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Standard Terminology of Packaging and Distribution Environments[1]

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This standard has been approved for use by agencies of the U.S. Department of Defense.

INTRODUCTION

The terms and definitions in this standard are grouped into related areas under principal concepts. The broad descriptor term for each group is followed in alphabetical order by narrower terms and related terms. Cross-references are included where the concept group is not obvious.

1. Scope

1.1 This terminology is a compilation of definitions of technical terms used in the packaging and distribution environments. Terms that are generally understood or adequately found in other readily available sources are not included.

1.2 A definition is a single sentence with additional information included in discussions.

1.3 Definitions that are identical to those published by another standards organization or ASTM committee are identified with the name of the organization or ASTM committee.

1.4 The definitions in this terminology are grouped into related areas under principal concepts. The broad ~~discriptor~~descriptor term for each group is followed in alphabetical order by narrower terms and related terms. Cross-references are included where the concept group is not obvious.

1.5 Terminology related to flexible barrier packaging is found in Terminology F17.

2. Referenced Documents

2.1 *ASTM Standards:*[2]

C717 Terminology of Building Seals and Sealants
D907 Terminology of Adhesives
D1596 Test Method for Dynamic Shock Cushioning Characteristics of Packaging Material
D3288 Test Methods for Magnet-Wire Enamels
E176 Terminology of Fire Standards
F17 Terminology Relating to Flexible Barrier Packaging
G15 Terminology Relating to Corrosion and Corrosion Testing (Withdrawn 2010)[3]

2.2 *Federal Standard:*

PPP-F-320 Fiberboard, Corrugated and Solid, Sheet Stock (Container Grade), and Cut Shapes[4]

2.3 *Other Standards:*

Uniform Freight Classification Rule 30[5]
National Motor Freight Classification[6]

[1] This terminology is under the jurisdiction of ASTM Committee D10 on Packaging and is the direct responsibility of Subcommittee D10.11 on Terminology (definitions).
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[2] For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

[3] The last approved version of this historical standard is referenced on www.astm.org.

[4] Available from Superintendent of Documents, US Government Printing Office, Washington, DC 20402.

[5] Available from Uniform Classification Committee, 222 South Riverside Plaza, Chicago, IL 60606.

[6] Available from National Classification Board, 2200 Mill Road, Alexandria, VA 22314.

3. Terminology

absorbent packing—See **packing** .

adhesive, *n*—a substance capable of holding materials together by surface attachment.

DISCUSSION—

Adhesive is the general term and includes among others, cement, glue, mucilage, and paste. All of these terms are loosely used interchangeably. Various descriptive adjectives are applied to the term adhesive to indicate certain characteristics as follows: (*1*) Physical form, that is, liquid adhesive, tape adhesive, (*2*) Chemical type, that is, silicate adhesive, resin adhesive, (*3*) Materials bonded, that is, paper adhesive, metal-plastic adhesive, can label adhesive, and (*4*) Conditions of use, that is, hot-setting adhesive (D907, D14).

contact adhesive, n—an adhesive that is apparently dry to the touch and that will adhere to itself instantaneously upon contact; also called contact bond adhesive or dry bond adhesive (D907, D14).

aerosol package—See **package** .

ampoule, *n*—a hermetically sealed, small bulbous glass or plastic vessel. Opening is achieved by breaking the stem. (Also *ampule*or *ampul*.)

anchor, *v*—to secure firmly (*Webster*).

anti-skid plate—See **loading.**

available program, *n*—a qualifying term which can be used in the definition of recyclable, reusable, refillable, returnable, compostable, establishing limits; for example, by population and access within geographic area.

DISCUSSION—

This term is an essential component of recyclable, reusable, refillable, returnable, and compostable. Manufacturers should refer to FTC Guidelines to ensure claims are not deceptive. Claims should be qualified with appropriate phrases such as the following:

"Recyclable where facilities exist. Check to see if recycling facilities exist in your community."

"Recyclable where facilities exist. Collection programs have been established in *x* % of the country. Check to determine if they exist in your community."

"Compostable in centralized facilities. Check to see if composting programs exist in your community."

"Compostable at home. May be composted in as part of your composting pile at home."

bag, *n*—a preformed **container** of tubular construction made of flexible material, generally enclosed on all sides except one forming an opening that may or may not be sealed after filling. (See also **pouch**.)

