General Packaging Standard

88P311

Revision K

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This document is available at Xerox.com and on the Packaging Engineering Services website

Revision	Date	Changes
G	May 2008	Major revision of content and format.
H	April 2010	Changed title to “General Packaging Standard” Revised Scope (Section 2) Added Stack height symbol calculation Added Pallet under-hang limit Clarified slipsheet and non-standard pallet use and approval Revised SPAF Section Updated pallet load height limit Added Section 6.13 – Secondary Packaging Guidelines Updated table of contents Added hyperlink to Xerox.com
J	June 2011	Modified max pallet load height section 6.6 Added min pallet opening dimension section 6.6 Added dimensions to pallet examples in section 6.6 Modified banding, stretch wrap and load overhang in section 6.8 Added no floor load requirement to section 6.10 Updated trap door and label location requirement in section 9.2
K	January 2023	Updated Engineers Updated all the hyperlinks Revised the FRU definition, section 5.0 Revised the slip-sheet usage, section 6.7 Revised the securing of loads within an ocean container, truck or other vessel, section 6.8 Revised the ocean container chart, section 6.10 Revised Small Parcel Delivery, section 6.11 Revised the Secondary Packaging Guidelines, section 6.12 Revised the SPAF requirements, section 7.0 Revised Appendix 1 and added Appendix 2

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1.0 PURPOSE

This standard sets out the packaging and distribution requirements for delivery of all material to any Xerox Corporation, Xerox Limited or affiliate location.

2.0 SCOPE

This document is applicable to all packaged categories (section 3.0) delivered to any Xerox manufacturing, distribution facility or end customer, whether from an external supplier or Xerox.

3.0 PACKAGE CATEGORIES

Five package categories are used in this specification. Each category is based on the item or items contained in the package.

Machines: A product that performs a function on its own without the need of additional items. Examples include but not limited to printer or image output terminal (IOT), scanner or image input terminal (IIT) and multifunction product (MFP).

Options: Items that are added to machines to provide additional capabilities. Examples include but not limited to second feeder, finisher, high capacity feeder and cart.

Consumables / Supplies: Item consumed by product during normal operation. Examples include but not limited to toner, ink, paper, drum cartridge, print cartridge, fuser, and developer and photoreceptor.

Field Replacement Unit (FRU) / Spares: Any part or assembly made available to support unscheduled replacement of like parts in existing equipment.

Incoming Materials to Xerox Manufacturing: Any material coming into a Xerox manufacturing facility that becomes assembled or made into a product.

4.0 REFFERENCE DOCUMENTS

The following Xerox Standards should be applied to all Machines, Options, Consumables / Supplies, Field Replacement Unit (FRU) / Spares and Incoming Materials to Xerox Manufacturing facilities.

Copies can be downloaded externally from https://www.xerox.com

Copies can be downloaded internally from Xerox Packaging Engineering Services

Standard	Name
MN2-810.13	Product and Package Testing Requirements for Transportation, Storage and Delivery
EHS-710	Environmental Health & Safety Requirements for Packaging
MN2-155.2	MN Product / Spares / Supplies & Consumables / Parts & Components Package Label Design Requirements
74P298	Pallet Material and Construction Specifications
88P313	Manufacturing Policy Requirements for Electrostatic Discharge (ESD) Control

5.0 DEFINITIONS

- Consumable: Also called Supply. Item consumed by product during normal operation. Examples include but not limited to toner, ink, paper, drum cartridge, print cartridge, fuser, and developer and photoreceptor.
- Customer Replaceable Unit (CRU): Customer installable item that requires scheduled replacement. This is considered a consumable.
- Field Replacement Unit (FRU): Any part made available to resolve unscheduled replacement of like parts in existing equipment.
- Incoming Materials to Manufacturing: Any material coming into a Xerox manufacturing facility that becomes assembled or made into a product.
- Internal Tie: Also called packaging insert. Item placed inside a machine to prevent damage during transportation. These items are removed before machine operation. Examples include ties, transit locks, foam blocks, etc.
- Machine: A product that performs a function on its own without the need of additional items. Examples include but not limited to printer or image output terminal (IOT), scanner or image input terminal (IIT) and multifunction product (MFP).
- Option: Items that are added to machines to provide additional capabilities. Examples include but not limited to second feeder, finisher, high capacity feeder and cart.
- Packaging: Any item that is used to protect, contain and/or transport a product, part or material. Packaging may be described as being primary, secondary or tertiary. Items that support the contents throughout their functional lifetime and remain as part of the printer are not packaging (e.g. toner cartridges).
- Packaging Insert: Also called internal tie. Item placed inside a machine to prevent damage during transportation. These items are removed before machine operation. Examples include ties, transit locks, foam blocks, etc.
- Primary Packaging: The first wrap or containment of a product. Contains the product or material (e.g. a box holding transparencies, a carton containing toner cartridge).
- Secondary Packaging: Packaging that contains the primary package (e.g. a carton containing boxes of transparencies).
- Spare: Any part made available to resolve unscheduled replacement of like parts in existing equipment.
- Supply: Also called consumable. Item consumed by product during normal operation. Examples include but not limited to toner, ink, paper, drum cartridge, print cartridge, fuser, developer and photoreceptor.
- Tertiary Packaging: Contains or holds primary and/or secondary packages primarily for transport purposes (e.g. shrink wrap, pallet).
- Unitized Load: The assembly of multiple packages into a combined load to be handled by machinery.

6.0 GENERAL REQUIREMENTS

NOTE: Any deviation from this standard must be approved by Xerox.

6.1 TRANSPORTATION TESTING

- Packages must comply with Xerox Standard MN2-810.13 - Product and Package Testing Requirements for Transportation, Storage and Delivery

6.2 LABELING

- Packages must comply with Xerox Standard MN2-155.2 - MN Product / Spares / Supplies & Consumables / Parts & Components Package Label Design Requirements.
- See Appendix 1 of this specification for label placement on MN containers.

