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Graphic technology — Vocabulary —

Part 3: Printing terms

Technologie graphique — Vocabulaire —

Partie 3: Termes d'impression

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Foreword

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International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

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.

ISO 12637-3 was prepared by Technical Committee ISO/TC 130, *Graphic technology*.

This first edition cancels and replaces ISO 12637-5:2001, of which the terms and definitions have been incorporated.

ISO 12637 consists of the following parts, under the general title *Graphic technology — Vocabulary*:

— *Part 1: Fundamental terms*

— *Part 2: Prepress terms*

— *Part 3: Printing terms*

— *Part 4: Postpress terms*

Introduction

Documentation gives rise to numerous international exchanges of both intellectual and material nature. These exchanges often become difficult, either because of the great variety of terms used in various fields or languages to express the same concept, or because of the absence or the imprecision of useful concepts. To avoid misunderstandings due to this situation and to facilitate such exchanges, it is advisable to select terms to be used in various languages or in various countries to express the same concept and to establish definitions providing satisfactory equivalents for the various terms in different languages. The purpose of this part of ISO 12637 is to provide definitions that are rigorous, uncomplicated and which can be understood by all concerned.

This part of ISO 12637 contains terms and definitions of printing technology and addresses printing systems and processes.

Graphic technology — Vocabulary —

Part 3: Printing terms

Scope

This part of ISO 12637 defines terms for printing systems and processes.

Terms and definitions

1
analogue copying machine
image-producing device that operates by transferring the original image via a lens onto a photosensitive substrate and creates a visual image by utilizing electrophotographic or other means

2
anilox cell
engraved, etched, ablated or otherwise created recession in the anilox roller to contain the ink to be transferred to the printing forme

3
anilox roller
cylinder with evenly distributed cells generally mounted on a flexographic printing press to transfer a controlled quantity of ink to the printing forme

4
anti-setoff powder
anti-setoff spray powder
particles sprayed onto a printed surface to prevent ink set-off

5
aperture size
aperture width
⟨screen printing⟩ distance between two adjacent warps or weft wires (strands, threads) measured in the projected fabric level

6
back printing
reverse printing
printing on the underside of a transparent film so that a readable image is visible on the top side

7
back-up cylinder
roll which holds down the small diameter impression cylinder to prevent bending

8
bearer
hardened steel ring mounted on both sides of the impression, blanket and plate cylinders which is the true pitch circle diameter of the gear cylinders

9
bias roller transfer
support for the rubber blanket that acts as the intermediate carrier of the original images from the forme to the substrate

10
blanket
⟨offset printing⟩ elastomeric image carrier that transfers original images from the printing forme to the substrate in offset printing

11
blanket cylinder
rolling rubber blanket in contact with the plate cylinder of an offset press which transfers the inked image to the substrate carried by the impression cylinder

12
blanket-to-blanket web offset printing
process in which sets of plate and blanket cylinders simultaneously print on both sides of the substrate with each blanket cylinder acting as the impression cylinder for the other

13
bleeding
⟨ink⟩ penetration or migration of substances from the ink film into or onto a substrate, during or after printing, causing an overlap of colours

14
blocking
condition that occurs when layers of printed substrates stick together

15
capsule toner
⟨electrophotography⟩ colorant carrier, designed for low temperature melting that is formed by a low melting, point resin with a hard shell

16
carrier
⟨electrophotography⟩ magnetic beads transporting toner particles to the photoconductor used in a multi-component dry electrophotographic developer

17
channel
⟨gravure printing⟩ area that links two adjacent cells in electromechanical engraving of pyramid-shaped cells in circumferential direction

18
charge transfer
⟨electrophotography⟩ process in which colorant particles are conveyed from the photoconductor to a substrate by corona treatment

19
charging roller
charge roller
⟨electrophotography⟩ roller that applies a static charge to the photoconductor prior to imaging

20
clogging
⟨flexo printing⟩ filling of the anilox cells with dried ink remains

21
clogging
⟨ink jet printing⟩ blockage of printer head

22
coating thickness
⟨screen printing⟩ difference between the screen-printing stencil thickness and thickness of mesh

23
conductive brush charging
⟨electrophotography⟩ process that uses electroconductive fibres tied together in brush form, the ends of which are then brought into contact with a photosensitive surface and charged with DC voltage

