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**Packaging — Label material —  
Required information for ordering  
and specifying self-adhesive labels**

*Emballage — Matériau d'étiquetage — Informations exigées pour la  
commande et la spécification des étiquettes autocollantes*

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## Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

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 documents 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)).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see [www.iso.org/patents](http://www.iso.org/patents)).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on 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 the following URL: [www.iso.org/iso/foreword.html](http://www.iso.org/iso/foreword.html).

The committee responsible for this document is ISO/TC 122, *Packaging*.

## Introduction

Using and ordering label material of different kinds is not an easy task as what to use and how to use it depends on so many things, e.g. type of marking, surface, environment, treatment, information, printing technologies, etc.

Each label application is therefore unique and requires its own combination of ink, top coating, facestock and adhesive to serve its purpose. The label is to be seen as a vital and important part (component) of the product and there could be multiple labels on one product to serve different needs.

As there does not exist any standards in how to specify label materials, a guide was developed in order to provide useful information for those that are in need of a label material and those that are to supply the relevant label material.

This document can be used by both suppliers and users.

It provides guidance on what a supplier and user need to discuss and agree upon when specifying requirements of a label for a given application possibly to use as a request for a quote.

It also provides a harmonized template for specifying the parameters and characteristics of the label to enable information to be evaluated on common ground, possibly to use as a product specification.

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# Packaging — Label material — Required information for ordering and specifying self-adhesive labels

## 1 Scope

This document provides guidelines for users and suppliers providing the required information for requesting and specifying self-adhesive labels. This document provides what to consider when defining and specifying label materials to be used for a given application.

It will ensure that the relevant information is provided so that the right material for the intended application can be requested or recommended, as well as ensure that label parameters and characteristics are specified in a similar format to permit label materials to be requested, specified and compared in a consistent manner.

This document applies to labels with adhesive (also named as self-adhesive or pressure-sensitive).

How to work and specify with other types of labels and marking are not addressed in this document, but may be the topic of subsequent documents. Also excluded is the information related to regulatory compliance.

## 2 Normative references

There are no normative references in this document.

## 3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 21067-1 and ISO/IEC 19762-1:2016 and the following apply.

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

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

### 3.1

#### **adhesive**

substance capable of holding materials together by surface attachment

[SOURCE: ISO 19952:2005, 3]

### 3.2

#### **adhesive strength**

sum total of the forces of attachment between a dry film and a substrate

### 3.3

#### **facestock**

paper that is used for making self-adhesive labels

Note 1 to entry: It is called “facestock” because it is the top or “face” of the laminate from which these labels are produced.

Note 2 to entry: Specialized companies laminate the facestock paper to a release liner after the latter has been coated first with an ultra-thin layer of silicon and then with an adhesive.

Note 3 to entry: When the ready label is peeled off from the backing paper (=release liner), the adhesive transfers to the label because it is easily separated from the release liner because of the “non-stick” silicon.

**3.4**  
**final adhesion**

force required to peel a strip of adhesive tape from a specified substrate at a specified angle and speed

Note 1 to entry: The force after at least 24 h.

**3.5**  
**imprint**

local indentation caused by a foreign matter being pressed into a surface

[SOURCE: ISO 2074:2007, 6.7]

**3.6**  
**infringement**

encroachment or trespass on a right

Note 1 to entry: Includes unauthorized use, use that exceeds the limitations stipulated in a licence, use that exceeds the parameters established for an exception, etc.

**3.7**  
**ink**

material, which may or may not include colorant, designed for liquid state deposition on a substrate

[SOURCE: ISO/IEC 29142-1:2013, 3.28]

**3.8**  
**ink-jet**

text and images formed on a substrate by electronically controlled formation and propulsion of liquid ink droplets

**3.9**  
**label**

sign carrier made from flexible material

Note 1 to entry: The purpose of a label is to convey the necessary information (text or graphics) to the user.

Note 2 to entry: Information on other identification methods in relation to labels, such as tag, ticket, tape, mark and marking, are given in [Annex D](#).

[SOURCE: ISO 9244:2008, 3.11, modified, Note 1 to entry and Note 2 to entry added]

**3.10**  
**mark**

inscription, name, stamp, *label* ([3.9](#)), or seal placed on an article to signify ownership, quality, manufacture, or origin

**3.11**  
**marking**

act of making *marks* ([3.10](#)), *signs* ([3.20](#)), texts, etc., visible on a surface of something

EXAMPLE Using a ribbon, label, tag, tape or other printing technology.

**3.12**  
**maximum application temperature**

highest temperature at which the *label* ([3.9](#)) may be applied to the surface of the product, in order for the label material, in particular the *adhesive* ([3.1](#)), to perform to its given specification and correctly adhere to the product

**3.13****minimum application temperature**

lowest temperature at which the *label* (3.9) may be applied to the surface of the product, in order for the label material, in particular the *adhesive* (3.1), to perform to its given specification and correctly adhere to the product

**3.14****multilayer product**

multiple layers attached to each other

**3.15****peel adhesion**

force required to peel a strip of adhesive tape from a specified substrate at a specified angle and speed

Note 1 to entry: The force after minutes or hours.

[SOURCE: ISO 29862:2007, 3.1, modified, Note 1 to entry added]

**3.16****pressure-sensitive adhesive**

*adhesive* (3.1) applied to create a bond between two surfaces by a simple application of pressure

[SOURCE: ISO 17398:2004, 3.4]

**3.17****print direction**

orientation of the printed information (text and graphics) on the *label* (3.9)

Note 1 to entry: Printing “with the web” is image production in the same direction as web movement.

Note 2 to entry: Printing “across the web” is image production at a 90° angle to the direction of web movement.

**3.18****printer**

output unit that produces a hard copy record of data mainly in the form of a sequence of discrete graphic characters belonging to one or more predetermined character sets

Note 1 to entry: Graphic characters can also represent graphic elements.

[SOURCE: ISO/IEC 2382:2015, 2125683, modified, Note 1 to entry added]

**3.19****remaliner**

sprocket hole punching

**3.20****sign**

message conveyed utilizing pictorial or textual media or both

[SOURCE: ISO 6707-1:2014, 5.5.67, modified, Note 1 to entry removed]

**3.21****storage temperature**

recommended temperature (range) at which the label material and/or finished labels should be held before usage, in order to retain their specified properties

**3.22****service temperature**

temperature range at which the label material can be used without compromising its properties for its intended usage when applied

**3.23**

**tack adhesion**

force required to peel a strip of adhesive tape from a specified substrate at a specified angle and speed

Note 1 to entry: The force after contact or seconds.