6.3 ENVIRONMENTAL

- Packages must comply with Xerox Standard EHS-710 - Environmental Health & Safety Requirements for Packaging.

6.4 MAXIMUM MANUALLY HANDLED PACKAGE WEIGHT

- Secondary packages (including contents) for Consumable / Supplies (CRU), Field Replacement Unit (FRU) / Spares or incoming materials to Xerox manufacturing facilities must not exceed 15 kg (33 lbs). This is a Xerox ergonomics requirement to reduce injuries. Exceptions must be approved by Xerox.

6.5 INTERNAL PACKAGING

- Internal packaging materials shall not generate excessive dust or contaminants.
- No use of loose fill materials such as polystyrene peanuts or shredded paper is permitted.

6.6 PALLETS

- All pallets must comply with Xerox standard 74P298-Pallet Material and Construction Specifications.
- Minimum vertical opening for pallet entry must be 89mm (3.5 inches).
- Pallets for FRU/Spares, Consumables/Supplies and Incoming Materials to Xerox Manufacturing:
  - Pallet loads (product and pallet) must not exceed 1,200 x 1,000 x 1,257 mm (47.2 x 39.4 x 49.5 inches) outside dimensions, unless an exception reduces the overall cost. All exceptions must be approved by Packaging Engineering Services.
  - When shipping to Europe, a 1,200 x 1,000 mm (47.2 x 39.4 inches) open bottom, block style pallet is required unless an exception reduces the overall cost to Xerox or is required for safety reasons. All exceptions must be approved by Packaging Engineering Services. Xerox pallets 674K01250 and 074K01520 meet this requirement.
- Pallets for machines and options :
  - Pallet selection and size should minimize the overall cost to Xerox. The height of a loaded pallet must not exceed 2500 mm [98.4 in] unless pre-approved by Packaging Engineering Services.

- Pallets listed in Table 6.6.1 are required for unitized loads of product unless an exception reduces the overall cost to Xerox or is required for safety reasons. All exceptions must be approved by Packaging Engineering Services.

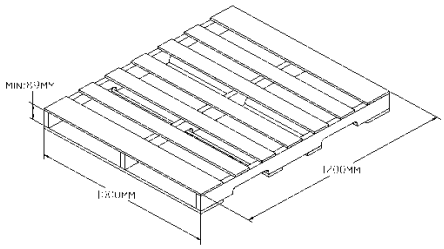
6.0 GENERAL REQUIREMENTS cont.

TABLE 6.6.1: ACCEPTABLE SIZES AND STYLES

Part Number	Description		
501K01515	Stringer style	Heavy duty	1200 mm x 1000 mm x 127 mm
502P67485	Stringer style	Medium duty	1200 mm x 1000 mm x 116 mm
502P67006	Stringer style	Light duty	1200 mm x 1000 mm x 111mm
674K01250	Block style	Light duty	1200 mm x 1000 mm x 129 mm
074K01520	Block style	Heavy duty	1200 mm x 1000 mm x 141 mm

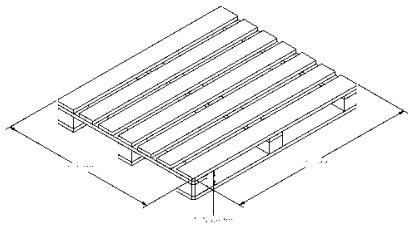
Stringer Style

501K01515
502P67006
502P67485
502P11677



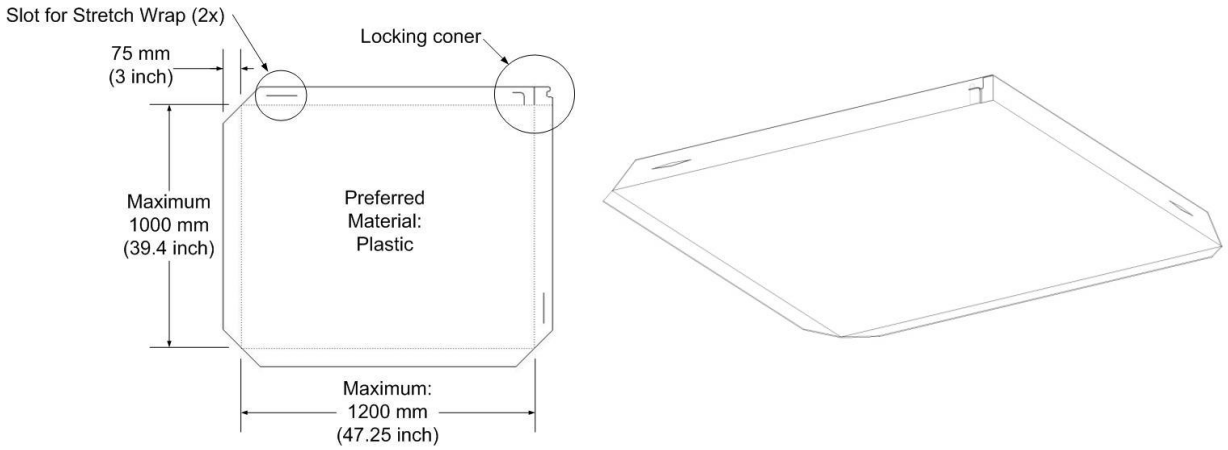
Block Style

674K01250
074K01520
????



