
**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).

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).

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.

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 two-part guide is being 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 following terms and definitions 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

[SOURCE: ISO 4618:2014, 2.8, modified]

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, 6.5]

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.

[SOURCE: ISO 2074:2007, 6.7]

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]

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

[SOURCE: ISO 29862:2007, 3.1]

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

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

[SOURCE: ISO/IEC 2382:2015, 2125683]

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

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]

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]

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

[SOURCE: ISO 12637-1:2006, 72]

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

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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