**3.24**

**tag**

identification *label* (3.9) attached to a container or container-related equipment which, among other things, gives the unique owner's code and serial number and which can be remotely read by electronic sensing devices

[SOURCE: ISO 830:1999, 8.3.4, modified, *inter alia* replaced by *among other things*]

**3.25**

**tape**

long narrow strip of a flexible material with *adhesive* (3.1) used for sealing, binding, tying, etc.

**3.26**

**thermal printing**

inkless thermochemical process using a print head consisting of heated elements, controlled by digital data to reproduce image areas onto heat-sensitive substrates

[SOURCE: ISO 12637-1:2006, 71]

**3.27**

**thermal-transfer printing**

system employing donor sheets or ribbons coated with wax based inks or coloured dyes that are transferred by heat and pressure produced by thermal print heads to reproduce images onto a coated substrate using thermal wax transfer and thermal dye transfer printing processes/methods

Note 1 to entry: Other ribbon types are available such as resin and wax/resin, etc.

[SOURCE: ISO 12637-1:2006, 72, modified, Note 1 to entry added]

**3.28**

**ticket**

piece of paper, cardboard, etc., showing that the holder is entitled to certain rights, such as travel on a train or bus, entry to a place of public entertainment, etc.

**3.29**

**web**

continuous length of paper, foil, film, or other flexible material that comes from a roll as it moves through a machine in the process of being formed, converted, or printed

**4 Abbreviated terms**

CMYK cyan, magenta, yellow, key colour (black)

RFID radio frequency identification

TT thermal transfer

TTI time temperature indicator

## 5 Requirements

### 5.1 General

It is permitted to make copies of the sheets in [Annex A](#) and [Annex C](#).

Electronic versions of the checklists presented in [Annex A](#) and [Annex C](#) are available at <http://standards.iso.org/iso/18614>.

### 5.2 Specification checklists for self-adhesive labels (end-user created)

The checklists in [Annex A](#) shall be used by the end-user to specify the requirements of the label(s) to be purchased. The output of [Annex A](#) will allow the responses from various suppliers to be compared on an equal basis.

[Annex C](#) shall be used by the supplier when replying to a received request (the output from [Annex A](#)).

### 5.3 Label material specification form (supplier response)

The checklists and specifications in [Annex C](#) shall be used by the supplier to provide response to the end-user request (output from [Annex A](#)). The output from [Annex C](#) will enable responses from various suppliers to be compared on an equal basis. By this means, misunderstandings and misinterpretations can be eliminated.

## 6 Considerations

### 6.1 Order request of label material

The questions in [Annex A](#) that need to be asked by the end-user (and answered by the supplier via [Annex C](#)) in order to get the label for the intended application.

[Annex A](#) is grouped as follows:

- application (how material will be used; see [A.2.1](#));
- label characteristics (shape and size of label; see [A.2.2](#));
- adhesive (characteristics for desired application; see [A.2.3](#));
- print (when and with what to be printed; see [A.2.4](#));
- facestock (characteristics of material and composition; see [A.2.5](#));
- resistance (what environmental aspects are to be considered; see [A.2.6](#));
- special features (security, special function, etc., requirements; see [A.2.7](#));
- finishing (how is the label to be configured for use; see [A.2.8](#));
- quotation (how to order and deliver; see [A.2.9](#));
- other (see [A.2.10](#)).

[Annex A](#) should not be considered all inclusive.

[Annex B](#) can be used in support of completing [Annex A](#).

### 6.2 Specifying of label material

Information to help in filling out [Annex C](#) is provided in [Annex G](#) and [Annex H](#).

If there is any variance to the original end-user request, a new end-user request shall be issued allowing suppliers to respond to the new request.

The material is to be tested and approved according to the methods given in [Annex I](#).

Observe that given values in [Annex C](#) may change after de-lamination or re-lamination.

[Annex C](#) is grouped as follows:

- general purpose (see [C.2](#));
- measurement tolerances (see [C.3](#));
- characteristics (see [C.4](#)):
  - physical size and shape (see [C.4.1](#));
  - properties (see [C.4.2](#));
  - attributes (see [C.4.3](#));
- printed text or graphics (symbols) (see [C.5](#));
- finishing (see [C.6](#)):
  - placement and orientation (see [C.6.1](#));
  - identification and quotation (see [C.6.2](#));
- regulations/certificates (see [C.7](#)).

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## Annex A (normative)

### Checklists for specification of characteristics for self-adhesive labels

#### A.1 General

An electronic version of the form presented in [Annex A](#) is available at <http://standards.iso.org/iso/18614>.

The form in its original format without any modifications can be used by the user for the purposes specified in this document.

#### A.2 Questions to be answered for specifying and ordering self-adhesive labels

The following set of questions is not in any particular order. If the question cannot be answered, state “not applicable” (N/A) or use “—” to mark that each question has been considered.

##### A.2.1 Application

Additional information is provided in [Annex F](#) and [Annex H](#).

**Table A.1 — Application**

| Question                                                                                                                                            | Answer | Remark |
|-----------------------------------------------------------------------------------------------------------------------------------------------------|--------|--------|
| What application is the label intended for, e.g. product decoration, logistic, other?                                                               |        |        |
| Where will the label be applied (surfaces like plastic <sup>a</sup> , metal <sup>a</sup> , glass, corrugated, wood, aluminium <sup>a</sup> , etc.)? |        |        |
| What are the surface conditions (smooth or textured, flat or curved, clean, oily, etc.)?                                                            |        |        |
| Applying conditions (temperature, moisture, etc.)?                                                                                                  |        |        |
| Dispensing conditions (manually or automatically, labelling speed, etc.)?                                                                           |        |        |
| Do you have a sample?<br>If yes, do you want us to match your sample?                                                                               |        |        |
| Do you have a drawing (blueprint)?<br>If yes, please provide.                                                                                       |        |        |
| Is your application under some kind of regulation?<br>If yes, please specify.                                                                       |        |        |
| <sup>a</sup> Not all surfaces can be mentioned so the actual surface to which the label is to be affixed shall be specified in more detail.         |        |        |

### A.2.2 Label characteristics

Additional information is provided in [E.2](#) and [H.2](#).

**Table A.2 — Label characteristics**

| Question                                                                                                                                                                                             | Answer | Remark |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|--------|
| Specify the size and shape of the label (length, width, height, corner detail; if label is an odd shape, all shape details shall be provided), minimally in text or by graphic and text (preferred). |        |        |
| Is the size and shape fixed or can alternative configurations be provided?                                                                                                                           |        |        |
| Is the label material already specified?<br>If not, please specify adhesive, facestock, liner.                                                                                                       |        |        |

### A.2.3 Adhesive

Additional information is provided in [E.3](#).

**Table A.3 — Adhesive**

| Question                                                                            | Answer | Remark |
|-------------------------------------------------------------------------------------|--------|--------|
| Does the label need to stick permanent or should it be repositionable or removable? |        |        |
| Special type of adhesive (wash off, deep freeze, etc.)                              |        |        |

### A.2.4 Print

Additional information is provided in [E.2.3](#) and [H.3](#).

