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Graphic technology — Vocabulary —

Part 2: Prepress terms

Technologie graphique — Vocabulaire —

Partie 2: Termes de préimpression

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Foreword

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ISO 12637-2 was prepared by Technical Committee ISO/TC 130, *Graphic technology*.

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*

— *Part 5: Screen printing 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 of, 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.

This part of ISO 12637 contains terms and definitions associated with the prepress stage of printing.

Graphic technology — Vocabulary —

Part 2:
Prepress terms

1 Scope

This part of ISO 12637 defines a set of prepress terms which may be used in the drafting of other International Standards for graphic technology. In order to facilitate their translation into other languages, the definitions are worded so as to avoid, where possible, any peculiarity attached to one language.

2 Terms and definitions

2.1
aliasing
jagged or staircase effect in a raster image, caused by an insufficient number of image elements

NOTE See also ISO 12651:1999, definition 4.38.

2.2
assembly
placing digital, film or paper elements together in order on a suitable substrate or file

NOTE See also ISO 12637-1:2006, definitions 2 and 3.

2.3
bit-mapped image
image represented by an array of picture elements, each of which is encoded as a single binary element

NOTE 1 See also ISO 12651:1999, definition 4.02.

NOTE 2 This is representation of characters or graphics by individual pixels, or points of colour/no-colour arranged in a row and column order (analogous to a graph paper grid). Each pixel is represented by either one bit (black and white printing) or up to 32 bits (higher quality colour printing). Physically the bit map exists only as digital information in the computer memory until transformed into an image on a monitor or print output device.

2.4
bleed
additional printing area outside the nominal printing area necessary for the allowance of mechanical tolerance in the trimming process

[ISO 15930-3:2002, definition 3.1]

2.5
blind exchange
exchange of compound entities that requires no exchange of technical information between sender and receiver in order to render the printed page as intended by the sender

2.6
colour electronic prepress system
CEPS
electronic, computer-based, image manipulation system used to prepare digital data files of material for graphic arts printing production

NOTE This term is used by the printing industry to describe a class of equipment, used from 1980 to approximately 1995, which ushered in the electronic revolution in the printing and publishing industry.

2.7
characterization
relationship between input/output device-dependent and device-independent values

2.8
characterized printing condition
characterization of tone values in relation to colour definition in the various printing processes

2.9
choke
process whereby background colour is expanded to overlap image perimeter to ensure that there is no visible gap between the two

NOTE See also **trapping** (2.138).

2.10
chromaticity diagram
graphical representation of two of the three dimensions of colour

2.11
CIE chromaticity coordinates
trichromatic coefficients
ratios of each of the tristimulus values of a colour to the sum of the tristimulus values

NOTE In CIE (Commission Internationale de l'Eclairage) systems, these coordinates are designated X, Y and Z. See also **CIE chromaticity diagram** (2.12).

2.12
CIE chromaticity diagram
two-dimensional diagram representing visible colours in terms of the CIE chromaticity coordinates, which are derived from the standard 1931 CIE XYZ tristimulus values

2.13
CIELAB colour space
rectangular opponent-type colour space derived from non-linear transformations of the 1931 CIE XYZ system and expressed by the colour coordinates L^*, a^*, b^* approximately uniform with respect to colour differences, where L^* represents relative lightness, a^* represents redness or greenness and b^* represents yellowness or blueness

2.14
CIELUV colour space
rectangular opponent-type colour space derived from non-linear transformations of the 1931 CIE XYZ system expressed by the colour coordinates L^*, u^*, v^* approximately uniform with respect to the perception of colour differences, where L^* represents relative lightness, u^* represents redness or greenness, and v^* represents yellowness or blueness

2.15
CIE standard illuminants
illuminants A, D50, D65, etc., defined by the CIE in terms of relative spectral power distribution

2.16
CIEXYZ tristimulus values
values of x, y, z components of a colour obtained by multiplying the relative power of a CIE standard illuminant, the reflectance or transmittance of the object, and the CIE standard observer functions $\bar{x}$, $\bar{y}$ and $\bar{z}$

2.17
CMYK
abbreviation for cyan, magenta, yellow and black process colours

2.18
colorimeter
instrument for measuring colour values, such as the tristimulus values of a colour stimulus

2.19
colour characterization target
standard colour reference used for establishing the relationship between a printed image and the input values of that image