6.7 SLIPSHEETS

- Slip sheets should not be used for any Xerox products, however, they can be used for Machines, Options and Consumables / Supplies if their use increases container utilization and reduces the overall cost to Xerox. Use of slip sheets must be pre-approved by Packaging Engineering Services. Slip sheets are never acceptable for FRU / Spares and Incoming Materials to Xerox Manufacturing.
- Slip sheets must have tabs on both the length and width.
- Slip sheets must have a locking corner.
- Footprint for slip sheet loads, not including tabs, must not exceed 1,200 x 1,000 mm (47.2” x 39.4”). Footprint of the slip sheet, not including tabs, must not exceed load dimensions by more than 25 mm (1 inch).
- The height for slip sheet loads of Consumables / Supplies must not exceed 980 mm (38.6 inches). Any exceptions must be approved by Xerox Package Engineering. There is no height restriction for Machines or Options.



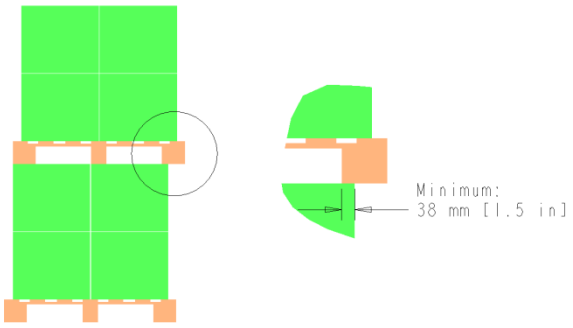
6.0 GENERAL REQUIREMENTS cont.

6.8 SECURING FREIGHT

- **Stacking on Pallets:**

  Load dimensions must not exceed the dimensions of the pallet. Loads must be secured to limit shifting during transit. Loads that shift more than 20 mm [0.8 inch] beyond the edge of the pallet during transit are unacceptable.

  To facilitate safe pallet stacking, the pallet's bottom boards must maintain at least 38 mm [1.5 in.] contact area when top pallet is aligned with bottom load in any direction.



- **Securing Loads on Pallets:**

  All cartons shall be secured to the pallet. Acceptable methods are plastic banding/strapping or plastic shrink/stretch film wrapping.

  Plastic banding/strapping:

  Note: It is the Xerox safety policy not to accept metal banding. Exceptions for safety concerns or excessive weight must be formally authorized by Xerox Environmental Health Safety.

  1. Plastic banding /strapping shall be of adequate strength and stability to prevent boxes from shifting beyond edge of pallet during use.
  2. Edge protectors should be used to prevent banding/strapping from cutting boxes. Metal edge protectors are not permissible.
  3. Banding / Strapping shall not obscure any bar code labels.

4. The Xerox Full Transport Label (Master Label or Mixed Load) for the unit load may be fixed to the banding with a wire tag.

Plastic Shrink/stretch film wrapping:

1. Shrink/stretch wrap shall extend low enough to adequately secure the load (boxes) to the pallet.
2. Stretch film must be of adequate tension to prevent boxes from shifting beyond edge of pallet.
3. Corner boards may also be used if required.
4. The Xerox Full Transport Label (Master Label or Mixed Load) for the unit load shall be fixed on the outside of the plastic film wrapping.

- **Securing loads within ocean container, truck or other vessel**:

1. Contents must be secured from movement during transport such that they are not damaged or create a safety hazard when unloading (e.g. block and brace). All wood used must be heat treated according to ISPM 15.
2. Blocking and bracing with wood, air bags, load bars, loading straps, or Tyvek should be used, as needed.

6.0 GENERAL REQUIREMENTS cont.

6.9 SAFE STACK HEIGHT CALCULATION

- Packages for machines, options, and consumables must include the ISO safe stacking symbol. Xerox calculates the safe stacking limit using the following formula:

- 5000/Unit load height(mm) (rounded down) x Layers of individual boxes in unit load -1

Safe stack symbol is not required on incoming materials to manufacturing, FRU/spares, and primary packages shipped within a secondary package (case package).

6.10 OCEAN CONTANER UTILIZATION

- Packages must be placed on a pallet. Note that slipsheet usage must be pre-approved by Packaging Engineering Services. Loading packages directly on the floor is prohibited.
- Design pallet, and packaging, to maximize ocean container quantities. Minimum inside dimensions for common ocean containers are listed below.
- Allow at least 50.8 mm (2 inch) of total clearance in length, width and height to facilitate loading/unloading of the container.

Minimum Inside Dimensions	Length	Width	Height	Door Opening Height with dock plate
20 foot	5867 mm (231 inch)	2337 mm (92 inch)	2370 mm (93.3 inch)	2210 mm (87 inch)

40 foot Standard	11998 mm (472 inch)	2337 mm (92 inch)	2370 mm (93.3 inch)	2210 mm (87 inch)
40 foot high cube	11998 mm (472 inch)	2337 mm (92 inch)	2655 mm (104.5 inch)	2655 mm (104.5 inch)

6.11 SMALL PARCEL DELIVERY

- To reduce freight charges, whenever possible, design packages that can be shipped via single parcel delivery (e.g. UPS, FedEx, DHL…etc.).
- Packages to be shipped via small parcel delivery must meet the following requirements:
  1. Package Weight ≤ 68 kg (150 lb).
  2. Longest Package Dimension ≤ 2,743 mm (108 in).
  3. Package Girth ≤ 3,300 mm (130 in) where
     Girth = (Largest dimension) + 2 x (next largest dimension) + 2 x (smallest dimension).
  4. Packages with girths up to 4,191 mm (165 in) are accepted into the single parcel delivery service but are charged substantial additional fees.
  5. Additional fees charged for low density packages. To avoid these fees, packages must meet the following criteria:

     Package weight (kg) must be ≥ Length (cm) x width (cm) x height (cm) / 6000

     Package weight (lbs) must be ≥ Length (in) x width (in) x height (in) / 166
- Whenever possible, design packages that avoid the additional fees shown above.