**Table A.4 — Print**

| Question                                                                                                          | Answer | Remark |
|-------------------------------------------------------------------------------------------------------------------|--------|--------|
| Blank or printed label?                                                                                           |        |        |
| If anything printed (graphics, words, etc.), details shall be provided.                                           |        |        |
| How many colours?<br>Spot colour, RGB, CMYK, etc.                                                                 |        |        |
| Are special printing methods (flexo, offset, screen, gravure, inkjet, etc.) required?                             |        |        |
| Is print finishing (foiling, varnishing, overlamine, laminating, embossing, etc.) required?                       |        |        |
| Is variable information to be printed, e.g. barcodes, consecutive numbering, personalization, etc.?               |        |        |
| Is there any imprinting?<br>If "Yes", what method (thermal transfer, thermal, laser, inkjet, etc.) is being used? |        |        |

### A.2.5 Facestock

Additional information is provided in [E.2](#).

**Table A.5 — Facestock**

| Question                                                | Answer | Remark |
|---------------------------------------------------------|--------|--------|
| Type of facestock material (paper, film, etc.)?         |        |        |
| Type of facestock surface (matt, glossy, colour, etc.)? |        |        |

### A.2.6 Resistance

Additional information is provided in [E.2](#) and [Annex I](#).

**Table A.6 — Resistance**

| Question                                                                                                             | Answer | Remark |
|----------------------------------------------------------------------------------------------------------------------|--------|--------|
| What environment will the label be exposed to (outdoor, direct sunlight, indoor, temperature range, humidity, etc.)? |        |        |
| Is special protection for the facestock required?                                                                    |        |        |
| Which solvents or chemicals does the label need to withstand?                                                        |        |        |
| Will there be physical handling or abrasion?                                                                         |        |        |

### A.2.7 Special features

Additional information is provided in [B.1](#) and [E.2](#).

**Table A.7 — Special features**

| Question                                                                            | Answer | Remark |
|-------------------------------------------------------------------------------------|--------|--------|
| Are there any security aspects (tamper evident features, authentication, etc.)?     |        |        |
| Are functional features (RFID tag, TTI, etc.) required?                             |        |        |
| Is printing on the adhesive required (may require de-lamination and re-lamination)? |        |        |
| Is multilayer construction required/needed, e.g. multipurpose label?                |        |        |

### A.2.8 Finishing

Additional information is provided in [H.1](#) and [H.5](#).

**Table A.8 — Finishing**

| Question                                                                  | Answer | Remark |
|---------------------------------------------------------------------------|--------|--------|
| What's the "finishing style" (roll, sheet, fan-folded, etc.)?             |        |        |
| Number of labels per roll or fan-folded stack?                            |        |        |
| Required width of roll?                                                   |        |        |
| Maximal diameter of roll?                                                 |        |        |
| Inside diameter of core?                                                  |        |        |
| Maximum height of fan-folded stack?                                       |        |        |
| Minimum or maximum gap between the labels?                                |        |        |
| Winding direction (inside/outside, positioning of label)?                 |        |        |
| Type of liner (glassine, film, etc.)?                                     |        |        |
| Converting of liner (perforated, remaliner, etc.)?                        |        |        |
| Is printing on liner (register mark, barcodes, numbering, etc.) required? |        |        |

### A.2.9 Quotation

Additional information is provided in Annex H.1.

**Table A.9 — Quotation**

| Question                                      | Answer | Remark |
|-----------------------------------------------|--------|--------|
| Total annual volume?                          |        |        |
| Number of different versions? Size of splits? |        |        |
| Number of shipments per year?                 |        |        |
| Special transport packaging required?         |        |        |

### A.2.10 Other

Additional information is provided in [Annex B](#) and [Annex H](#).

**Table A.10 — Other**

| Question                     | Answer | Remark |
|------------------------------|--------|--------|
| Any additional requirements? |        |        |

## Annex B

### (informative)

## Considerations per application

### B.1 Overview of typical considerations per some type of applications

[Table B.1](#) does not provide an exhausted list of considerations or applications. It gives some basic information on how different applications relates to one or many considerations. What the application is will be based on discussion between supplier and user.

**Table B.1 — Overview of main considerations and some intended type of applications**

|                |  |                                   |                  |
|----------------|--|-----------------------------------|------------------|
| Identification |  | Wood                              | Type of surface  |
| Information    |  | Paper                             |                  |
| Inventory      |  | Plastic (high/low energy)         |                  |
| Logistic       |  | Metal                             |                  |
| Location       |  | Glass                             |                  |
| Ticketing      |  | Curved                            |                  |
| Authentication |  | Rough                             |                  |
| Protection     |  | Indoor/outdoor/temperature range  | Characteristics  |
| Marketing      |  | Size                              |                  |
| Regulation     |  | Fixed                             |                  |
| etc.           |  | Specification                     |                  |
|                |  | Permanent/removable/washable      | Adhesive         |
|                |  | Blank/printed                     | Print            |
|                |  | Data, imprinting/fixed/variable   |                  |
|                |  | Colour                            |                  |
|                |  | Print method                      |                  |
|                |  | Print finishing                   |                  |
|                |  | Paper                             | Facestock        |
|                |  | Vinyl                             |                  |
|                |  | Polyester/polyimide/polypropylene |                  |
|                |  | Coated                            |                  |
|                |  | Lamination (inlay of component)   |                  |
|                |  | Moisture                          | Resistance       |
|                |  | Solvent                           |                  |
|                |  | Abrasion                          |                  |
|                |  | Tearing                           |                  |
|                |  | Direct sun light                  |                  |
|                |  | Warranty                          | Special features |
|                |  | Tamper evident                    |                  |
|                |  | Authenticity                      |                  |
|                |  | RFID/sensor                       |                  |
|                |  | Roll/sheet/fan-folded             | Finishing        |
|                |  | Quantity/roll or stack            |                  |
|                |  | Dimension                         |                  |
|                |  | Winding                           |                  |
|                |  | Liner                             |                  |
|                |  | Total volume                      | Quotation        |
|                |  | Number of shipments               |                  |
|                |  | Transportation                    |                  |

## B.2 Overview of typical considerations per some type of materials

[Table B.2](#) does not provide an exhausted list of considerations and type of materials. It gives some basic information on how different materials depend on other considerations (aspects). What the application is will be based on discussion between supplier and user.

