



# FINAL DRAFT International Standard

## ISO/FDIS 6590-1

### Packaging — Vocabulary —

#### Part 1: Paper sacks

ISO/TC 122/SC 3

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## Foreword

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The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO document should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see [www.iso.org/directives](http://www.iso.org/directives)).

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For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see [www.iso.org/iso/foreword.html](http://www.iso.org/iso/foreword.html).

This document was prepared by Technical Committee ISO/TC 122, *Packaging*, Subcommittee SC 3, *Performance requirements and tests for means of packaging, packages and unit loads (as required by ISO/TC 122)*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 261, *Packaging*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This second edition cancels and replaces the first edition (ISO 6590-1:1983), which has been technically revised. [standards.iteh.ai/catalog/standards/iso/600b0d2f-18aa-4143-848b-251186e083c4/iso-1dis-6590-1](http://standards.iteh.ai/catalog/standards/iso/600b0d2f-18aa-4143-848b-251186e083c4/iso-1dis-6590-1)

The main changes are as follows:

- general editorial changes have been made to the document in line with ISO/IEC Directives Part 2;
- updates have been made to the figures accompanying specific terms and definitions;
- considerations have been made to align with existing standards in order to avoid additional interpretations of identical terms, where necessary, and conversely proposing updates to existing definitions where considerations should be made in renewing the definitions in other standards;
- new terms have been added to reflect the development within the field;
- old terms for products and services no longer in use have been deleted.

A list of all parts in the ISO 6590 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at [www.iso.org/members.html](http://www.iso.org/members.html).

# Packaging — Vocabulary —

## Part 1: Paper sacks

### 1 Scope

This document defines terms commonly used in paper sacks manufacture. It refers to single- and multi-ply sacks made of paper or combination of paper and other materials where the paper is the main part.

It does not refer to bags for retail trade.

### 2 Normative references

There are no normative references in this document.

### 3 Terms and definitions

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <https://www.electropedia.org/>

#### 3.1 General terms

##### 3.1.1 paper sack

flexible packaging of single or multiple *plies* (3.1.2), predominantly made of paper

Note 1 to entry: Suitable for packaging large quantities of powdery or granulate products mainly intended for business-to-business distribution chains activities.

Note 2 to entry: Hereafter, where the word sack is used in the text of this document, paper sack is to be understood. If no prefix is applied to a term under definition, paper sack is also to be understood.

##### 3.1.2

##### ply

sheet of paper or other flexible material, or combination of such materials, forming the walls of a sack

##### 3.1.3

##### gusset

fold with a prescribed size inserted in the longitudinal edges of a *tube* (3.1.4)

##### 3.1.4

##### tube

one or more *plies* (3.1.2) in the form of a flattened cylinder with a prescribed width cut into a prescribed length

##### 3.1.4.1

##### flat tube

*tube* (3.1.4) comprised solely of one or more flattened cylindrical *plies* (3.1.2)

3.1.4.2

**gusseted tube**

*tube* (3.1.4) comprised of one or more *plies* (3.1.2) with folds inserted in the longitudinal edges

3.1.4.3

**flush cut tube**

*flat tube* (3.1.4.1) or a *gusseted tube* (3.1.4.2) with *plies* (3.1.2) cut collectively or individually to a prescribed length

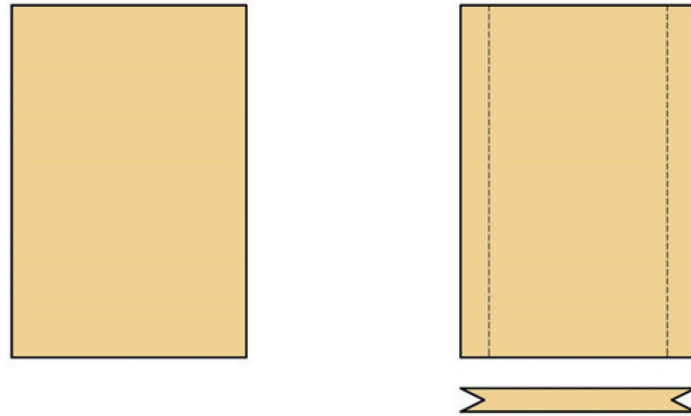


Figure 1 — Example of a flush cut tube

3.1.4.4

**stepped end tube**

*flat tube* (3.1.4.1) or a *gusseted tube* (3.1.4.2) with *plies* (3.1.2) cut individually and staggered in echelon to a prescribed length so that the final tube length will result longer than each single ply length

