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Graphic technology — Blankets for offset printing

Technologie graphique — Blanchets pour impression offset

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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).

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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 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 the following URL: www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 130, *Graphic technology*.

This second edition cancels and replaces the first edition (ISO 12636:1998), which has been technically revised.

Introduction

The blanket is an essential part of every offset printing press. Its properties exert a profound influence on the mechanical conditions within the press and the visual characteristics of the prints produced. It is therefore useful to provide test methods, unified data, and tolerances for some essential properties of the blankets. This permits the suppliers to state properties of blanket types in a standardized and universally understood manner. It also helps the printer to select the appropriate blanket type for a particular press type or press condition. A further benefit is that the design of printing presses can be based on blanket data resulting from unified test methods.

Graphic technology — Blankets for offset printing

1 Scope

This document defines vocabulary and specifies test methods, characteristics, ordering and labelling information for blankets for offset printing. This document does not apply to un-tensioned or unclamped blankets for offset printing, nor offset printing sleeves used on gapless presses.

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:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at http://www.electropedia.org/

3.1
across cylinder direction
direction of the side of the *blanket* (3.4) as intended to be applied perpendicular to the direction of rotation

3.2
around-the-cylinder direction
direction of the side of the *blanket* (3.4) as intended to be applied in the direction of the rotation

3.3
average thickness
mean of thickness measurements

3.4
blanket
composite body, consisting of coated carrier material, e.g. fabric, used for transfer of the printing ink from the form onto the material to be printed on, e.g. for offset printing

3.5
load at specific deflection
average stress of a *blanket* (3.4) under compressive force

Note 1 to entry: It is expressed in kPa.

3.6
compressibility–deflection
average thickness reduction of a *blanket* (3.4) measured under a specific pressure

Note 1 to entry: It is expressed in millimetres.

3.7
compressibility–indentation
average depth of impression, I, in a *blanket* (3.4) measured under a specific pressure

Note 1 to entry: It is expressed in millimetres or as percentage indentation, I_p.

3.8
elongation
increase of the dimension in the *around-the-cylinder direction* (3.2) of a *blanket* (3.4) under longitudinal stress

Note 1 to entry: It is expressed in percentage of the length at a specified force per width.

3.9
packing
underlay material placed under the *blanket* (3.4)

3.10
printing surface
side of the *blanket* (3.4) that is used for the transfer of printing ink

3.11
shrinkage
decrease in thickness due to mechanical forces and decrease in all dimensions due to exposure of the blanket printing surface to a liquid

Note 1 to entry: It is expressed as a percentage of the original blanket thickness, or as an absolute thickness decrease in millimetres.

3.12
sizes
dimensions (thickness, width and length) of a cut ready-to-use *blanket* (3.4)

3.13
swelling
increase in thickness due to exposure of the blanket printing surface to a liquid

Note 1 to entry: It is expressed as a percentage of the original blanket thickness or as an absolute thickness increase in millimetres.

3.14
tensile strength
force per unit width required for breaking a *blanket* (3.4) under longitudinal stress in the *around-the-cylinder direction* (3.2)

3.15
thickness variation
difference between the greatest and the smallest thickness value in millimetres

3.16
surface texture
average roughness of blanket surface, R_a

Note 1 to entry: It is expressed in micrometres.

4 Requirements

4.1 Information

The compatibility of the blankets to either conventional, dual use or ultraviolet (UV) inks shall be documented.

The overall hardness and the microhardness are not specified in this document. They are the choice of the manufacturer. If the manufacturer provides such information, the test method shall also be documented and mentioned with the results.

The printing surface material formulation and surface texture are the choice of the manufacturer and may be stated in technical descriptions by the supplier. The surface texture may vary, e.g. cast (moulded) or ground (buffed). No specification for surface texture is given in this document. The measurement method is based on 5.8. The use of data to market products is the choice of the manufacturer.

The nominal (mean) thickness shall be stated in technical descriptions when ordered.

Compressibility information should be given to the user and the test method shall be indicated.

When testing the compatibility of blanket washes and an offset printing blanket, it is the option of the blanket manufacturer to report the test results using the test method according to 5.9 for each property.

On the non-printing side of the cut-to-size blanket, the following should be reported:

a) blanket dimensions (average actual thickness, width and length) indicating which dimension is the around-the-cylinder direction. If the recorded thickness is nominal, it shall be stated;

b) the batch control number;

c) the name of the manufacturer or the supplier and the blanket brand or trade name.

4.2 Dimension

4.2.1 Thickness

The test method according to 5.2 shall be used. For applications with packing, the nominal thickness should be 1,68 mm or 1,95 mm. For applications without packing, the nominal thickness should be agreed upon between the supplier and the user of the product.

The thickness variations of blankets with an area not in excess of 1,5 m^2 shall be less than ±0,02 mm. Those of greater sizes shall be less than ±0,03 mm. No individual thickness measurement shall yield a value which deviates more than 0,05 mm from the ordered thickness.

4.2.2 Mean thickness

Mean thickness is an average of four measurements of a cut blanket where the measurements have been made on the points indicated in Figure 1, namely on two diagonally opposed corners and one each at the middle of the two sides that are perpendicular to each other within a right triangle.

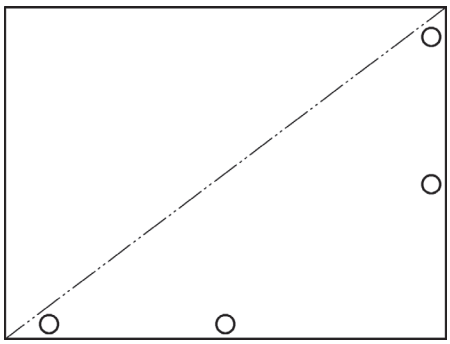

Figure 1 — Thickness measurement points

4.2.3 Accuracy of width and length

If one of the sides is 1 m or less, the tolerance shall be ±3 mm; otherwise, it shall be ±4 mm.