape over the label
- Place label over the box certification

Distribution/Unit Load Labeling
The second level of packaging is called the distribution package or shipping container. If the specification does not specify the distribution container, the supplier has the flexibility to choose their own standard containers. The distribution label required for the shipment will be designated in the specification along with the appropriate barcode. In addition, a GM 1724-A label is used on individual boxes shipped without a pallet (i.e. FedEx shipment of one box).

QR Code, Serial Number and Specification number will be printed by OpSec Security upon manufacture.

Non-Retail (Formerly GM Genuine)
Follow same requirements as shown the “Non-Retail Security Label Layout” page with exception of replacing package quantity (usually 1) with distribution case quantity. Placement of this label is to be centered and be placed at upper edge of the carton end panel if possible. See distribution label layout below for GM Genuine part numbers. This layout includes Code 39 barcode.

Retail (Formerly GM National Accounts and ACDelco)
Follow the same requirements as shown the “Retail Security Label Layouts” page with exception of replacing package quantity (usually 1) with distribution case quantity. Placement of this label is to be centered and be placed at upper edge of the carton end panel if possible. If it is not possible to place this label on the upper edge of the end panel, there are options for allowable placements on the elongated panel on the next page.

See distribution label layout below for Retail part numbers. This layout includes a UCC-14 (I 2 of 5) barcode instead of a UPC Version A barcode. If the distribution barcode is unable to be printed on the specified label as shown below, an additional label may be used for the distribution barcode in the same manner as ACDelco Scenario “A”.

The only exception is a partial (not full) distribution quantity in which a UCC-14 bar code is not required on the label, though all other information is still required.
If shrink filming (stretch wrapping, etc.) folding box cartons together to create a distribution package you only need to place a UCC-14 barcode label with distribution quantity on length side panel of distribution package.

The Product Identification and UCC-14 bar code can be printed in the following manners:

a) plain white label - with graphic label (shown below - Option A)
b) bottom of graphic product identification label (shown below - Option B)
c) in the body of the Security Label (shown below - Option C)

Refer to the barcodes page in this manual for barcode sizes. If using Option A below, put both the Retail Security label and UCC-14 label on the same panel if room permits. If not enough room for both labels, put the Retail label on the end panel.

Placement of the UCC-14 is on the elongated panel, 1.25” from bottom edge of the container and no closer than .75” from the container’s edge.

**Option A - Label #0B038782**

**Scenario A**

Note: This is the standard ACDelco label (0B038782, 75x50mm shown below.)

![Option A Image](image1.png)

**Option B - Label #0A060856**

**Scenario B**

Note: The option "B" label is bigger than the Option "A" label to accommodate the UCC barcode. The size below is 6" x 4".

![Option B Image](image2.png)

**Option C - Label #0B038782 Only**

**Scenario C**

Note: This is the standard ACDelco label (0B038782, 75x50mm shown below.)

![Option C Image](image3.png)
Unit Load UCC-14

When UPC barcodes are specified for pallet loads on source unitized material and the pallet loads are full pallet loads of the same GM part number (not partial), then a UPC shipping container code UCC-14 is required. Do not put a UCC pallet barcode on pallet of partial loads. The below example shows the location of the GM 1724-B labels used on unit loads. Place two GM 1724-B labels on opposite side panels.

The UCC-14 for a pallet load will have a different number system character (first digit in the bar code series) than the distribution pack. The check digit may also differ.
### Overpack Cartons

<table>
<thead>
<tr>
<th>Supplier Type</th>
<th>Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bulk</td>
<td>✔️</td>
</tr>
<tr>
<td>Unitized</td>
<td>✔️</td>
</tr>
</tbody>
</table>

An overpack carton is required when there’s a miscellaneous order quantity less than pallet load and small parcel distribution (FedEx) will be used to ship parts to GM CCA. The overpack carton must deliver damage free product with full container integrity to the GM CCA receiving point.