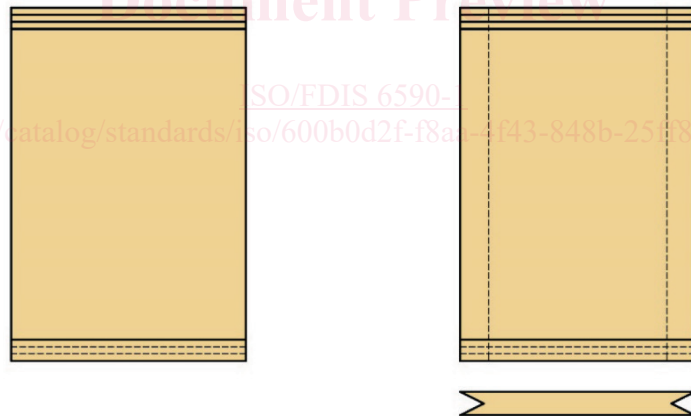


Figure 2 — Example of a stepped end tube

3.1.4.5

**notched end tube**

*flat tube* (3.1.4.1) or a *gusseted tube* (3.1.4.2) with *plies* (3.1.2) cut individually and staggered in a manner which provides one or two edge notches on one *tube* (3.1.4) end

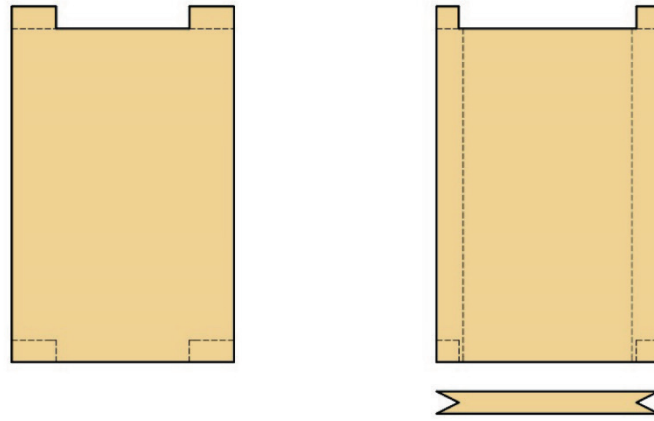


Figure 3 — Example of a notched end tube

## 3.2 Terms related to air permeability perforation methods

### 3.2.1

#### air permeability perforation

holes pierced through the sack walls or the individual *plies* (3.1.2), made by needles during manufacturing, in order to facilitate air release during sack filling

### 3.2.2

#### micro-perforation

small holes made on individual plies prior to forming the *tube* (3.1.4)

Note 1 to entry: The distance between the micro-holes can vary (e.g. 25 × 25 mm, 10 × 10 mm, 5 × 5 mm or smaller) and can be applied in full or in limited areas of each ply and it is typically obtained with conical needles allowing a variable grade of perforation or with straight needle for a predetermined and more stable degree of perforation.

### 3.2.3

#### sack perforation

process of making holes through the entire sack wall, made directly on the formed *tube* (3.1.4)

Note 1 to entry: Sack perforations are usually made on a specific area of the sack wall, typically under the valve position.

## 3.3 Terms related to pasting

### 3.3.1

#### pasting

#### adhesive bonding

joining together the different *plies* (3.1.2) and the different materials by means of *adhesives* (3.11.3)

### 3.3.2

#### longitudinal overlap

areas of the longitudinal edges of a *ply* (3.1.2) which are superposed

### 3.3.3

#### longitudinal pasting

*pasting* (3.3.1) by which the longitudinal overlap of a *ply* (3.1.2) is joined together with an *adhesive* (3.11.3) or extrusion

Note 1 to entry: The seam may be continuous or interrupted.

### 3.3.4

#### **cross pasting**

application of an *adhesive* (3.11.3) between the *plies* (3.1.2) normally at one or both ends of a *tube* (3.1.4)

Note 1 to entry: Cross pasting facilitates separation of the front and back side of the tube during manufacture or of the mouth of the sack during filling. It can increase the strength of certain types of sacks.

### 3.3.5

#### **heat sealing welding**

method of joining together surfaces under controlled application of heat, pressure and dwell time

[SOURCE: ISO 21067-1:2016, 2.5.14, modified — The secondary term "welding" was added and in the definition the word "mating" was replaced with "joining together".

### 3.3.6

#### **ultrasonic sealing**

method of joining together surfaces under controlled application of ultrasounds at a specified frequency

Note 1 to entry: Frequencies are typically 20 000 Hz or 30 000 Hz on paper products.

### 3.3.7

#### **sewing stitching**

joining together individual *plies* (3.1.2) by means of *sewing thread* (3.11.4)

### 3.3.8

#### **pasted closure**

closure of a *tube* (3.1.4) at one end only with an *adhesive* (3.11.3)

## 3.4 Terms related to the sack bottom

### 3.4.1

#### **bottom**

closure, to a prescribed dimension, of one or both tube ends to form the final sack configuration

### 3.4.2

#### **bottom overlap**

areas of the transverse ends of a *tube* (3.1.4) which are superposed when formed into a bottom

### 3.4.3

#### **bottom pasting**

joining together of the sack walls by means of an *adhesive* (3.11.3)