DISCUSSION—

A bag may be made of any flexible material, or multiple plies of the same, or combination of various flexible materials. The term bag is used as a synonym for sack, but the term sack generally refers to the heavier duty or shipping sacks. It is made in various standard styles and may be open-mouth or valve type. The five basic standard types of bags are: (*1*) grocery bag, (*2*) merchandise paper, (*3*) industrial, (*4*) textile, and (*5*) paper shipping sack.

paper multiwall-sack—a flexible **container** made of several plies, usually of kraft paper. The various plies may be specially treated, such as waxed paper, glassine, greaseproof, polyethylene, **wet strength paper**, or other specialty sheets. The particular nature of the sack depends upon the material to be packed and the type of transportation to be employed.

bag liner—See **liner**.

bail, *n*—the usually arched handle of a pail or can.

bale, *n*—in packaging a shaped unit, bound with cord or metal ties under tension, and containing compressed articles or materials. It may be wrapped.

banding—Use **strapping** .

barrel, *n*—a bulged cylindrical **container** of greater length than breadth, made of wooden **staves** bound together with hoops and having two flat ends of equal diameter. (Compare **drum.**)

cask,n—a term used synonymously with **barrel** but usually of large size or capacity.

keg,n—a small slack or tight **barrel** of 30-gal capacity or less.

barrier material:—

grease-resistant barrier—a material that prevents or retards the transmission of grease or oils.

water-resistant barrier—a material that retards the transmission of liquid water.

water-vapor-resistant barrier—a material that retards the transmission of water vapor.

basket, *n*—a semirigid **container** usually open at the top and provided with one or two handles for carrying. (Compare **hamper**.)

DISCUSSION—

A **basket** is sometimes made of thin strips of wood, woven or stapled, or otherwise bound together, or it may be made of fiberboard or combinations of wood and fiber, or plastic. (See **stave**.(*2*))

batten—See **box**.

biodegradable, *adj*—capable of undergoing decomposition into carbon dioxide, methane, water, inorganic compounds, or biomass in which the predominant mechanism is the enzymatic action of micro-organisms, that can be measured by standardized tests, in a specified period of time, reflecting available disposal conditions.

blister pack—See **pack**.

blocking—See **loading**.

body—See **container**.

bottle—See **container**.

bottom—See **box**.

box, *n*—a rigid **container** having closed faces and completely enclosing the contents. When this term is used in connection with fiberboard boxes, such fiber boxes must comply with all the requirements of the carrier rules. (See **carton**.)

bottom,n—the **face** of a **box** on which it usually rests while filling.

DISCUSSION—

In terms of fiberboard shipping boxes, the face created by the flaps of regular (or similar style) slotted boxes are the top or bottom, regardless of loading or stacking.

box batten,n—a reinforcing member, (*1*) for a **wood box** internally or externally applied to the sides, top and bottoms. When applied externally it should be applied in pairs; (*2*) in a **wirebound box**, a batten is a reinforcement used on the ends of the container only.

cleated fiberboard box—a rigid **container** having five or six **panel faces** with wood strips fastened to them, the panels being made of **solid** or **corrugated fiberboard**.

cleated plywood box—a rigid **container** having five or six **panel faces** with wood strips fastened to them, the panels being made of plywood.

flange,n—in **fiberboard boxes**, an extension to a panel similar to a short flap that may be folded in or out, usually at angles of 90 or 180° to the panel.

nailed wood box—a rigid **container** constructed of wood in several standard styles, assembled by fastening sides, top and bottom to the ends with nails or other suitable fasteners.

skid box—a metal, wooden, or fiber **box** fastened to a platform raised on skid members or legs; it may or may not be collapsible. (See also **skid**.)

wirebound box—a rigid **container** whose sides, top, and bottom are of rotary-cut lumber, sliced lumber, **resawn lumber, fiberboard**, or combinations thereof, usually ⅜ in. (9.5 mm) or less in thickness, fastened to **cleats** and to each other by means of binding wires and staples; and ends of similar material, plain or stapled to **battens** or **liners**, fastened in place by means of nails or staples or wires stapled thereto.

DISCUSSION—

The **closure** is made by twisting or looping together the ends of the binding wires.

boxboard—See **paperboard.**

bracing—See **loading**.

bubble packaging material—a material consisting of a flexible plastic film having uniformly spaced bubbles integrally molded therein.

DISCUSSION—

These bubbles may or may not be permanently affixed to a separate backing film to either seal the air within the bubbles or to add dimensional stability to the structure. Bubble packaging is primarily used as a cushioning material.

buffer, *n*—a material or device, such as folded up **corrugated fiberboard**, placed in a container to position and protect the contents from the forces of impact.