6.0 GENERAL REQUIREMENTS cont.

6.12 SECONDARY PACKAGING GUIDELINES

- Primary packages must be combined into a secondary (master) package if <u>any</u> of the following are true:
  1. Primary longest dimension is less than 229 mm [9 inch]
  2. The second longest dimension is less than 127 mm [5 inch]
  3. The smallest dimension is less than 51 mm [2 inch]
  4. Primary packages weighing less than 1.75kg [3.85 lbs]
  5. Any exceptions to these requirements must be approved by Packaging Engineering Services.

- Secondary package quantity and dimensions should be selected to optimize a 1200 x 1000 mm Xerox standard pallet.

- Secondary package quantity should be no less than 8 or more than 20 unless pre-approved by Packaging Engineering Services.

- Secondary package outside dimensions and weight must not exceed:
  Length: 600 mm [23.625 inch]
  Width: 500 mm [19.685 inch]
  Height: 500 mm [19.685 inch]

Secondary package must not exceed 15kg [33 lbs]

NOTE: If no configuration of 8 primary packages fall within the secondary package limits above, then no secondary package is required.

6.13 ELECTROSTATIC DISCHARGE (ESD)

Packages for static sensitive items must comply with Xerox Standard 88P313 - Manufacturing Policy Requirements for Electrostatic Discharge (ESD) Control

7.0 SPAF REQUIREMENTS

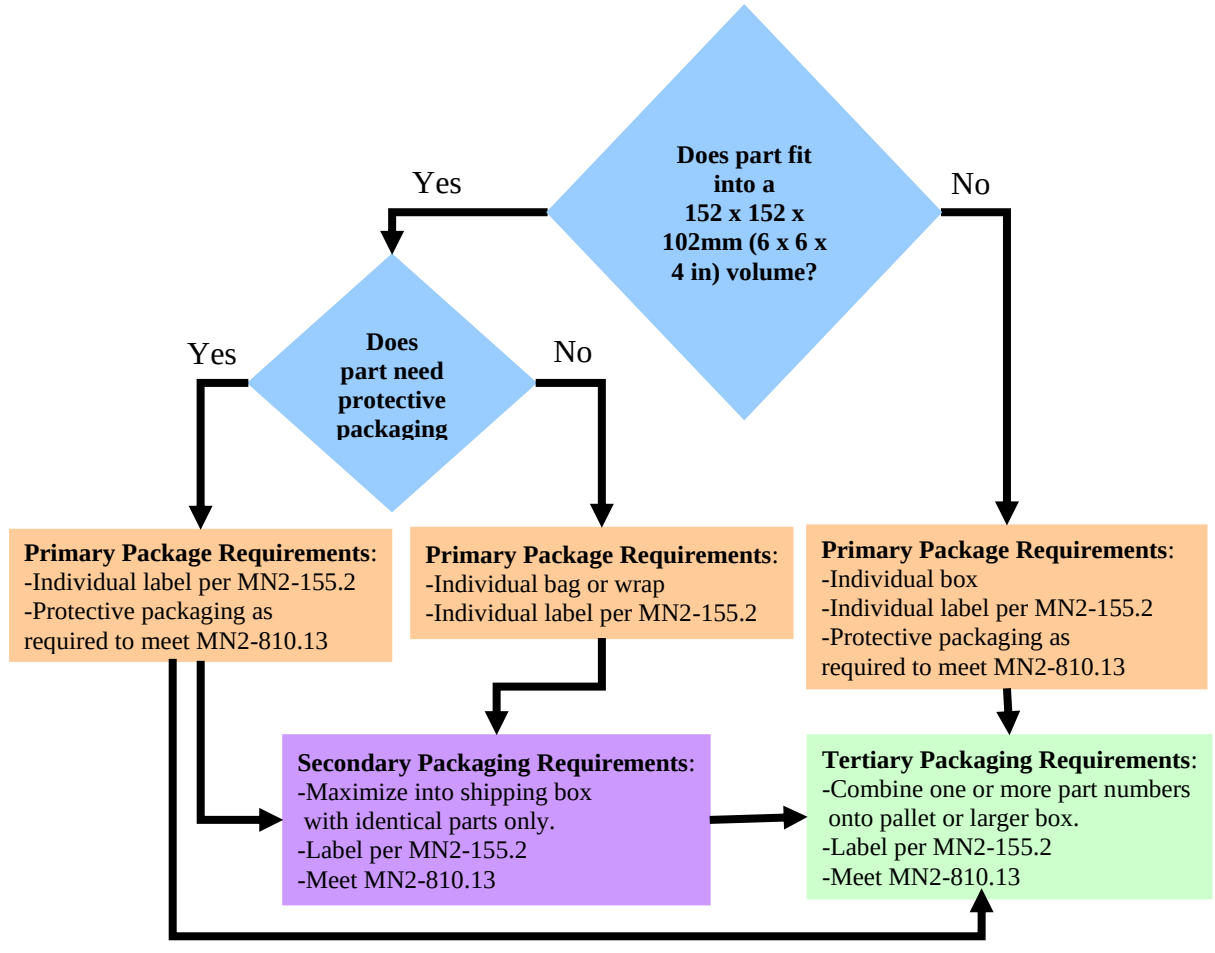
- A Supplier Packaging Agreement Form (SPAF) must be completed for all Incoming Materials to Xerox Manufacturing. A SPAF is not required for Machines, Options, FRU/Spares or Consumables/Supplies but must be used as a tool to document exceptions to 88P311.
- Supplier is responsible for submitting SPAF to Xerox. The form can be obtained at Xerox.com here;

  http://www.xerox.com/downloads/usa/en/5/51936-4.xls
- The form must be submitted via your Xerox representative.