### Requirements for Overpack Cartons

1. Bags, drums, barrels, bales, cans, pails, or wooden kegs are not acceptable shipping containers for other than granular or liquid materials.
2. Overpack cartons must be constructed of a minimum of 200# burst test (32 ECT optional) corrugate.
3. Cartons must have a stitched or glued manufacturers joint.
4. Overpack cartons (unless weight of individual part is over 25 pounds) must not exceed **25 pounds total weight** (weight of the part + package). An overpack carton is optional if the part is source unitized and packaged in a corrugated box, minimum 200 lb. burst or 32 ECT.
5. Box maker’s certificate and recyclable symbol must be printed on bottom of the carton.
6. Do not use loose fill packaging dunnage. Acceptable dunnage materials are clean, wadded Kraft paper, dimple paper, micro foam, bubble wrap, etc. Fill void spaces to prevent movement of parts inside the box during shipping.
7. A graphic package must be shipped in an overpack carton, unless the graphic box is corrugated, minimum 200 lb. burst or 32 ECT.
8. If shipping parts less than unit load or pallet quantity, the overpack carton should be proportionately sized.

---

**Graphic Packages**

**Small Bulk Parts**

**Dunnage**

**1724 Label**

---

GM Customer Care and Aftersales
Packaging Standards & Requirements

Rev 6/20
Container Closure

<table>
<thead>
<tr>
<th>Supplier Type</th>
<th>Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bulk</td>
<td>✓</td>
</tr>
<tr>
<td>Unitized</td>
<td></td>
</tr>
</tbody>
</table>

Requirements
The container closure requirements apply to merchandising and distribution containers. These requirements and closure instructions can be found on part specific BOM Report found on the GM CCA Global Packaging Website (gm.gpkg.com). For individual parts that have a closure material specified and no application instructions, the requirements in the “Container Closure” section must be followed.

The Boxmaker’s certificate must be visible after the closure method is applied. In absence of a specified closure code for cartons, the closure must be capable of containing the part within the carton or bag and arrive to the GM CCA receiving facility damage free.

Closure Code Specification Chart

<table>
<thead>
<tr>
<th>Pkg Type Code</th>
<th>GMSP0 No</th>
<th>Qty</th>
<th>Amount</th>
<th>Name</th>
<th>Source</th>
<th>Style</th>
</tr>
</thead>
<tbody>
<tr>
<td>L</td>
<td>00001207</td>
<td>1</td>
<td>0</td>
<td>LABEL</td>
<td>PRES</td>
<td>SEN</td>
</tr>
<tr>
<td>M</td>
<td>00002280</td>
<td>1</td>
<td>0</td>
<td>CORR BOX</td>
<td>SPECL</td>
<td></td>
</tr>
<tr>
<td>S</td>
<td>00004902</td>
<td>1</td>
<td>4</td>
<td>PLAST PCH</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>0A011235</td>
<td>1</td>
<td>0</td>
<td>GEN MATERL</td>
<td>CLOSURE</td>
<td></td>
</tr>
</tbody>
</table>

CONSTANT

STAPLER TYPE
0 – None
1 – Clinch Stapler
2 – Stapling Plier

BAND OPTION
0 – None
1 – None
2 – 3/8” (#1222 steel) or 7/16” (#1339 Polyester)
3 – 3/8” (#1320 Polyester)
4 – 3/8” (#9575 Polypropylene)

GLUE OPTION
0 – None
2 – #1307

TAPE OPTION
0 – None
3 – #1278, #1279, #1313 or L-clip #1225

Number of Lengthwise Bands

STAPLE OPTION

LEG LENGTH STAPLE TYPE SPEC
0 – NA 2 9628
1 – 1/4” 2 1314
2 – 3/8” 2 1315
3 – 1/2” 1 1292
4 – 9/16” 2 1316
5 – 5/8” 1 1286
6 – 3/4” 1 1300
7 – 7/8” 1 9634
8 – 1-1/4” 1 9669

BAND OPTION
Number of girthwise Bands
Staples
- Staples shall have a Rockwell hardness of no less than B-90 and comply with individual GM CCA
  Staple Specifications
- They must be spaced not more than five inches apart along either the center seam or the closure
  edge as applicable.
- There shall be a minimum of one quarter inch of board showing between the staple and the closure
  edge.

Hot Melt Adhesives
- Glue strips must be applied to extend along their length to fit within one-half inch of the end of the
  applied flap.
- Glue strips are to be not less than one-quarter inch wide after compression.
- If the box style or size requires alternate patterns, then the adhesive must cover and securely bond
  not less than 25% of the flap contact area with bonded areas extending to within one-half inch or less of edges or
  center seam.
- The acceptable closure with hot melt is when the liner paper at glue application will tear when
  stripped open (50% or more of total area of each glue line).