2.20
colour correction
photographic, electronic or manual procedure used to enhance original colour and to compensate for the deficiencies of the process inks, colour separation and defects in the original

2.21
colour difference
distinction between two colours observed or measured under standard conditions

2.22
colour encoding
generic term for a quantized digital encoding of a colour space, encompassing both colour space encodings and colour image encodings

[ISO 22028-1:2004, definition 3.7]

2.23
colour gamut
solid in a colour space, consisting of all those colours that are either present in a specific scene, artwork, photograph, photomechanical or other reproduction; or capable of being created using a particular output device and/or medium

[ISO 22028-1:2004, definition 3.8]

2.24
colour image encoding
digital encoding of the colour values for a digital image, including the specification of a colour space encoding, together with any information necessary to properly interpret the colour values such as the image state, the intended image viewing environment and the reference medium

[ISO 22028-1:2004, definition 3.9]

2.25
colour profile
data file that provides colour management systems with the information necessary to convert colour data between native device colour spaces and device-independent colour spaces

2.26
colour rendering
mapping of image data representing the colorimetric coordinates of the elements of a scene to output-referred image data representing the colorimetric coordinates of the elements of a reproduction

NOTE Adapted from ISO 22028-1:2004, definition 3.11.

2.27
colour separation
⟨process⟩ act of separation by which a multi-coloured original is split into the separate colour files or films associated with the printing colorants for process colour printing

2.28
colour separation
⟨product⟩ set of data files or films created by the process of **colour separation** (2.27)

2.29
colour sequence
order in which the colours are stored in a data file

2.30
colour space
geometric representation of colours in space, usually of three dimensions

[ISO 22028-1:2004, definition 3.13]

2.31
colour space encoding
digital encoding of a **colour space** (2.30), including the specification of a digital encoding method, and an encoding range

NOTE Adapted from ISO 22028-1:2004, definition 3.14.

2.32
colour value
set of numeric values associated with each of the pixels in one of the colour spaces

2.33
complementary colours
two colours that, when mixed in appropriate ratios, produce an achromatic colour

NOTE In graphic arts processes the complementary pairs are yellow and blue; magenta and green; cyan and red.

2.34
complete exchange
exchange of compound entities in which all elements and element resources are present as part of a single exchange and all of the information needed to process the composite entity is either in the composite entity or is specified within the applicable standard and its normative references

[ISO 15930-1:2001, definition 3.5]

2.35
composite
unit of work with all text, graphics and image elements prepared for final print reproduction

2.36
compound entity
unit of work with all text, graphic and image elements prepared for final print reproduction and that may represent a single page for printing, a portion of a page or a combination of pages

[ISO 15930-1:2001, definition 3.6]

2.37
continuous tone
image that has not been screened and has infinite tone gradations between the lightest highlights and the deepest shadows

2.38
contrast
⟨image⟩ relationship or degree of tonal gradation between the lightest and darkest areas in an original or reproduction

2.39
control patch
area produced for control measurement purposes

[ISO 12647-1:2004, definition 3.8]

2.40
control strip
array of control patches

NOTE Adapted from ISO 12647-1:2004, definition 3.9.

2.41
copperplate engraving
generic term of intaglio printing where plate making occurs without using a photomechanical process

NOTE An engraving process using steel instead of copper is known as steel plate engraving.

2.42
copy
any graphic material provided for reproduction including text, images and line art

2.43
core density
⟨half-tone film⟩ transmittance density in the centre of an isolated opaque image element such as a half-tone dot or line

[ISO 12647-1:2004, definition 3.10]

2.44
CtP
abbreviation for computer to plate, the method of making plates direct from digital data

2.45
density
weight of tone or colour in any image, measurable by a densitometer

NOTE See also ISO 13656:2000, definition 3.6.

2.46
device-dependent colour space
colour coordinates defined by the characteristics of an imaging device

2.47
device-independent colour space
colour coordinate system defined in terms of the amounts of visual stimuli colour capabilities independent of the specific device characteristics

2.48
device link profile
data file in a device-independent colour space which provides information necessary to convert colour data into a device-dependent colour space

2.49
digital proof
soft or hard copy proof produced from digital data on a display or on a substrate

2.50
dithering
digital pixel averaging used to add detail or increase the tonal gradation by increasing the number of pixels within a cell

2.51
dot fringe
soft edge occurring around a halftone dot that reduces contrast

2.52
dot percentage
percentage of an area covered by half-tone dots of each colour, ranging from 0 % to 100 %

2.53
doubling/slur patch
control patch for assessing actual rolling conditions on press and for identifying press roller problems

NOTE Adapted from ISO 13656:2000, definition 3.7.