8.0 FIELD REPLACEMENT UNITS (FRU) AND SPARES

- Primary, secondary and tertiary packages must comply with Section 6.0 of this standard.
- Secondary packages can ONLY contain one type of FRU / Spare (i.e. one part number).
- Tertiary packaging may contain more than one type of FRU / Spare (i.e. multiple part numbers). A mixed load shall be identified properly per MN2-155.2
- Primary and secondary package design and quantity must not change from one shipment to the next.
- For packaged FRU / Spares small enough to fit within a 152 x 152 x 102 mm (6 x 6 x 4 inch) volume, a shipping box is not required. Instead, several packaged FRU / Spares of the same part number can be placed into one larger secondary package and shipped to Xerox. The size of the secondary package can be chosen by the FRU / Spare supplier but must not exceed 15 Kg (33 lbs). Refer to Table 8.1 for flow chart of this requirement.

TABLE 8.1 – DECISION FLOW CHART



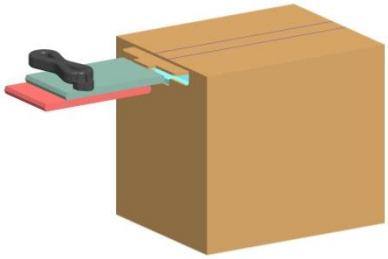
9.0 MACHINE AND PACKAGE DESIGN

9.1 PALLETS

- Pallets are required for packages over 45.5 kg (100 lbs).

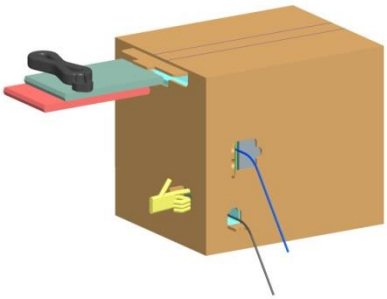
9.2 IN-BOX CONFIGURATION/ POST HOLES

Some products are configured for their final destination using features designed into the packaging. The program team will define the in-box configuration requirements for each program. The configuration strategy details may be unique for each product, however there are three general approaches:



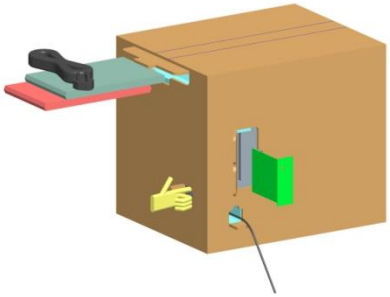
1. World/Nat kit and power cord:

Access to
World/ Nat kit
Power cord



2. Electronic Configuration

Access to
World/ Nat kit
Power cord
A/C plug
Power switch
Ethernet connector



3. Hardware Configuration

Access to
World/ Nat kit
Power cord
A/C plug
Power switch
Ethernet connector
Circuit Board

Note: Access doors must be easily opened without the need for tools. Access door and area must allow for installation and removal of World/Nat kit and power cord. Access to door and product label must be maintained while loaded on pallet. See detailed requirements in Xerox standard MN2-155.2

9.3 PACKAGING INSERTS

- The use of packaging parts inside the printer is strongly discouraged. If packaging inserts are required to pass MN2-810.13, they should meet all three of the following criteria:
  1. Insert must not damage product if left installed during power up.
  2. Insert must be easily re-installed by a customer.
  3. Xerox package engineering must pre-approve any insert or exceptions.

9.4 REVERSE LOGISTICS

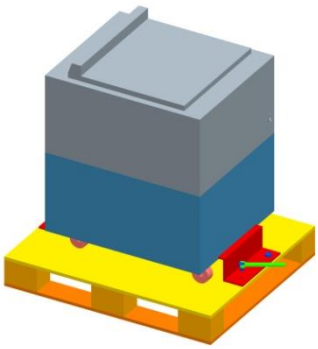
- Packages should be designed for reverse logistics (e.g. customer and distributor returns).
- Best practices to facilitate reverse logistics include:
  1. Used product must pass transportation test without damage or leakage.
  2. No additional packaging inserts should be necessary to prevent damage. Any exception must be pre-approved by Xerox package engineering.
  3. Packaging should be designed to protect product without the addition of tape.

9.0 MACHINE AND PACKAGE DESIGN cont.

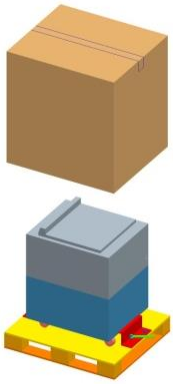
9.5 DESIGN FOR DELIVERY:

- The package design must support the delivery strategy for the intended markets. In some cases more than one delivery strategy is required. Xerox will define the delivery strategy for the product. Examples of our common delivery methods are included:

Pre-assembled

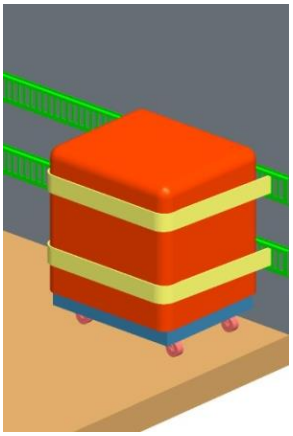


Rigger Install- Wrapped



Rigger Install- Boxed

Customer Install

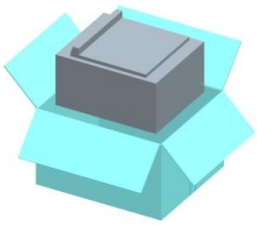


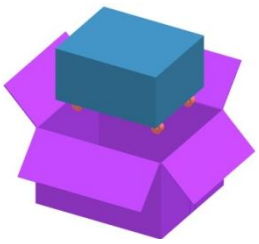
Un-palletized, Rigger Install

Unassembled

Over-boxed

Loosely Bundled





Separate Boxes

10.0 MN CONTAINERS

GENERAL REQUIRMENTS

- **MN Containers are used for incoming materials to manufacturing.**
- **Procurement and Testing MN Containers:**

  Xerox has established worldwide sourcing for the multinational cartons. Suppliers will be permitted to purchase their cartons from these sources at prices pre-established with Xerox and the carton manufacturer. When purchasing MN cartons direct from the manufacturer, a minimum quantity purchase is required. If cartons are not obtained from the recommended Xerox source, performance data must be obtained and maintained to confirm that they meet the dimension and compression values in Tables 10.1, 10.2, 10.3 and 10.4. Suppliers will be required to provide data during SQA audits.