Stitching
Other than metal stitches.
- Stitching for closure has limited applications and must be approved by packaging engineering.
- Note: Wire stitching shall comply with the staple closure section.

Banding
- Metal banding is prohibited unless specified.
- Banding as a closure is only used when specified on an individual part.
- Cartons shall not be handled by the bands.
- Plastic banding must be either polyester or polypropylene.

Polybag Closure for Unitized Parts
All bags must be closed. Acceptable closures may consist of:
- Heat seal (preferred)
  - Poly tubing should be heat sealed on at least one end (both ends preferred)
  - Fold over bag and use tape to close (must be clear)
  - Fold over bag and use the label to close (barcode must be able to scan)
  - Ziplock (one part/piece per bag)*, no tape over ziplock.
  - Stapled (one part/piece per bag)*
* Ziplock or stapled bags are not acceptable for multiple kits or for multiple merchandise quantity parts, i.e. 5/bag, 10/bag.
* Polybags used within kits (subpacks) can be unprinted or with graphics consistent with the graphics on the merchandise
  packaging. No product identification should be printed on the subpack. Optionally, subpacks can be printed with the GM part
  number only.

Tape
- Reinforced tape color shall be clear or match the corrugated color of the outer facing.
- Tape shall be 2” or 50mm wide for clear tape meeting specification #1313 (0A040056) or 3” wide
  meeting specification #1278 or #1279, bidirectional reinforced paper tape.
L-Clip closures are strips of pressure sensitive strapping tape running perpendicular to the edge of a container to secure the container flaps. The length of the tape is divided evenly on adjacent panels.
- Strapping tape properties shall be in conformance with specification 0A010114.
- Tape width shall be minimum 1/2 inch. Length of strips shall be four to five inches.
- No tape shall cover any part of any GM Logo or product identification label.

Taping Full Overlap Boxes (FOL)
- Tape shall extend the full length of the flap edge (on two edges as shown in diagram).

<table>
<thead>
<tr>
<th>Size</th>
<th>Edge Space</th>
<th>Min # of Clips</th>
<th>L-Clip Spacing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Box length less than or equal to 6”</td>
<td>¼” - ½”</td>
<td>2</td>
<td>N/A</td>
</tr>
<tr>
<td>Box length greater than or equal to 6”</td>
<td>¼” - 1”</td>
<td>2</td>
<td>5” Max</td>
</tr>
</tbody>
</table>
Tape #0B042180

- GENUINE GM ORIGINAL EQUIPMENT branded tape must be used on all GM Original Equipment packaged part numbers with tape #0B042180 specified as the closure method. To ensure quality and color, the Genuine GM Original Equipment branded tape should be purchased from General Motor’s approved tape supplier Veritiv Corporation.

- To set up a new account with Veritiv Corporation, please visit: https://www.veritivcorp.com/credit-application

- Established Veritiv Corporation customers placing tape re-orders, please visit: https://commerce.veritivcorp.com/

  - For your convenience GM has developed 4 tape roll sizes.
  - Refer to the following chart for the GM Specification number and available tape roll sizes.
  - Note the minimum buy requirements listed in the chart below.
  - Note; Roll option #1 is recommended for all manual tape application with a traditional handheld tape gun.
  - The #0B042180 graphic tape must not cover any part of the GM product identification security label.

General Material Specification #0B042180: Available tape roll size options.

<table>
<thead>
<tr>
<th>Roll Option</th>
<th>GM Specification #</th>
<th>Roll Width</th>
<th>Roll Length</th>
<th>Note</th>
<th>Min Buy</th>
</tr>
</thead>
<tbody>
<tr>
<td>#1</td>
<td>0B041912</td>
<td>48 millimeters</td>
<td>50 meters</td>
<td>48mm wide roll for manual tape gun application</td>
<td>~36 Rolls</td>
</tr>
<tr>
<td>#2</td>
<td>0B041222</td>
<td>48 millimeters</td>
<td>914 meters</td>
<td>48mm wide roll for automated application</td>
<td>6 Rolls</td>
</tr>
<tr>
<td>#3</td>
<td>0B041219</td>
<td>48 millimeters</td>
<td>1500 meters</td>
<td>48mm wide roll for automated application</td>
<td>3 Rolls</td>
</tr>
<tr>
<td>#4</td>
<td>0B041220</td>
<td>72 millimeters</td>
<td>1500 meters</td>
<td>72mm wide roll for automated application</td>
<td>2 Rolls</td>
</tr>
</tbody>
</table>
Palletization Requirements