Table B.2 — Overview of main considerations related to some label component materials

|           |                                 | Surface |       |                           |       |       |        |       |                                  | Characteristics | Print |               |               |                                 | Resistance |              |                 |          | Special features |          |         |                  | Quotation |              |              |             |              |                     |                |
|-----------|---------------------------------|---------|-------|---------------------------|-------|-------|--------|-------|----------------------------------|-----------------|-------|---------------|---------------|---------------------------------|------------|--------------|-----------------|----------|------------------|----------|---------|------------------|-----------|--------------|--------------|-------------|--------------|---------------------|----------------|
|           |                                 | Wood    | Paper | Plastic (high/low energy) | Metal | Glass | Curved | Rough | Indoor/outdoor/temperature range | Size            | Fixed | Specification | Blank/printed | Data, imprinting/fixed/variable | Colour     | Print method | Print finishing | Moisture | Solvent          | Abrasion | Tearing | Direct sun light | Warranty  | Infringement | Authenticity | RFID/sensor | Total volume | Number of shipments | Transportation |
| Facestock | Paper                           |         |       |                           |       |       |        |       |                                  |                 |       |               |               |                                 |            |              |                 |          |                  |          |         |                  |           |              |              |             |              |                     |                |
|           | Vinyl                           |         |       |                           |       |       |        |       |                                  |                 |       |               |               |                                 |            |              |                 |          |                  |          |         |                  |           |              |              |             |              |                     |                |
|           | Polyester                       |         |       |                           |       |       |        |       |                                  |                 |       |               |               |                                 |            |              |                 |          |                  |          |         |                  |           |              |              |             |              |                     |                |
|           | Polyimide                       |         |       |                           |       |       |        |       |                                  |                 |       |               |               |                                 |            |              |                 |          |                  |          |         |                  |           |              |              |             |              |                     |                |
|           | Polypropylene                   |         |       |                           |       |       |        |       |                                  |                 |       |               |               |                                 |            |              |                 |          |                  |          |         |                  |           |              |              |             |              |                     |                |
|           | Coated                          |         |       |                           |       |       |        |       |                                  |                 |       |               |               |                                 |            |              |                 |          |                  |          |         |                  |           |              |              |             |              |                     |                |
| Adhesive  | Lamination (inlay of component) |         |       |                           |       |       |        |       |                                  |                 |       |               |               |                                 |            |              |                 |          |                  |          |         |                  |           |              |              |             |              |                     |                |
|           | Permanent                       |         |       |                           |       |       |        |       |                                  |                 |       |               |               |                                 |            |              |                 |          |                  |          |         |                  |           |              |              |             |              |                     |                |
|           | Removable                       |         |       |                           |       |       |        |       |                                  |                 |       |               |               |                                 |            |              |                 |          |                  |          |         |                  |           |              |              |             |              |                     |                |
| Finishing | Washable                        |         |       |                           |       |       |        |       |                                  |                 |       |               |               |                                 |            |              |                 |          |                  |          |         |                  |           |              |              |             |              |                     |                |
|           | Roll/sheet/fan-folded           |         |       |                           |       |       |        |       |                                  |                 |       |               |               |                                 |            |              |                 |          |                  |          |         |                  |           |              |              |             |              |                     |                |
|           | Quantity/roll or stack          |         |       |                           |       |       |        |       |                                  |                 |       |               |               |                                 |            |              |                 |          |                  |          |         |                  |           |              |              |             |              |                     |                |
|           | Dimension                       |         |       |                           |       |       |        |       |                                  |                 |       |               |               |                                 |            |              |                 |          |                  |          |         |                  |           |              |              |             |              |                     |                |
|           | Winding                         |         |       |                           |       |       |        |       |                                  |                 |       |               |               |                                 |            |              |                 |          |                  |          |         |                  |           |              |              |             |              |                     |                |
|           | Liner                           |         |       |                           |       |       |        |       |                                  |                 |       |               |               |                                 |            |              |                 |          |                  |          |         |                  |           |              |              |             |              |                     |                |

## Annex C (normative)

### Label material specification

#### C.1 General

An electronic version of the form presented in [Annex C](#) is available at <http://standards.iso.org/iso/18614>.

The form in its original format without any modifications can be used by the user for the purposes specified in this document.

#### C.2 General purpose

This annex provides general purpose information in response to the end-user, e.g. if there is a certain way the specification is outlined to answer on the request (additional information in [G.1](#)).

#### C.3 Measurement tolerances

The dimensions for the label material are specified in millimetre. Conversion between mm, inch and micron is shown below. (Additional information in [G.2](#))

1 micron = 0,001 mm, 1 inch = 25,4 mm

The measurements given in this document uses tolerances as given below.

**Table C.1 — Measurement tolerances**

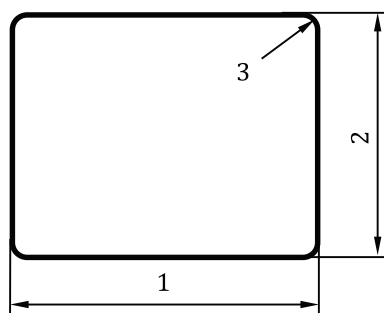
| Tolerance                | Value (%) |
|--------------------------|-----------|
| Physical size            |           |
| Component thickness      |           |
| Liner                    |           |
| Placement on liner       |           |
| Effective printable area |           |

#### C.4 Characteristics

Additional information in [G.3](#).

##### C.4.1 Physical size and shape

[Figure C.1](#) provides information about size and shape of the label material; it may not be in scale.



NOTE For guidance, see [Figure H.4](#).

Figure C.1 — Shape and size of specified label material

## C.4.2 Properties

Table C.2 — Label properties

| Component | Specification | Width<br>mm | Height<br>mm | Radius<br>mm | Thickness<br>mm |
|-----------|---------------|-------------|--------------|--------------|-----------------|
| Facestock |               |             |              |              |                 |
| Adhesive  |               |             |              |              |                 |
| Liner     |               |             |              |              |                 |

### C.4.2.1 Facestock

Table C.3 — Facestock properties

| Component                       | Specification | Thickness<br>microns |
|---------------------------------|---------------|----------------------|
| Protective coating (if printed) |               |                      |
| Ink (if printed)                |               |                      |
| Top coating                     |               |                      |
| Substrate                       |               |                      |

## C.4.3 Attributes

### C.4.3.1 Performance

Table C.4 — Performance attributes

| Parameter                                  | Value<br>(N/25 mm) |
|--------------------------------------------|--------------------|
| Tear force                                 |                    |
| Peel adhesion 1 min 180°, speed 300 mm/min |                    |
| Peel adhesion 24 h 180°, speed 300 mm/min  |                    |
| Loop tack                                  |                    |
| Abrasion resistance                        |                    |
| Insulation resistance                      |                    |
| Environmental resistance                   |                    |

NOTE Observe that given values in [Table C.4](#) can change after de-lamination or re-lamination.