DISCUSSION—

A **buffer** is usually made of a cushioning, or compressible material. It may be made in a variety of styles such as spring buffer, rolled-up buffer, die-cut, and so forth. (See **cushioning material**.)

bulk packaging—see **packaging.**
bundle, *n*—two or more articles held together with rope, wire, or **strapping** so as to form a shipping unit; it may be wrapped.

bung hole—*in packaging*, an opening in a **barrel** or **drum** through which material can be poured to fill, empty or vent.

bursting strength—See **package testing**.
bursting strength test—See **package testing**.
caliper—See **package testing**.
can, *n—in packaging*, a receptacle generally of 10-gal capacity or less, normally not used as a **shipping container**.

DISCUSSION—

The body is made of lightweight metal or is a composite of paperboard and other materials having the ends made of paperboard, metal, plastic, or a combination thereof.

Cady test—See **package testing**.
cap—See **container (cover)**.
carboy, *n*—a **container** made of glass, ceramic, plastic, or metal, having a capacity of 5 to 15 gal (19 to 57 L) with the pouring and filling opening at the top.

DISCUSSION—

For shipment, carboys are generally encased in a protective rigid outer container.

carton, *n*—a folding **box**, generally made from **boxboard** for merchandising consumer quantities of products (for example, shelf packages or prime packages).

case—See **container**.
case liner—See **liner**.
cask—See **barrel**.
child-resistant packaging—See **packaging**.
chime (chine), *n—in packaging*, the rim of a **container,** such as a **drum, barrel**, or **can**.

chipboard—See **paperboard.**
cleat, *n*—a wood or metal strip attached along the edge of a **panel** of a **container** for the attaching of an adjacent panel, or fastened to the panel between the edges, or to barrel heads, for reinforcement and stiffening.

cleated fiberboard box—See **box**.
cleated plywood box—See **box.**
closure, *n—in packaging*, a means of closing a **container** to retain the contents.

plug,n—in packaging, a type of **closure** that is designed to be inserted into a **container** opening. It may be held by friction or by screw threads. (See **cap**.)

cocoon, *v—in packaging*, to employ strippable, usually plastic, sometimes multi-layered films to encapsulate an item.

code, *v*—to assign numbers, letters, words, or symbols as identifying marks to **containers,** packaged materials, or articles to convey information concerning the qualities of the container or its contents, date, place of manufacture, or other significant identification. (Compare **marking.**)

collapsible tube—See **tube.**
compaction ratio, *n*—the measurement of the relationship of volume displacement of a package before and after simulated landfill conditions as determined in standardized tests.

composite tube—See **tube.**

compostable, *adj*—capable of undergoing biological decomposition in a compost site as part of an available program, such that the material (that is, feedstock) is not visually distinquishable and breaks down to carbon dioxide, water, inorganic compounds, and biomass, at a rate consistent with known compostable materials.

DISCUSSION—

See **available program** for further clarification. Also, manufacturers should indicate if composting at home or centralized facility is appropriate.

Conbur test—See **package testing**.
constant load—See **load**.
contact adhesive—see **adhesive** .
container—a nonspecific term for a receptacle capable of **closure** (See also: **bag, barrel, basket, box, can, carton, crate, cylinder, drum, envelope, hamper, pail, tube**.)

body,n—in packaging, the principal part of a **container**, usually the largest part in one piece containing the sides.

bottle,n—a rigid or semirigid **container** typically of glass or plastic, having a comparatively narrow neck or mouth, and usually no handle (*Webster*).

case,n—a nonspecific term for a **shipping container**. In domestic commerce, case usually refers to a box made from **corrugated** or **solid fiberboard** wood, or metal.

cover,n—in packaging, the top or bottom, or both of a **container**, usually the part that closes the filling and dispensing opening. It is often called a cap when used with **fiberboard containers**. (See also **shroud**.)

cylinder,n—a rigid cylindrical metal **container** designed as a portable vessel for the storage and transportation of compressed gases. Generally equipped with protected valve closure and suitable pressure-relief safety device.

die-cut,adj—(*1*) a method of preparation in which a part or **container** has been cut, slotted, and scored or any combination of these by custom-made dies; (*2*) *n*, a part so made.

expendable container—a **container** for shipping or storage, or both, intended primarily for a single trip.

face,n—in packaging, any one of the plane surfaces of a **container**.

fast pack container—a standard size, **reusable container** with foam cushion **inserts**.

DISCUSSION—

Some designs permit shipment of a large variety of items within certain limits of size, weight, configuration, and fragility.

fiberboard container—a **box, package**, or **drum** made of **fiberboard**. When the term box is used for classification purposes, the structure must comply with all requirements of the carrier rules.

flap,n—one of the closing members of a **fiberboard container**.

glass container—any glass receptacle capable of holding a **seal** or **closure** for retention of contents.

intermodal container—a reusable **shipping container** manufactured to standard dimensions intended to unitize cargo or freight for shipping by one or more modes of transportation without the need for intermediate handling of the contents.

jar,n—a widemouthed container made typically of glass, plastic, or earthenware.

jug,n—a large, deep, usually glass, plastic, or earthenware container with a narrow mouth and a handle.

manufacturer's joint—that part of a **fiberboard container** where the ends of the box blank are joined together in the manufacturing process by taping, stitching, or gluing.

modular container—a family of **containers** designed to be assembled into a **unit load**.

returnable container—a **shipping container** of any material designed to be used for more than one shipment.

reusable container—a shipping and storage **container** designed for reuse without impairment of its protective function.