<table>
<thead>
<tr>
<th>Supplier Type</th>
<th>Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bulk</td>
<td>✔️</td>
</tr>
<tr>
<td>Unitized</td>
<td>✔️</td>
</tr>
</tbody>
</table>

Pallet and shipping container performance is the responsibility of the supplier. **In all cases, bulk and unitized material must be delivered damage free with full container integrity to GM CCA receiving points.**

**Pallet Specifications**

All wood pallets and other packaging material comprised of wood must conform with the International Standards For Phytosanitary Measures No. 15 (ISPM #15), Guidelines For Regulating Wood Packaging Material In International Trade. The ISPM mark must be visible. This includes all materials shipped intrastate in the U.S.A. and shipments to and from Canada.

To facilitate the recycling of used, expendable packaging, pallet cartons fastened to the pallet must be constructed with a “breakaway” feature or other method to allow easy separation from the shipping pallet.

**Style**

GM CCA approves the use of only four-way entry, double-face, non-reversible stringer or perimeter block pallets. Winged pallets are NOT acceptable. A stringer pallet dimension should use the format where the first dimension is the stringer and the second dimension containing the fork lift opening. (A 48” x 40” will have 48” stringers with the fork lift opening along the 40” side).
Pallet Size

The pallet dimensions below are to be used for shipments made to GM CCA locations, unless noted otherwise on the packaging specification.

<table>
<thead>
<tr>
<th>Unitized or Bulk</th>
<th>Required or Preferred</th>
<th>Length</th>
<th>Width</th>
<th>Height¹</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unitized²</td>
<td>Required</td>
<td>48&quot;</td>
<td>40&quot;</td>
<td>45&quot;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1200mm</td>
<td>1140mm</td>
<td>1143mm</td>
</tr>
<tr>
<td>Bulk²</td>
<td>Preferred</td>
<td>48&quot;</td>
<td>40&quot;</td>
<td>50&quot;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>48&quot;</td>
<td>45&quot;</td>
<td>50&quot;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>&lt; 48&quot;³</td>
<td>&lt; 45&quot;³</td>
<td>50&quot;</td>
</tr>
</tbody>
</table>

¹. Maximum pallet load height includes pallet

². An oversize pallet is permissible only if dictated by the part size (see “Oversize Pallet” section)

³. Undersized pallets must not be smaller than 32"x30". (See “Undersize Pallets - Exception for Supplier’s with Bulk Contract” section)

Weight

Pallet load weight requirements for US and Canada GM CCA locations:

<table>
<thead>
<tr>
<th>Region</th>
<th>Bulk</th>
<th>Unitized</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States GM CCA</td>
<td>2500 lbs</td>
<td>1650 lbs</td>
</tr>
<tr>
<td>Canada GM CCA</td>
<td>1650 lbs</td>
<td>1650 lbs</td>
</tr>
<tr>
<td>Batteries -US and Canada GM CCA</td>
<td>2800 lbs</td>
<td>2800 lbs</td>
</tr>
</tbody>
</table>

⇒ Pallet Construction

Materials used for construction of all pallets shall meet GM CCA Specification # 00009304. Pallet to be consistent with NWPCA Use Category “L” - Limited use and designed for multiple damage free trips. Commercial tolerances of ± 1/4” apply to all dimensions below.

⇒All Pallets, regardless of size, must meet the stringer and block requirements below:

Strings: Minimum of 1-1/4” in width by 3-1/2” in height with the length of the stringer dependent on the pallet size (i.e. 48” x 40” pallet requires 48” stringers). Each stringer must have two notches centered at 27” unless noted (see section on Undersize Pallets). Each stringer notch opening to be a minimum of 1-1/2” x 9”. Notch corners to be rounded however completely rounded notches are unacceptable.