- **MN Container Drawings/Specifications:**

  XEROX drawings may be obtained from the Xerox Document Center. External suppliers should contact their respective Xerox Buyer/Buyer Analyst to obtain copies of the Xerox engineering drawings. Questions on drawings should be addressed to the SQA representative, or to your local Packaging Engineering department.

- **MN Plastic Corrugated Containers:**

  Xerox has made available a family of standard plastic returnable containers (Table 10.3). It is not proposed that these will replace paper corrugated cartons in all applications. These cartons are to be used whenever feasible. A detailed cost benefit analysis must be completed on a part by part basis to ensure that the use of a plastic returnable tote is financially justified and suits local customer requirements.

- **Maximum Permitted Weights:**

  The total weight (including parts + internal packaging + containers) shall not exceed:

MN 1 in an **MN 5 or 13**	9 kg	(20 lb)
MN 1 through **5**,**10** through **13**	15 kg	(33 lb)
MN 6	150 kg	(330 lb)
MN 7	300 kg	(660 lb)
MN 7.5	450 kg	(990 lb)
MN 8	600 kg	(1,323 lb)
MN 5 or 13 containing **MN 1**'s	108 kg	(238 lb)

  NOTE: When the MN 5 or 13 is used as an over shipper for MN 1's and its weight exceeds 15 kg (33 lb), it shall be clearly marked 'OVERWEIGHT' in letters at least 25 mm (1 in) high. The maximum allowable gross (total) weight shall be 600 kilograms (1,323 lbs.). Gross weight includes the pallet.

- **Label Placement on MN Containers:**

  See Appendix A

- **Securing Cartons:**

  All individual cartons that are shipped separately shall have their tops secured to their bases with plastic banding or tape.

The new MN2, MN3, MN4, and MN5 boxes are “one way” cartons and need to be assembled and taped. Any clear/transparent packing tape that is at least 2 inches wide and will adhere to the corrugated will be acceptable for taping the cartons.

10.0 MN CONTAINERS cont.

- **Unit Loads:**

  All shipments that have a minimum of one full layer of cartons shall be palletized. The top layer of palletized loads must be covered. The SPAF process must identify whether this is achieved through the use of a top corrugated pad or the appropriate container lids as specified in Table 10.1, 10.2 or 10.3. When practical, a unit load should be cubed off.

  Containers shall be stacked one directly above another ("column" or "tower" stacking), and not overlapping ("brick" stacking).

- **Mixed Unit Loads:**

  It is preferred that each unit load should contain only one part number, but more than one part number is permitted. When a pallet holds a mixed load, cartons containing the same part number should be consolidated within the unit load. A mixed load shall be identified properly per MN2-155.2.

TABLE 10.1: MULTIPLE USE CORRUGATED MN CONTAINER PART NUMBERS, DIMENSIONS AND QUANTITY PER PALLET

MN ASSY DRAWING	MN CARTON	PIECE PART NUMBERS	LENGTH mm (inch)	WIDTH mm (inch)	DEPTH mm (inch)	MAX NO. OF CARTONS PER PALLET
MN1 504K02022	MN1 COVER (ID) MN1 BASE (OD) MN1 BASE (ID)**	504E03761 504E03772 504E03772	258 (10.2) 254 (10) 248 (9.7)	112 (4.4) 108 (4.3) 102 (4)	102 (4) 101 (4) 95 (3.7)	240 or 12 per MN5 ***
MN2 504K02032	MN2 COVER (ID) MN2 BASE (OD) MN2 BASE (ID)**	504E03782 504E03791 504E03791	475 (18.7) 471 (18.5) 254 (10)	281 (11.1) 277 (10.9) 271 (10.7)	117 (4.6) 117 (4.6) 114 (4.5)	64 ***
MN3 504K02042	MN2 COVER (ID) MN2 BASE (OD) MN2 BASE (ID)**	504E03802 504803811 504E03811	479 (18.9) 475 (18.7) 433 (17)	281 (11.1) 277 (10.9) 263 (10.4)	66 (2.6) 235 (9.3) 230 (9.1)	32
MN4 504K02052	MN4 COVER (ID) MN4 BASE (OD) MN4 BASE (ID)**	504E03822 504E03831 504E03831	574 (22.6) 570 (22.4) 553 (21.8)	382 (15) 378 (14.9) 372 (14.6)	117 (4.6) 117 (4.6) 114 (4.5)	40
MN5 504K02262	MN5 COVER (ID) MN5 BASE (OD) MN5 BASE (ID)**	504E04052 504E04061 504E04061	586 (23.1) 582 (22.9) 540 (21.3)	380 (15) 376 (14.8) 362 (14.3)	66 (2.6) 235 (9.3) 230 (9.1)	20
MN6 504K02272	MN6 COVER (ID) MN6 BASE (OD) MN6 BASE (ID)**	504E04032 504E04041 504E04041	954 (37.6) 950 (37.4) 935 (36.8)	574 (22.6) 570 (22.4) 556 (21.9)	70 (2.8) 404 (15.9) 393 (15.5)	2
MN7 504K02162	MN7/7.5/8 COVER (ID) MN7 SLEEVE (OD) MN7 SLEEVE (ID)**	504E03852 504E04022 504E04022 504E03871	1163 (45.8) 1155 (45.5) 1124 (44.3) 1153 (45.4)	971 (38.2) 963 (37.9) 932 (36.7) 961 (37.8)	175 (6.9) 396 (15.6) 396 (15.6) N/A	1
MN7.5 504K8340	MN7.5 SLEEVE (OD) MN7.5 SLEEVE (ID)**	504E07860 504E07860	1155 (45.5) 1124 (44.3)	963 (37.9) 932 (36.7)	628 (24.7) 625 (24.6)	1
MN8 504K02062	MN8 SLEEVE (OD) MN8 SLEEVE (ID)**	504E03842 504E03842	1155 (45.5) 1124 (44.3)	963 (37.9) 942 (37.1)	946 (37.2) 946 (37.2)	1