DISCUSSION—

It may be repaired or refitted to prolong its life, or to adapt it for items other than originally intended.

seam, n (when referring to a **fiberboard container***)*—the lines of junction created by any free edge of a container flap or wall where it abuts or overlaps another portion of the **container** (except the **manufacturer's joint**).

DISCUSSION—

A seam may be fastened by tape, stitches, or adhesive in the process of closing a fiberboard container.

shipping container—a container that is sufficiently strong to be used in commerce for **packing**, storing, and shipping commodities. (See also **barrel, crate, drum**.)

containerboard—any **paperboard** made specifically for the manufacture of **corrugated** and **solid fiberboard shipping containers**. Basis weight is expressed in pounds per 1000 ft^2 (or grams per square metre). It is customarily shipped in rolls.

cylinder kraft—**containerboard** made from kraft pulp on a cylinder machine.

Fourdrinier kraft—**containerboard** made from kraft pulp on a Fourdrinier machine, basically of single-ply formation, although possibly with supplementary second-ply, with less prominent grain direction. The sheet is formed on a traveling endless-wire screen which may also be vibrated to obtain more random orientation of fibers.

solid fiberboard—a solid board made by laminating two or more plies of **containerboard**.

containerization, *n*—(*1*) a shipping method in which material (such as merchandise) is packaged together in one **container**.(*2*) the use of transport **containers** to unitize cargo for transportation, supply, and storage.

core, *n—in packaging*, a cylindrical structure used as a carrier of flexible material that is wound around it.

corrosion, *n*—the chemical or electrochemical reaction between a material, usually a metal, and its environment that produces a deterioration of the material and its properties (G15, G01).

corrosion, inhibitor,n—a chemical substance or combination of substances that, when present in the proper concentration and form in the environment, prevents or reduces corrosion.

volatile corrosion inhibitor (VCI)—a material that slowly releases vapor to inhibit corrosion within a **package** by neutralizing the effects of moisture-laden air.

corrugated box—See **box**.

corrugated fiberboard:

~~**(1) single face —**the structure formed by one corrugated member glued to the flat facing;~~

(1) single face—the structure formed by one corrugated member glued to the flat facing;

(2) single wall—the structure formed by one corrugated inner member glued between two flat facings; also known as double face;

(3) double wall—the structure formed by three flat facings and two intermediate corrugated members;

(4) triple wall—the structure formed by four flat facings and three intermediate corrugated members. (See also **container-board**.)

~~*(2) single wall*—the structure formed by one corrugated inner member glued between two flat facings; also known as double face;~~

~~*(3) double wall*—the structure formed by three flat facings and two intermediate corrugated members;~~

~~*(4) triple wall*—the structure formed by four flat facings and three intermediate corrugated members. (See also **container-board**.)~~

corrugating medium—**paperboard** used in forming the fluted portion of the **corrugated board**.

corrugation flute—one of the wave shapes formed in the inner member, that is, the corrugating medium, of corrugated fiberboard. Flutes most commonly used are:

	Number, per Linear ft	Span Between Adjacent Flutes, mm	Height, in. (mm)[A,B]
A-flute	36 ± 3	7.9 to 9.1	3/16 (4.7)
B-flute	50 ± 3	4.7 to 6.6	3/32 (2.4)
C-flute	42 ± 3	6.8 to 7.8	9/64 (3.6)
E-flute	94 ± 4	3.0 to 3.5	3/64 (1.2)

[A] The values are approximate.
[B] Height does not include thickness of facing.

V-board—a term adopted from the grade symbol of **corrugated** or **solid fiberboard** made to comply with the weather-resistant class as defined in Federal Specification PPP-F-320, made of wet strength **paperboard**. Components are especially made to exhibit high strength (against bursting, tearing, or rupturing) when wet.

W-board—same as V-board except the "W" grades are of lower test requirements and primarily for use as interior or intermediate containers.

cover—See **container**.

crate, *n*—a rigid **shipping container** of framed construction joined together with nails, bolts or any equivalent method of fastening. The framework may or may not be enclosed with sheathing. It may be demountable (reusable) or nondemountable. (See also **rubbing strip, strut**.)