REMANUFACTURED / RECONDITIONED PALLETS ARE ACCEPTABLE - ALL BROKEN/SPLIT BLOCKS, DECKBOARDS, AND STRINGER BOARDS MUST BE COMPLETELY REPLACED. NO REPAIRED BOARDS (COMPANION STRINGERS, PLUGS, METAL PLATE(S), ETC.) ARE PERMITTED.

Blocks:

- Edge Blocks: shall be 2-11/16” minimum in height. Block length shall be, at minimum, equal to the pallet “Top Deck Edge Board” width. Block width shall be, at minimum, equal to the pallet “Stringer Board” width.
- Center Blocks: Shall be 2-11/16” minimum in height. Block length shall be, at minimum, equal to the pallet “Center Board” edge. Block width shall be, at minimum, equal to the pallet “Stringer Board” width.
- All blocks must meet the minimum performance requirement of the “24-Hour Block Soak Test” as stated in Section “5.3.1 Quality” of the NWPCA’s “Uniform Standards for Wood Pallets”. A copy of the NWPCA Standard can be obtained at http://www.palletcentral.com/?page=resources
48”x 40” & 48”x 45” Pallet

Top Deck Boards

Edge Deck Boards: Board thickness a minimum of 1/2”. Minimum board width of 5-1/2” with an allowed maximum of 8”.

Center Deck Boards: Board thickness a minimum of 1/2”. Minimum board width of 3-1/2”.

All top board spacings shall be a maximum of 4”

Bottom Deck Boards (Stringer Pallets Only): Board thickness a minimum of 1/2”. Boards must have a minimum 21” cumulative surface.

Stringer Boards (Block Pallets Only): Board thickness a minimum of 1/2”. Minimum board width of 3-1/2”. Stringer boards must run along the whole perimeter of the pallet edges with a single board along the center to support center blocks.

Refer to CCA Packaging Material Specification No. 0A044898 (48”x40” Stringer Pallet) and No. 0B038353 (48”x40” Perimeter Block Pallet) for more details and requirements.

Undersize Pallet - Exception for Supplier’s with Bulk Contract

Undersize pallets have a length and/or width less than a typical 48” x 40” pallet but greater than or equal to 32” x 30”. If a pallet has a length that exceeds 48” or a width that exceeds 40”, this pallet will not be considered undersize. Construction of a small or undersize pallets must follow the same guidelines stated above in the “48”x 40” & 48” x 45” Pallet Requirements” with the exception that undersized stringer pallets may be 2-way (no notches) depending on stringer length (all 48” stringers must be notched to accommodate 4-way entry). The minimum of three stringers may be reduced to two depending on pallet size/restriction, and pallet blocks may reduce the amount of blocks needed to better fit the need of the pallet without excess stringer board flex.

- Note: Plant 76 - Lansing requires 4-way entry pallets. Undersize pallets are not recommended.

Oversize Pallet

An oversize pallet is permissible only if dictated by the part size. If the pallet is >48” in length and/or ≥45” in width, then it is considered an oversize pallet

Oversize - Block Pallets (RECOMMENDED for suppliers shipping to multiple CCA locations): Oversize block pallets are RECOMMENDED and PREFERRED versus stringer style pallets due to the fork entry size on all four sides, allowing a wider range of use. Block style pallets will avoid a potential non-conformance for incorrect stringer orientation at CCA receiving points (ie. - Lansing versus Flint/Swartz Creek orientation). Block pallets must be non-reversible, maintain a full perimeter base, and may have the top deck boards run in either dimension of the pallet.
Nail Fasteners

Nails 2-1/4” x 0.110” hardened steel screw nails with diamond point (no longer than 5/32”) and spiral threads with minimum of 4 flutes are recommended when fastening boards to stringers or blocks. Helical angle of thread at pitch diameter 60 ± 5 degrees with a plane perpendicular to the axis.