### C.4.3.2 Usage

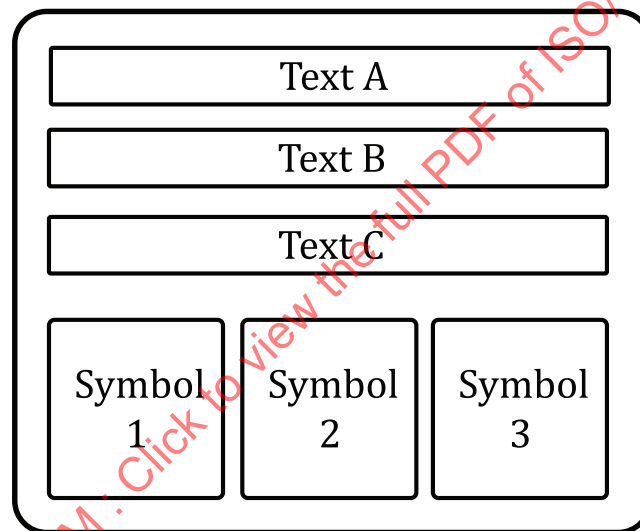
In this subclause, typical applications for the given material can be given and needs to be tested for the given application in order to be approved.

**Table C.5 — Usage attributes**

| Parameter                            | Value |
|--------------------------------------|-------|
| Ink ribbon                           |       |
| Application temperature and humidity |       |
| Service temperature and humidity     |       |
| Storage temperature and humidity     |       |

### C.5 Printed text or graphics (Symbols)

[Figure C.2](#) provides information about contents position on the label material; it may not be in scale (additional information in [G.4](#)).



NOTE For guidance, see [Figure H.3](#).

**Figure C.2 — Information about text and graphics positioning on label material**

**Table C.6 — Printed text or graphics positioning on label**

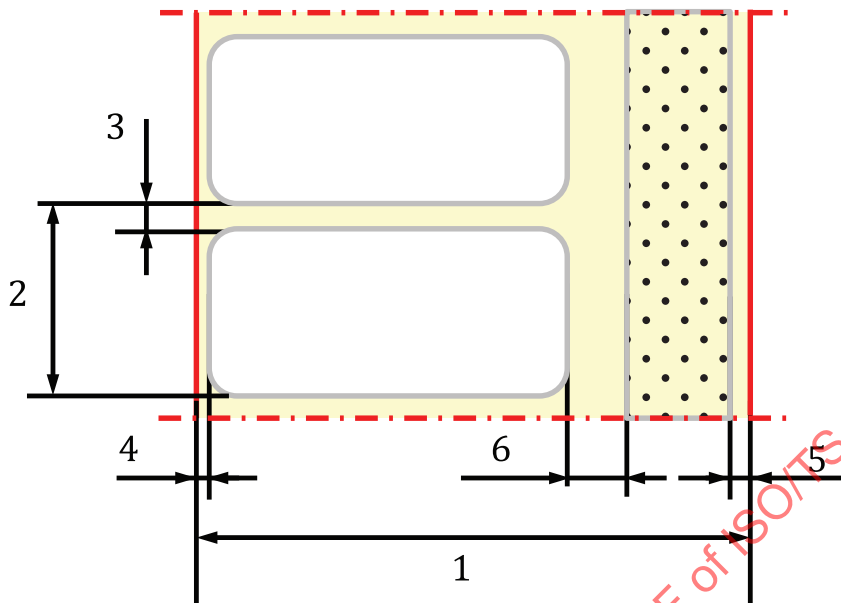
| Text/graphics<br>(see <a href="#">Figure C.2</a> ) | Position of text/graphics |        | Content/comment |
|----------------------------------------------------|---------------------------|--------|-----------------|
|                                                    | X (mm)                    | Y (mm) |                 |
|                                                    |                           |        |                 |
|                                                    |                           |        |                 |
|                                                    |                           |        |                 |
|                                                    |                           |        |                 |
|                                                    |                           |        |                 |
|                                                    |                           |        |                 |

### C.6 Finishing

Additional information in [G.5](#).

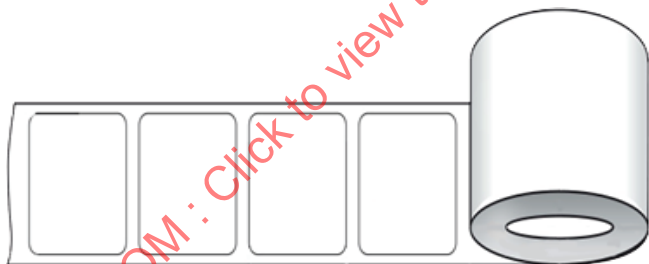
C.6.1 Placement and orientation

The label is provided, placed on liner, with the orientation on carrier as given in [Figures C.3](#) and [C.4](#).



NOTE For guidance, see [Figure H.7](#).

Figure C.3 — Label materials placement on liner



NOTE For guidance, see [Figures H.1](#) and [H.2](#).

Figure C.4 — Carrier format of label material and its winding

C.6.2 Identification and quotation

The label material is provided as of below.

Table C.7 — Label identification and information for quotation

| Label identification<br>(part number, etc.) | Quantity | Carrier format<br>(roll, sheet, etc.) | Winding<br>(in/out) |
|---------------------------------------------|----------|---------------------------------------|---------------------|
|                                             |          |                                       |                     |
|                                             |          |                                       |                     |
|                                             |          |                                       |                     |

C.7 Regulations/certificates

This material complies with the following certificates.

Table C.8 — Regulations/certificates

| Area | Regulation |
|------|------------|
|      |            |
|      |            |
|      |            |

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## Annex D (informative)

### Different identification methods and purposes

#### D.1 Label, tag, ticket and mark

Almost everything has the capability of being marked, by someone marking it, to provide information relevant at time of usage, location, etc., to serve a given purpose.

But depending on its application, different terms could be used for the purpose of providing the information. [Figure D.1](#) is an illustration of showing this.



Figure D.1 — Example of different types of identification methods

#### D.2 Label components applicability per identification method

[Table D.1](#) provides information on the difference between the typical “naming” of different types (means) of providing information on an object.

**Table D.1 — Example of components applicability per type of identification**

|                                                          | Facestock | Adhesive | Liner coating | (Release) liner | Other means of attachment | Type of printed information | Type of print technology               |
|----------------------------------------------------------|-----------|----------|---------------|-----------------|---------------------------|-----------------------------|----------------------------------------|
| <b>Label</b>                                             | X         | X        | X             | X               |                           | Variable, fixed             | Thermal-transfer, direct thermal, etc. |
| <b>Tag</b>                                               | X         |          |               | (X)             | Clamb, etc.               | Fixed                       | Direct thermal, ink jet, etc.          |
| <b>Ticket</b>                                            | X         | (X)      | (X)           | (X)             | Neck string, etc.         | Variable, fixed             | Direct thermal, ink jet, etc.          |
| <b>Mark</b>                                              | N/A       | N/A      | N/A           | N/A             | Direct part marking       | Variable, fixed             | Ink jet, laser, etching, etc.          |
| X To be used.<br>(X) May be used.<br>N/A Not applicable. |           |          |               |                 |                           |                             |                                        |

## Annex E (informative)

### Different identification methods and purposes

#### E.1 General

There are four main parties involved in discussions around label material: the label raw material manufacturer, the converter, the reseller and the user. Often, it is most the converter or reseller that is having contact with the raw material manufacturer and needs to understand the user's needs.