10.0 MN CONTAINERS cont.

TABLE 10.2: SINGLE USE CORRUGATED MN CONTAINER PART NUMBERS, DIMENSIONS AND QUANTITY PER PALLET

"ONE WAY" MN CARTON	PART NUMBERS	LENGTH mm (in)	WIDTH mm (in)	DEPTH mm (in)	MAX NO. OF CARTONS PER PALLET
MN 2 BASE MN 2/3 COVER	502P56251 502P56252	454 (17.9) 465 (18.3)	270 (10.6) 283 (11.1)	114 (4.5) 114 (4.5)	64 ***
MN 3 BASE MN 2/3 COVER	502P56253 502P56252	454 (17.9) 465 (18.3)	270 (10.6) 283 (11.1)	230 (9.1) 114 (4.5)	32
MN 4 BASE MN 4/5 COVER	502P56255 502P56256	556 (21.9) 568 (22.4)	371 (14.6) 384 (15.1)	114 (4.5) 114 (4.5)	40
MN 5 BASE MN 4/5 COVER	502P56257 502P56256	556 (21.9) 568 (22.4)	371 (14.6) 384 (15.1)	230 (9.1) 114 (4.5)	20

TABLE 10.3: MULTIPLE USE PLASTIC MN CONTAINER PART NUMBERS, DIMENSIONS AND QUANTITY PER PALLET

MN ASSY DRAWING	MN CARTON	PIECE PART NUMBERS	LENGTH mm (in)	WIDTH mm (in)	DEPTH mm (in)	MAX NO. OF CARTONS PER PALLET
MN10 504K08260	MN2 COVER (ID) MN2 BASE (OD) MN2 BASE (ID)**	504E13760 504E13720 504E13720	494 (19.4) 488 (19.2) 456 (18)	283 (11.1) 281 (11.1) 271 (10.7)	50 (2) 119 (4.7) 114 (4.5)	64 ***
MN11 504K08270	MN3 COVER (ID) MN3 BASE (OD) MN3 BASE (ID)**	504E13760 504E13730 504E13730	494 (19.4) 488 (19.2) 456 (18)	283 (11.1) 276 (10.9) 266 (10.5)	50 (2) 235 (9.3) 230 (9.1)	32
MN12 504K08280	MN4 COVER (ID) MN4 BASE (OD) MN4 BASE (ID)**	504E13770 504E13740 504E13740	594 (23.4) 588 (23.1) 556 (21.9)	383 (11.1) 382 (11.1) 372 (14.6)	50 (2) 119 (4.7) 114 (4.5)	40
MN13 504K08290	MN5 COVER (ID) MN5 BASE (OD) MN5 BASE (ID)**	504E13770 504E13750 504E13750	594 (23.4) 588 (23.1) 556 (21.9)	383 (11.1) 374 (14.7) 364 (14.3)	50 (2) 235 (9.3) 230 (9.1)	20

NOTES FOR TABLES 10.1, 10.2 AND 10.3:

- ID = Internal Dimension, OD = External Dimension. Cover ID = Minimum Value, Base ID = Minimum Value, Base OD = Maximum Value.
- All dimensions are inside nominal. For further information please refer to actual drawing specification.
- ** Dimension to be not less than specified.
- *** When weight limited, the maximum number of cartons per pallet will be the number of cartons per layer multiplied by the number of layers, not to exceed 600Kg weight limit (See Table 6.6.1).

10.0 MN CONTAINERS cont.

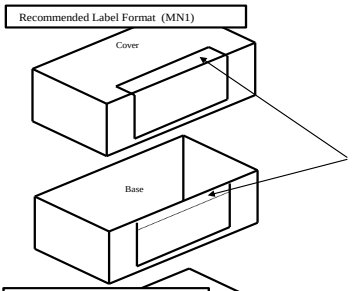
TABLE 10.4: COMPRESSION VALUES FOR MN CONTAINERS

- Compression test per MN2-810.13
- The design specifications for Xerox MN cartons are based on being capable of stacking 5 meters high. Either the weight in each carton or the board strength can be changed in order to meet the compression test requirements. It is up to the supplier to ensure that the cartons that they are purchasing are sufficient for the weights that they are shipping in each carton.

CORRUGATED		PLASTIC	
MN BOX	**kg (lb)**	**MN BOX**	**kg (lb)**
MN1	330 (728)	MN10	578 (1,274)
MN2	475 (1,047)	MN11	279 (615)
MN3	330 (728)	MN12	578 (1,274)
MN4	475 (1,047)	MN13	279 (615)
MN5	330 (728)		
MN6	700 (1,543)		
MN7	2,700 (5,952)		
MN7.5	2,700 (5,952)		
MN8	1,800 (3,968)		

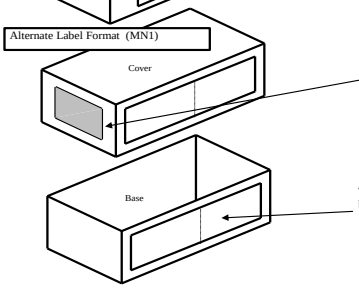
APPENDIX 1- LABEL PLACEMENT FOR MN CONTAINERS

Recommended Label Format (MN1)



The Destination portion of the label folds over the cover or into the base of the MN1.