Nails with a minimum of 1-5/8” x 0.110” hardened steel smooth nails with diamond point (no longer than 5/32”) are recommended when fastening top/bottom boards to stringer board on block pallets

No protruding nail heads or points are permitted. Bent over nails must be driven below surface of deckboards. Avoid nail splits, which will adversely affect the strength of the pallet.
Load Arrangements

1. Directional arrows must be followed when cartons are stacked for shipment.

2. Loads (bulk or unitized) must use materials of sufficient strength and must be capable to withstand stacking of similar parts up to a height of 10 feet when received at GM CCA Receiving Point and/or customer. The pallet must be reinforced with vertical supports at four corners if the shipping container will not support the load with required stacking. Vertical corner supports shall be constructed of solid fiberboard (minimum .2” thickness) or wood and must run the full vertical length of the load. No placards, labels etc. to be used indicating “Do Not Double Stack.”

3. The top surface of the load must be parallel to the pallet base. DO NOT PYRAMID STACK FULL PALLET LOADS OF A SINGLE PART NUMBER. If less than a full pallet of a single part number is ordered, the top layer may not be parallel, and this is acceptable. For example, a full unit load is 15 parts (Ti=5, Hi=3) and the order was only for 11 pieces. It is acceptable to ship two layers of 5 parts with the top layer only containing 1 part.

4. The load must be secured to the pallet with stretch-wrap, strapping, or both. If using pallet boxes, the lid must be properly secured (i.e. stretch wrap, banding, etc.). Please refer to the Container Closure section for acceptable banding materials.

5. Loads secured to pallets using shrink or stretch-wrap must use material of sufficient thickness to retain the load and to prevent load shift. Use a minimum of 70-gauge (.0007 inch) stretch wrapping. The stretch wrap can be twisted like rope for greater strength, but only in combination with full stretch wrapping of the load. Securely capture the pallet when wrapping the bottom layer. Wrap the entire pallet load (pallet + product) from top to bottom a minimum of three times, heavier loads may require more. DO NOT ONLY WRAP THE CARTONS.

6. If using stretch-wrap, DO NOT wrap two pallets, racks, pallet boxes or individual cartons together. Each unit load needs to be handled individually.

7. Shrink or stretch material shall allow for labels to be read via bar code scanners.

8. Loads secured to pallets with strapping must use edge protectors to prevent straps from cutting into cartons. Draw the strapping tight and keep the strapping as close to the load as possible to avoid strapping damage or breakage. This may require running the strapping between deck boards rather than the edge of the pallet. Do not run straps through the stringer side fork entry opening.

9. Interlocking of lightweight cartons is acceptable. However, interlocking of heavy (>25 lbs.) unit packages should be avoided to eliminate container wall crushing. When column stacking is used, layer pads should also be used to eliminate column toppling.

10. A liner sheet must be placed on the top deck of a pallet to prevent small product from coming through top deck boards.

11. When shipping small parts or graphic cartons that are double stacked, a liner sheet must be placed on top layer to prevent damage.

12. No overhang of bulk or unitized material is allowed at GM CCA receiving points.

13. Product weight should be distributed evenly over the pallet surface.

Weight Distribution Example

- Board Width | Min. Number¹ of Nails Per Connection of Single-Use or Reusable Pallets
- Up to 5-1/4" | 2
- 5-1/4" up to 7" | 3
- 7" to 8" | 4
- Corner Block | 3²
- Center Block | 2

¹ No less than one nail per 8 sq. inches of block fastening surface
² Corner blocks with less than 16 sq. inches of block fastening surface shall be connected with at least two (2) fasteners

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14. Pallet boxes may be used in place of stretch-wrap or strapping.

15. When using shipping baskets (i.e. 6154), baskets must be lined if contained material can poke through the sides of the basket.

16. When shipping bulk material, if an individual carton weighs >40lbs then a pallet needs to be used due to handling issues.

17. For supplier shipments of unitized materials, the specified unit load quantity must not be exceeded when shipping to CCA facilities. The unit load quantity can be found on the GM CCA packaging website: gm.gpkg.com. (Refer to the “Definition of Unitized” section in this manual to review specifics on unitized packaging.)

**Mixed Loads**

1. All parts should be shipped in full pallet loads. However, if quantity is not sufficient for one pallet load, more than one part number may be contained in the pallet load.

2. Part numbers are not to be on more than one pallet load or fragmented when quantity is sufficient to make a full pallet load.

3. Each container must be identified with part number and quantity.

4. Oversized pallets are only permissible for mixed loads if all the part numbers on the pallet require the larger pallet. Parts that will fit on a standard pallet (48” X 40”) can not be mixed on an oversized pallet.