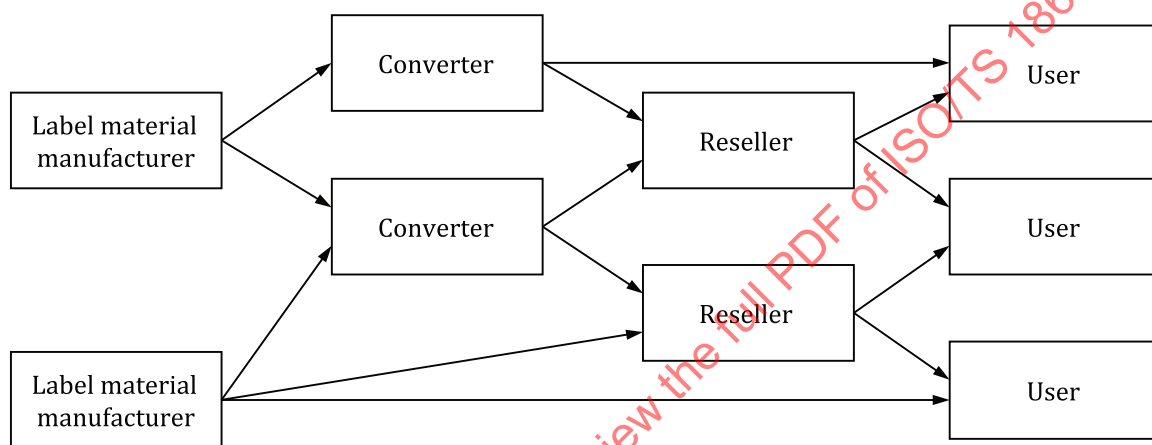


**Figure E.1 — Example of simplified relations between parties dealing with labels**

#### E.2 Label material manufacturer

A manufacturer produces label materials that are used as base for further processing into specific labels of different shapes, sizes, etc. The manufacturer usually does not have contact with the users of the processed label material, although some manufacturers are increasing their presence at users to better understand the market requirements and aid new product development.

#### E.3 Converter

A converter is processing a label material into specified label shapes, sizes, etc., either based on their own or on users' specified needs. A processed label material can be with or without print. The converter is the one that has the most knowledge of the user's application and acts as a broker between the manufacturer, reseller and user.

#### E.4 Reseller

A reseller is a provider of produced labels and can sometimes be a user's single point of contact for labels, as well as associated products such as ribbons, printers and software to form a complete print solution, and the one that has contact with several converters.

### E.5 User

A user is using labels of different shapes and sizes for different applications. The user orders printed or non-printed labels of which the latter can be variably printed by the user to be applied on its products for their specific applications.

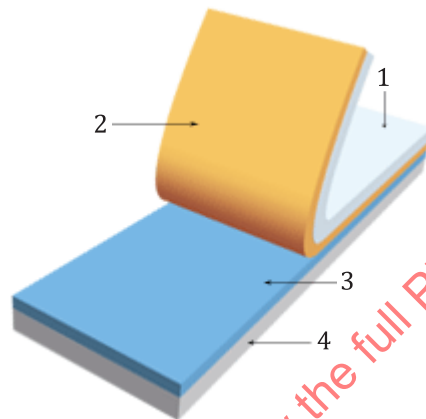
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## Annex F (informative)

### Label components

#### F.1 Overview

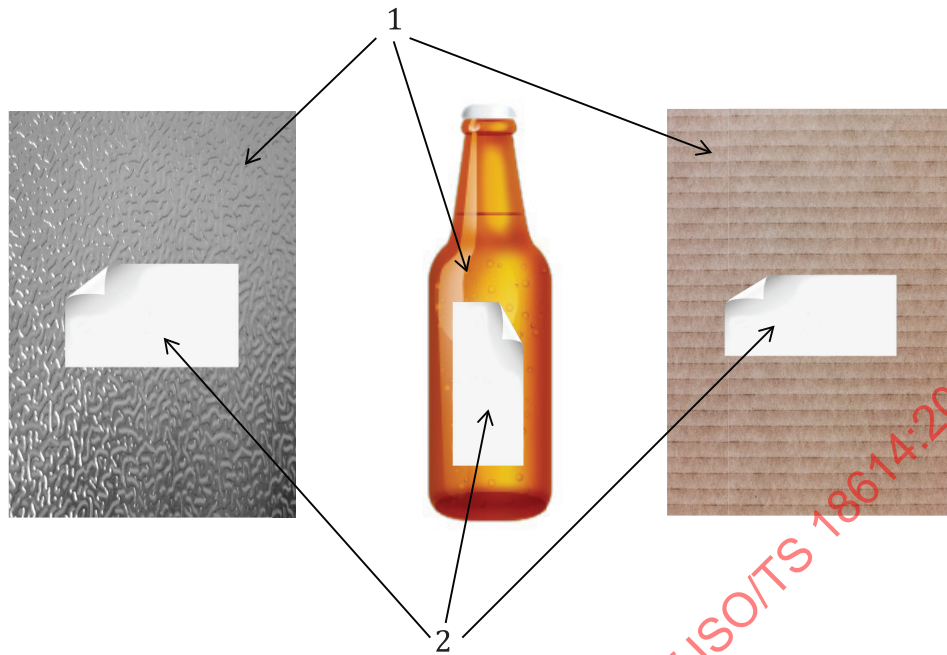
A label consists of several components (see [Figure F.1](#)), of which the facestock, adhesive and liner often are seen as the label material. The label is then placed on a surface (see [Figure F.2](#)).



#### Key

- 1 facestock (film/material; see [E.2](#))
  - protective coating/over lamination (see [E.2.2](#))
  - ink (if pre-printed; see [E.2.3](#))
  - top coating (see [E.2.4](#))
  - substrate (as defined in this document; see [E.2.5](#))
- 2 adhesive (see [E.3](#))
- 3 liner coating (see [E.4](#))
- 4 (release) liner (see [E.5](#))

**Figure F.1 — Components of a label**

**Key**

- 1 surface
- 2 label

**Figure F.2 — Different types of surfaces for placing labels**

The object surface (see [Figure F.2](#)) is not part of the actual label but is a label component that may put requirements on the other label components (see [Figure F.1](#)) so that the label can be used in its intended application. The label itself consists of up to two components, the facestock (see key 1 of [Figure F.1](#)) and adhesive (see key 2 of [Figure F.1](#)), and depending on its specification and intended application, the facestock can consist of one to four subcomponents.