2.54
em
typographic measure, whose width is equal to the point size of the type in use, that serves as the base of the set-width horizontal spacing system

2.55
en
typographic measure which is equal in width to half an em of the same point size

2.56
Encapsulated PostScript
EPS
image description format conforming to Adobe Document Structuring Conventions (DSC)

2.57
extended gamut
colour gamut (2.24) extending outside that of the standard sRGB CRT display

NOTE See also IEC 61966-2-1.

[ISO 22028-1:2004, definition 3.19]

2.58
font
collection of characters in one typeface and size

2.59
gamma
⟨display⟩ slope of the relationship between the input and reproduced luminance of an image reproduction system

2.60
gamma
⟨photography⟩ measure of the amount of contrast that is characteristic of a particular film, paper or processing technique

2.61
gamut mapping
mapping of the colorimetric coordinates of the elements of a source image to colorimetric coordinates of the elements of a reproduction to compensate for differences in the source and output medium colour gamut capability

NOTE Adapted from ISO 22028-1:2004, definition 3.22.

2.62
grey component replacement
GCR
removing appropriate amounts of individual colorants that together are equal to grey and replacing these multiple colorants with an appropriate amount of black

2.63
global colour change
change in the relationship of colours in an image applied consistently to all parts of the image as contrasted to a local colour change where selected spatial areas of an image are changed separately from the rest of the image area

[ISO 12640-1:1997, definition 3.6]

2.64
glyph
recognizable abstract graphic symbol that is independent of any specific design

[ISO/IEC 9541-1:1991, definition 3.12]

2.65
glyph metrics
set of information in a glyph representation used for defining the dimensions and positioning of the glyph shape

[ISO/IEC 9541-1:1991, definition 3.16]

2.66
gradation
staged change in tones from highlight to shadow

2.67
half-tone
image composed of dots which can vary in screen ruling (number per centimetre), size, shape, or density, thereby producing tonal gradations

[ISO 13656:2000, definition 3.11]

2.68
half-tone dot
individual element of a half-tone image, which may be square, round, elliptical or a variety of other shapes

2.69
hard copy
printed image on a substrate

2.70
hard copy proofing system
system for simulating a printed image using a printing device which may be different from that used for production

[ISO 12646:2008, definition 3.1.6]

2.71
International Colour Consortium profile
ICC profile
collection of transforms, encoded as specified in the ICC profile specification which is used to convert image data between device space and profile connection space

2.72
image area
space intended for or occupied by a reproduction of an image

2.73
image element
any component of an image

2.74
imposition
positioning pages in a printing forme in order to ensure correct sequence when the resulting print work is converted to final page form

2.75
input colour scanner
device capable of converting the light reflectance or transmittance of a photographic (or other hardcopy) sample into an electronic signal, where the electronic signal is arranged to have an organized relationship with the spatial areas of the image evaluated

[ISO 12640-1:1997, definition 3.7]

2.76
input-referred image data
image data that is either scene-referred or original-referred

2.77
job definition format
JDF
XML-based file format for **job ticket** (2.78) specifications, combined with a message description specification and a message interchange protocol, for the integration of processes in prepress, printing and post press

2.78
job ticket
electronic specification of processes for production

2.79
layout
composition of image and non-image elements

2.80
line art
image that has no tonal gradation

2.81
line engraving
printing forme or process in which the image area is etched or engraved using mechanical or chemical means

2.82
medium black point
lowest luminance neutral that can be produced by an imaging medium in normal use, measured using the specified measurement geometry

NOTE It is generally desirable to specify a medium black point that has the same chromaticity as the **medium white point** (2.83).

2.83
medium white point
neutral colour with the highest luminance that can be produced by an imaging medium in normal use, measured using the specified measurement geometry

[ISO 22028-1:2004, definition 3.30]

2.84
mid-tone balance control patch
half-tone control patch, containing all three chromatic process inks, used for assessing the balance between the inks in which the cyan tone value is normally in the range between 40 and 60 and the magenta and yellow tone values are selected to approximate an achromatic colour

NOTE Adapted from ISO 13656:2000, definition 3.15.