24
corona transfer
⟨electrophotography⟩ process of electrostatic charging of photoconductors and substrates by passing them under a thin, high voltage wire

25
crawling
insufficient wetting of the print substrate by the printing ink

26
creep
tendency of a printed image to drift out of register or position

27
cylinder press
printing press with a moving flat bed that holds the forme while a fixed rotating impression cylinder provides the pressure

28
dampening system
device that wets the printing forme prior to the inking rollers

29
deflection electrode
⟨continuous ink jet printing⟩ electrode that determines the trajectory direction of charged ink droplets

30
direct stencil
⟨screen printing⟩ stencil produced on the screen-printing carrier

31
direct-indirect stencil
⟨screen printing⟩ stencil with which the direct and the indirect production methods are combined

32
doctor blade
blade that wipes the excess (surface) ink from a gravure cylinder or anilox roller before printing or the excess coating from a cylinder during finishing operations

33
doctor roll
fountain roll in a flexographic press

34
dot area
percentage of the surface which appears to be covered by a single colour

35
double sheet detector
device on a sheet-fed press that can be set to automatically stop the feeding action when the sheet separation unit of a feeder picks up two or more sheets simultaneously

36
dry back
change in colour, gloss or density of an ink film as it dries and penetrates the substrate

37
dryer tunnel
compartment through which the substrate passes for final drying after printing

38
dye ink
ink containing a colorant in dissolved form

39
effective squeegee angle
⟨screen printing⟩ angle between the blade and the forme when pressure has been applied

40
feathering
spreading of particles from the ink film onto the substrate, creating an irregular larger image

41
fill in
plugging
undesired effect in which small non-image areas are filled by ink

42
flooding
flow coating
flood coating
flood pulling
⟨screen printing⟩ filling the openings of the screen-printing forme with printing ink before the printing process

43
flooding
flow coating
flood coating
flood pulling
⟨gravure printing⟩ condition where the ink volume is so great that the image of the individual cells is no longer visible

44
flooding
flow coating
flood coating
flood pulling
⟨offset printing used in lithography⟩ excess water on the printing plate or in the ink caused by improper ink and/or water balance

45
forme roller
ink or dampening roller that directly contacts the printing forme

46
fountain solution
dampening solution
mixture of water and chemical agents used to wet the lithographic forme

47
frame height
⟨screen-printing⟩ distance of the frame above the substrate for the correct screen release

48
gear mark
irregular density that appears at regular intervals as bands in half-tones and solids parallel to the gripper margin of the sheet

49
ghost image
undesirable, faint printed images appearing on substrates where they are not intended to be reproduced

50
grain
⟨plate⟩ roughened or irregular surface of a printing plate

51
gravure cell
engraved, etched, ablated or otherwise created recession in the gravure cylinder to contain the ink to be transferred to the substrate

52
gravure cylinder
printing forme with an engraved pattern used in the gravure process, directly resulting in the printing image after inking in a gravure press

53
half-tone gravure
printing process in which the ink-receptive cylinder cells are produced to vary in surface area and depth

54
halo
irregular outline that appears around printed characters and/or images, especially in relief forme printing, flexo and letter press printing

55
hickey
imperfection on a printed sheet caused by unwanted particles that cling to the image carriers during lithographic or letterpress printing

56
image area
part of the printing area on which ink is laid down

57
impression bar
small diameter rod or bar supported by another part of sufficient rigidity used in place of the impression cylinder for running delicate substrates

58
impression cylinder
device which presses the substrate against an inked image carrier transferring the original image to the substrate

59
indirect stencil
⟨screen printing⟩ stencil that, after its production, is attached to the screen-printing stencil carrier

60
ink-absorbing layer
coating layer on a substrate to provide a quality image without irregular bleeding

61
ink consumption
⟨screen printing⟩ wet volume of a certain printing ink required for printing with a certain printing forme

62
ink-ejecting heater
tiny heater plate located in the pressure chamber of the thermal ink jet printer head

63
ink fountain
pan on a printing press that holds the ink supply to be transferred to the inking system

64
ink rest
area on the upper surface of the screen-printing forme outside the printing area

65
ink trail
⟨screen printing⟩ area on the surface of the screen-printing forme outside the printing area

66
ink transfer
amount of ink supplied to a substrate as expressed in a percentage of the total ink available

67
in-line press
combination of modular printing and converting units