## **F.2 Facestock**

### **F.2.1 General**

The facestock to be used depends on intended application as what type to use depends on how and for what purpose the actual label shall be used, e.g. label shall last for a limited time versus the life time of an item, needs to withstand chemical substances, provide a security function (e.g. warranty seal), etc.

The facestock could also be of one or more subcomponents depending on intended application, e.g. RFID labels require an inlay of an RFID tag, partly coloured labels aimed for overprinting, etc.

### **F.2.2 Protective coating/over lamination**

A physical protective coating/over lamination can be used when there is a need to protect applied (imprinted) information/image on a final pre-printed label.

### **F.2.3 Ink (if pre-printed or direct printing)**

Depending on print method, the appropriate type of ink needs to be used, e.g. pre-printing using screen print requires a fluid ink while thermal-transfer printing requires an ink ribbon.

#### **F.2.4 Top coating**

A physical surface coating can be applied to promote or increase ink adhesion with conventional and digital print technologies or to modify gloss.

#### **F.2.5 Substrate**

A physical media, e.g. film, paper, polyester, etc., can be coated, printed or laminated in order to be able to provide the needed function.

#### **F.3 Adhesive**

Type of adhesive is to be selected depending on intended application, e.g. if the label shall be permanent fixed to the surface, if the label shall fall off from surface when the item is being washed or if the label shall be manually removable.

#### **F.4 Liner coating**

The liner coating (e.g. silicone coating) is part of the release liner and enables the separation of the adhesive label from the release liner when applied to a surface.

#### **F.5 (Release) liner**

The liner is used to protect and transport labels and to ease release (removing) labels for use. The liner can be continuous or perforated depending on which application the actual label is to be used, e.g. print and apply using a label applicator or print in desk top printer and tear off the label for manual application.

#### **F.6 Surface**

The surface is onto where the label is to be applied and could be of different types (e.g. cardboard, metal, plastic, glass, etc.) and shapes (e.g. flat, curved, etc.).

## **Annex G**

### **(informative)**

## **Content in label material specification**

### **G.1 General purpose**

This annex lists general information about the label material to give guidance on how and for what purpose the specified label material is possible to use.

### **G.2 Measurement tolerances**

Measure tolerances for label size, total thickness, liner, placement on liner and the effective printable area shall be given as only one tolerance cannot be given for all measures in the specification.

### **G.3 Characteristics**

#### **G.3.1 Physical size and shape**

[Figure C.1](#) provides information about shape and size of the specified label material.

More information about specifying size can be found in [Annex H](#).

#### **G.3.2 Properties**

##### **G.3.2.1 Facestock**

Label component information that defines the composition of the facestock of the label material, which enables comparison between defined need and other materials.

More information about label components can be found in [Annex H](#).

##### **G.3.3 Attributes**

###### **G.3.3.1 Performance**

Result of performed tests, which are applicable to the label material, which enables comparison between defined need and other materials.

More information about applicable test methods can be found in [Annex I](#).

###### **G.3.3.2 Usage**

For proper function of the specified label or label material, the following shall be given:

- a) application temperature and humidity (when a label is applied);
- b) service temperature and humidity (when a label is used);
- c) storage temperature and humidity (when a label is stored).

## **G.4 Printed text or graphics (Symbols)**

For text and graphics, like symbols, their position and size, etc., needs to be provided based on the physical available size after taking any effective printable area into account.

More information about specifying size can be found in [Annex H](#).

## **G.5 Finishing**

### **G.5.1 Placement and orientation**

Information about how the label material, label or ribbon is provided for delivery, storing and usage.

More information about specifying size can be found in [Annex H](#).

### **G.5.2 Identification and quotation**

Information about the following shall be given:

- a) identity;
- b) quantity;
- c) how the material is provided:
  - 1) sheet, format;
  - 2) core, material and size;
  - 3) fan-folded, size;
- d) winding (inside or outside).

## **G.6 Regulations/certifications**

Provide information about which regulatory or standard requirement that the label material is certified against and complies to.

## Annex H (informative)

### Label material measurements

#### H.1 Means of distribution of labels

##### H.1.1 Type of finished formats (carriers)

Labels could be distributed in different ways depending on its printing and usage capabilities or needs.

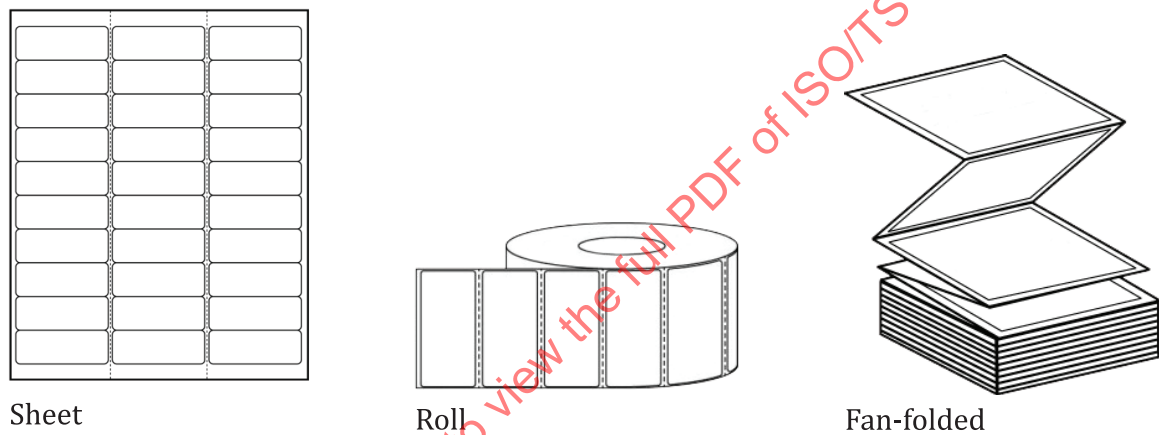


Figure H.1 — Labels distributed on sheet, roll or fan-folded

##### H.1.2 Winding of rolls

Labels could be wound in two ways depending on printing technique and size of label.