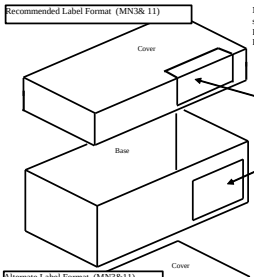
Alternate Label Format (MN1)



The Destination Label is placed on one end of the cover.

The Transport Package Label needs only to be applied to the base.

Recommended Label Format (MN3& 11)

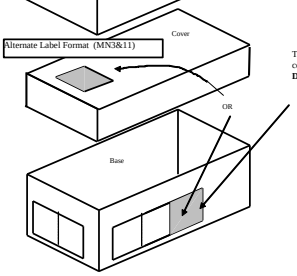


Note: When the container is to be palletized or slip sheeted, the minimum requirement is two Transport Package Labels. When used as the shipping unit, a Full Transport Label is required

The Full Transport Label is placed on the cover. The destination portion of the label folds over the cover.

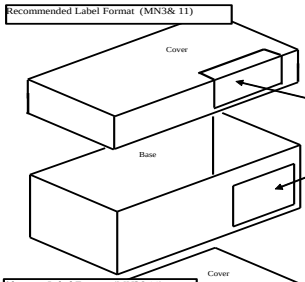
The Full Transport Label is placed on either side of the base. The destination portion of the label will be covered by the lid.

Alternate Label Format (MN3&11)



The Destination Label is placed on the cover or side of the base. **Only one Destination Label is required.**

Recommended Label Format (MN3& 11)

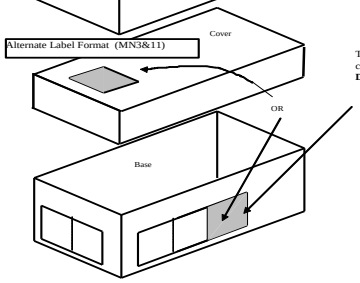


Note: When the container is to be palletized or slip sheeted, the minimum requirement is two Transport Package Labels. When used as the shipping unit, a Full Transport Label is required

The Full Transport Label is placed on the cover. The destination portion of the label folds over the cover.

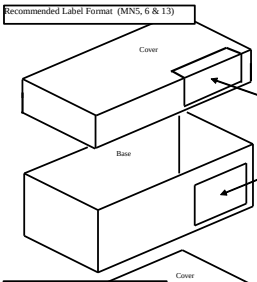
The Full Transport Label is placed on either side of the base. The destination portion of the label will be covered by the lid.

Alternate Label Format (MN3&11)



The Destination Label is placed on the cover or side of the base. **Only one Destination Label is required.**

Recommended Label Format (MN5, 6 & 13)

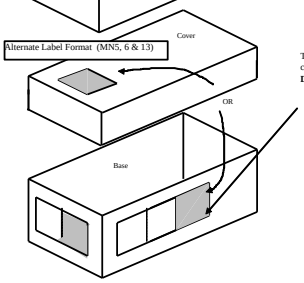


Note: When the container is to be palletized or slip sheeted, the minimum requirement is two Transport Package Labels. When used as the shipping unit, a Full Transport Label is required

The Full Transport Label is placed on the cover. The destination portion of the label folds over the cover.

The Full Transport Label is placed on either side of the base. The destination portion of the label will be covered by the lid.

Alternate Label Format (MN5, 6 & 13)



The Destination Label is placed on the cover or side of the base. **Only one Destination Label is required.**

APPENDIX 1- LABEL PLACEMENT FOR MN CONTAINERS (CON'T)

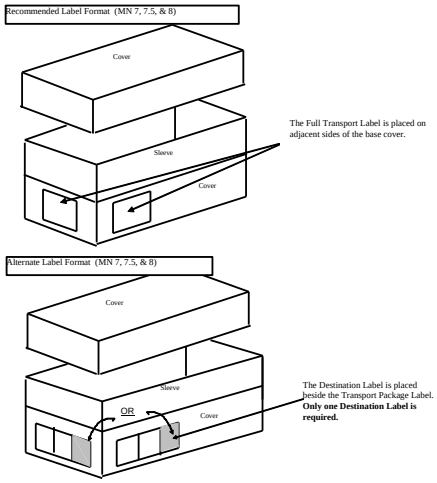


Figure 13. Label Locations on MN7, MN 7.5, & MN 8 Cartons

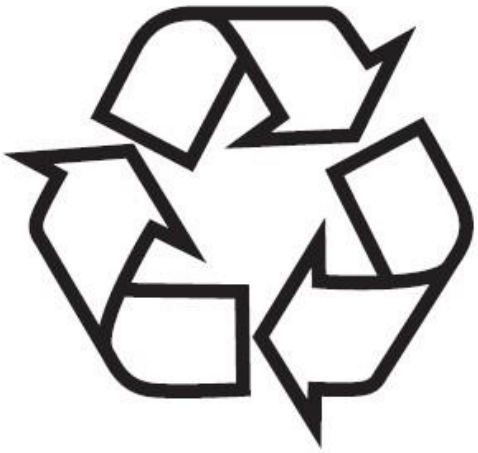
APPENDIX 2- PACKAGING AND HANDLING SYMBOLS

English	Chinese	French
Corrugated Recycles	可回收 瓦楞制品	Cartonnage Recyclable
Japanese	**Spanish**	**Wax Alternatives**
ダンボールはリサイクル	El Cartón Corrugado Es Recyclable	A Corrugated Recycles

Corrugated Recycles
www.corrugated.org

Corrugated Recycles

APPENDIX 2- PACKAGING AND HANDLING SYMBOLS (CON'T)



Basic RECYCLE symbol

PAP symbol

QR code sample