5. Part numbers are to be palletized according to the quantity of cartons they are contained in. The largest quantity of cartons containing a single part number will be at the bottom of the pallet load. Subsequent cartons will be stacked in a manner such that the smallest quantity of cartons will be at the top of the pallet load. Part weight, load stability, and carton integrity must be taken into consideration when palletizing (i.e. do not stack excessively heavy parts on top of lighter parts, etc.).

**Requirements for Returnable Containers**

A supplier may be selected to ship in returnable containers through GM CCA’s internal process.

- The storage space for the GM CCA containers must be secure.
- All lost or stolen GM CCA equipment will be replaced/re-paid by the supplier site where it was deemed lost or stolen.
- Do not use or ship damaged containers or racks. Damaged containers should be red tagged and an email should be sent to the e-mail address below.
- All material that is in the scrap process should be kept at the supplier facility to be scrapped unless specified. A supplier scrap form (GM1120) must be filled out by the supplier and sent to e-mail address below.

**All questions concerning returnable containers can be directed to GM CCA Containerization at:**

scgmcontainers@xpo.com

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GM CCA Hazardous Material Requirements

The supplier will abide by the U.S. Government Regulations when shipping Hazardous Materials. The information can be found at the following website: https://www.phmsa.dot.gov/

General Packaging Overview

Domestic and international regulations, as well as applicable special provisions, mandate the type of packaging required for hazardous materials/dangerous goods. These regulations include general packaging requirements and performance testing.

- Outer Packages: all packages all of the time for hazardous material/dangerous goods must be designed and constructed to limit exposure to people or the environment through conditions of normal transportation. The required testing is specified in the regulation and is dependent on the part type.
- Inner Dunnage: all parts must be packed and secured to prevent breakage or leakage and to control movement within the outer package (parts cannot shift around inside the package).
- Palletized loads must contain corrugated slip sheets on both the top and bottom of the load to prevent damage to the corrugated cartons.

Labeling and Marking Requirements

Marks and labels communicate information about the material in the package or about its handling. They are applied to the surface of the package. Marks and labels should never be obstructed, illegible, overlapped, or placed in a manner that limits their effectiveness.

For questions regarding Hazardous Materials, e-mail: gmccadgt@gm.com

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<table>
<thead>
<tr>
<th>Supplier Type</th>
<th>Required</th>
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</thead>
<tbody>
<tr>
<td>Bulk</td>
<td></td>
</tr>
<tr>
<td>Unitized</td>
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</tbody>
</table>
Regulatory Requirements in Packaging Specifications

Source unitized packaging specifications can include Parts Marking and/or Substance of Concern regulatory requirements. It is critical that suppliers regularly review the part number-level packaging specifications in Global PKG as the requirements can change many times during the life of a part.

Parts Marking Regulations

- Impacts articles (service parts, aftermarket parts and accessories)
- Note that parts marking regulations may apply to both production and aftersales or aftersales only parts
- Part and/or packaging must contain the required compliance mark in order to be sold in a regulated market
- If part marking is not incorporated within the service label, place next to service label to be visible to customer.

Examples of Parts Marking requirements:

<table>
<thead>
<tr>
<th>Country</th>
<th>Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brazil</td>
<td>InMetro</td>
</tr>
<tr>
<td>California and Washington</td>
<td>Copper in Brakes</td>
</tr>
<tr>
<td>KC – Korea</td>
<td></td>
</tr>
<tr>
<td>EAC - Russia</td>
<td></td>
</tr>
</tbody>
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Substance of Concern (SoC) Regulations

- Impacts preparations (fluids) and articles (hard parts) based on the chemical or material ingredients
- Intention is to declare or prevent substances within the product which could cause harm to people or the environment
- Packaging may require specific warning statements and pictograms
- Suppliers must comply with GMW3059, the GM Worldwide Engineering specification that lists the substances whose use in materials and components, in the interests of personnel and environmental safety, are either prohibited or limited. For more information, please refer to: www.gmw3059.com

Examples of Substance of Concern requirements:

- GHS (standards can differ by country)
- California – Proposition 65

All questions regarding Substance of Concern (SoC) or Parts Marking, e-mail: CCA.substanceofconcern.partsmarking@gm.com