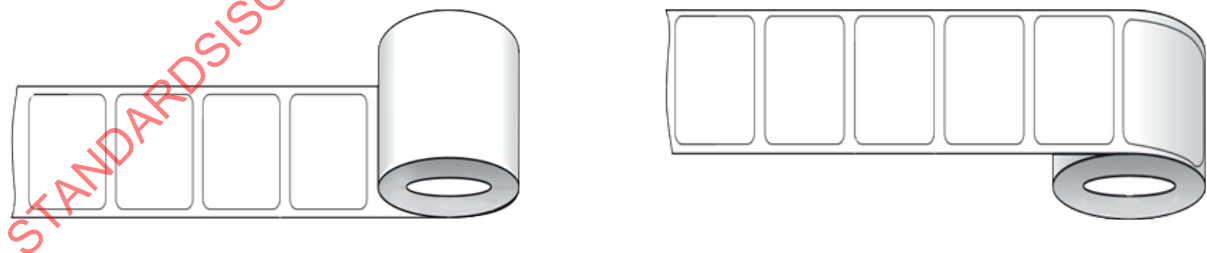


Figure H.2 — Labels placement on liner, wound-in (labels on inside) or wound-out (labels on outside)

##### H.1.3 Direction and orientation of print on label

There are several possible orientations for text and graphics to be printed on a label as shown in [Figure H.3](#) which also can be printed in different paths depending on labels placement on liner, e.g.

a) direction of text and graphics:

1) horizontal;

- 2) vertical;
- 3) diagonal;
- b) print path:
  - 1) with web;
  - 2) cross web.

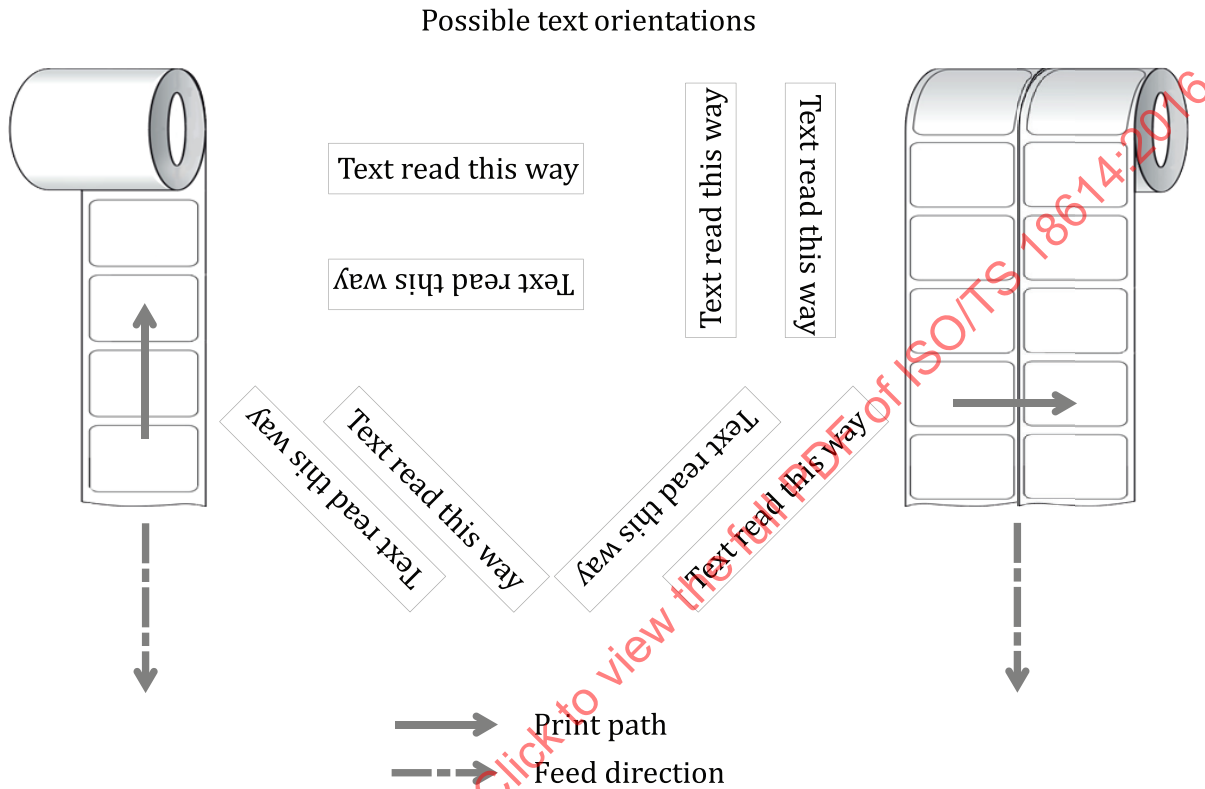


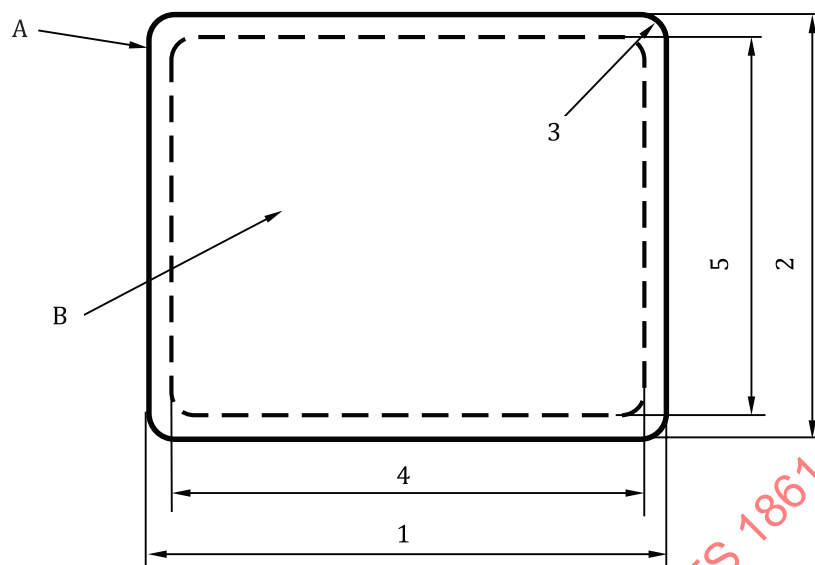
Figure H.3 — Labels direction and orientation

## H.2 Specifying label size

Measurement of the labels size as given in or to be drawn into label specifications shall be done according to [Figure H.4](#).

In [Figure H.4](#), there are two dimensions mentioned: the label and the safe printable area of the label.

The safe printable area could be mentioned if there is a need to inform that the whole label is not printable due to shape, inlay, etc.



**Key**

A label  
B safe printable area

- 1 label width (mm)
- 2 label height (mm)
- 3 label radius (mm)
- 4 safe printable area width (mm)
- 5 safe printable area height (mm)

**Figure H.4 — Drawing measurements that specifies the size of label**

### H.3 Specifying printed text and graphics (symbols)

[Figure H.5](#) provides information about text and graphics positioning, as well as size and shape of the label; it may not be in scale 1:1.