2.85
moiré
interference patterns that can appear at regular frequencies when two or more patterns (half-tone screens, subject content, scanning raster, etc.) interact with each other

2.86
monitor profile
colour profile specifically derived for a visual display unit (VDU) such as a CRT display or LCD flat panel display

2.87
open prepress interface
OPI
protocols that allow low-resolution proxy images to be converted to final resolutions for page layout

2.88
open screen volume
volume of the screen opening if no stencil is applied

2.89
orientation
specifies the origin and direction of the first line of data with respect to the image content as viewed by the end user

NOTE The codes used to specify orientation are contained in ISO 12639.

[ISO 12640-1:1997, definition 3.8]

2.90
page element
substructure of a compound entity relative to the current processing environment, such as a block of text, a contone picture or an outline graphic that, by itself, comprises the smallest logical component of a compound entity

2.91
pagination
making up into page format

2.92
profile connection space
PCS
abstract colour space used in ICC colour management to connect the source and destination profiles

NOTE Adapted from ISO 15076-1:2005, definition 4.12.

2.93
portable document format
PDF
file format used for exchange of documents and defined in the *Adobe Portable Document Format*

NOTE Adapted from ISO 15930-1:2001, definition 3.16.

2.94
PDF/X
file format for reliable exchange of print-ready data

NOTE See also ISO 15929.

2.95
pica
typographic linear measure equal to 4,216 mm (0,167 in), composed of 12 points

2.96
pixel interleaving
colour data organized such that the cyan, magenta, yellow and black colour values for one pixel are followed by the same sequence of colour values for the next pixel

[ISO 12640-1:1997, definition 3.10]

2.97
point size
typographic unit of linear measurement

2.98
preview image
preview consisting of a **raster image** (2.106) representing a composite, at a resolution suitable for viewing on a computer display

NOTE Adapted from ISO 15930-1:2001, definition 3.19.

2.99
primary colour
unitary colours from which all other colours are created (in additive and subtractive colour theory)

2.100
print substrate
material bearing the printed image

[ISO 12647-1:2004, definition 3.32]

2.101
printing tone value
printing dot value
⟨of a data set⟩ digital value corresponding to the percentage area on a printing forme that is intended to accept ink for transfer to the final sheet

NOTE Adapted from ISO 12639:2004, definition 4.1.6.

2.102
process colours
cyan, magenta, yellow and black

NOTE Adapted from ISO 12647-1:2004, 3.33.

2.103
profile
device profile
digital representation of the relation between the device-specific colour signals (e.g. monitor drive voltage) and the colour coordinates of the profile connection space (PCS)

NOTE See also ISO 12646.

2.104
proof
hard or soft copy reproduction made using various technologies to simulate an intended printing output

2.105
raster data
set of digital picture elements arranged in a grid pattern

NOTE See also ISO 12651:1999, definition 4.08.

2.106
raster image
image formed by a set of picture elements arranged in a grid pattern

[ISO 12651:1999, definition 4.07]

2.107
reference material
material or substance one or more of whose property values are sufficiently homogeneous and well established to be used for the calibration of an apparatus, the assessment of a measurement method, or for assigning values to materials

[ISO 15790:2004, definition 3.1.10]

2.108
register
accuracy by which the required position of the reproduction details in a sequence of operations is achieved

2.109
register marks
small reference patterns, guides or set of fine-line crosses or other suitable devices added outside the image area to provide points for alignment and registration of subsequent colours in prepress, printing and post press operations

2.110
relative density
density with respect to a reference such as the film base or the unprinted print substrate

NOTE See also ISO 12647-1:2004, definition 3.39.

2.111
repurposing
adapting content that has been prepared for one publication channel for use in another publication channel having a different rendering capability

NOTE Examples include commercial printing to newsprint, publication printing to internet, etc. where an appearance match is not necessarily required or desired.

2.112
resolution
amount of detail with which an image is rendered or captured

2.113
retargeting
converting image data encoded by one printing system to produce the best visual match in a different printing system having an adequate colour gamut capability

2.114
RGB
abbreviation for red, green, blue