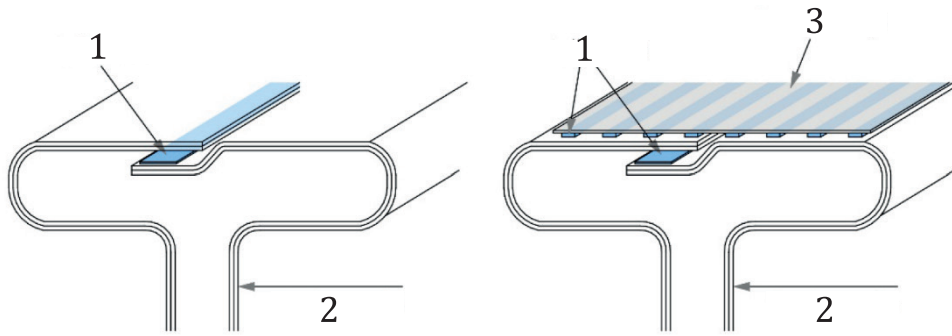
Note 1 to entry: Before closure of the tube one or both ends are folded and/or formed into a suitable shape at a prescribed size.

#### 3.4.3.1

##### **flush cut bottom pasting**

joining together one or both ends of a *flush cut tube* (3.1.4.3), folded and with the *plies* (3.1.2) pasted down collectively

Note 1 to entry: This can be done with or without a *bottom cap* (3.4.6).



**Key**

- 1 adhesive
- 2 sacks walls
- 3 bottom cap

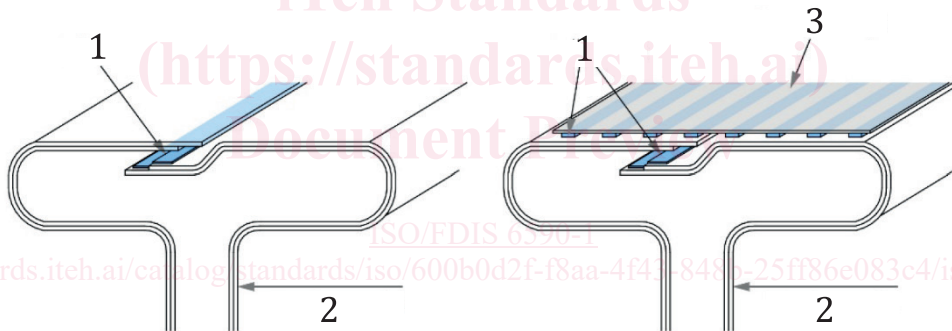
**Figure 4 — Example of a flush cut bottom pasting without or with bottom cap**

**3.4.3.2**

**stepped end cut bottom pasting**

joining together one or both ends of a *stepped end tube* (3.1.4.4), folded and with the *plies* (3.1.2) pasted down in steps

Note 1 to entry: This can be done with or without a *bottom cap* (3.4.6).



**Key**

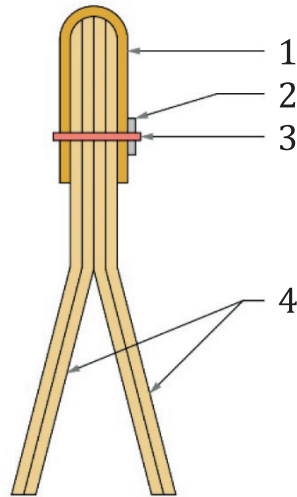
- 1 adhesive
- 2 sacks walls
- 3 bottom cap

**Figure 5 — Example of a stepped end cut bottom pasting without or with bottom cap**

**3.4.4**

**bottom sewing**

closure of a *tube* (3.1.4) at one or both ends by means of a continuous transverse line of stitches



**Key**

- 1 sewing holding paper sheet
- 2 filter cord
- 3 sewing thread
- 4 sack walls

**Figure 6 — Example of bottom sewing**

**3.4.5**

**bottom sealing**

closure of a *tube* (3.1.4) by joining together materials through the controlled application of heat, pressure and dwell time

**3.4.6**

**bottom cap**

**bottom patch**

paper or other material sheet pasted to a sack bottom after bottom formation

**3.4.7**

**bottom inner patch**

paper or other material sheet pasted to the inner of the sack bottom before bottom formation

**3.5 Terms related to bottom types**

**3.5.1**

**hexagonal bottom**

**cross bottom**

closure at a prescribed width of a *flat tube* (3.1.4.1) at one or both ends forming and *pasting* (3.3.1) the bottom(s) in hexagonal shape

**3.5.2**

**pinch bottom**

closure of a *flat tube* (3.1.4.1) or *gusseted tube* (3.1.4.2) by turning over and *pasting* (3.3.1) a *flush cut* (3.1.4.3) or *stepped end tube* (3.1.4.4) edge

**3.5.3**

**rectangular bottom**

closure at a prescribed width of a *gusseted tube* (3.1.4.2) at one or both ends forming and *pasting* (3.3.1) the bottom in rectangular shape