

Allowable features in drawings

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IP5

May 2025









Allowable features in drawings

(As of 31 May 2025)

The table below is the result of a first contribution by the IP5 Offices highlighting the IP5-Safe Format of allowable features in drawings among the IP5 Offices:

Overview highlighting the lowest common denominator (IP5-Safe Format)

Paper size and Margins 	Image format 	Color / grayscale 	Line drawings 	Size of characters and symbols 	Availability of photos 
<p>A4</p> <p>Minimum margins: top margin of 40mm, bottom margin of 20mm, left margin of 25mm, right margin of 20mm</p> <p>Maximum drawing area: for patent and utility model application: (other than photograph): 222mm (L) x 165mm (W), for patent and utility model application: (photograph): 150mm (W) x 220mm (L)</p>	<p>JPEG (JFIF) with some limitations. Resolution: 300dpi</p>	<p>Black and White</p>	<p>For patent and utility model application: Solid line thickness: approx. 0.4mm, Leader line width: approx. 0.2mm, Dotted and dashed lines width: approx. 0.2mm</p> <p>Also, the drawings must still allow all details to be distinguished without difficulty with a linear reduction in size to two thirds.</p>	<p>The size of the characters shall be approximately 5mm x 5mm (approx. 14pt) with sufficient space between characters.</p>	<p>Acceptable if it is appropriate</p>

Disclaimer

While this data aims at highlighting the lowest common denominator (“IP5 Safe Format”) of the formal requirements for allowable features in drawings among the IP5 Offices, at the time of the data collection, its content may not be considered or construed as legally binding in any way. The IP5 Offices cannot guarantee the completeness, accuracy, or fitness for specific purposes of the data presented.

Allowable features in drawings

Paper size and Margins

Lowest Common Denominator (IP5-Safe Format): A4	Minimum margins: top margin of 40mm, bottom margin of 20mm, left margin of 25mm, right margin of 20mm
	Maximum drawing area: for patent and utility model application: (other than photograph): 222mm (L) x 165mm (W), for patent and utility model application: (photograph): 150mm (W) x 220mm (L)

Varying formal requirements across the IP5 Offices/WIPO					
EPO	JPO	KIPO	CNIPA	USPTO	WIPO (PCT)
<p>A4</p> <p>Minimum margins: top margin of 25mm, bottom margin of 10mm, left margin of 25mm, right margin of 15mm</p> <p>Maximum drawing area: 262mm (L) x 170mm (W)</p> <p>Reference </p>	<p>A4 size (portrait)</p> <p>No margin setting required.</p> <p>Drawing area: 255mm (L) x 170mm (W)</p> <p>Reference </p>	<p>A4</p> <p>Margins: top margin of 40mm, bottom margin of 20mm, left margin of 25mm, right margin of 20mm</p> <p>Drawing area: 222mm (L) x 165mm (W)</p> <p>Reference </p>	<p>A4</p> <p>Margins: top margin of 25mm, bottom margin of 15mm, left margin of 25mm, right margin of 15mm</p> <p>Drawing area: the size of the industrial design image or photograph should be no larger than 150mm (W) x 220mm (L), the size of other images should be no larger than 165mm (W)x245mm (L)</p> <p>Reference </p>	<p>Paper size: all drawing sheets in an application must be the same size. One of the shorter sides of the sheet is regarded as its top. The size of the sheets on which drawings are made must be: (1) 21.0cm. by 29.7cm. (DIN size A4), or (2) 21.6cm. by 27.9cm. (8 1/2 by 11 inches).</p> <p>Margins: the sheets must not contain frames around the sight (i.e., the usable surface), but should have scan target points (i.e., cross-hairs) printed on two cater-corner margin corners. Each sheet must include a top margin of at least 2.5cm. (1 inch), a left side margin of at least 2.5cm. (1 inch), a right side margin of at least 1.5cm. (5/8 inch), and a bottom margin of at least 1.0cm. (3/8 inch), thereby leaving a sight no greater than 17.0cm. by 26.2cm. on 21.0cm. by 29.7cm. (DIN size A4) drawing sheets, and a sight no greater than 17.6cm. by 24.4cm. (6 15/16 by 9 5/8 inches) on 21.6cm. by 27.9cm. (8 1/2 by 11 inch) drawing sheets.</p> <p>Reference </p>	<p>A4</p> <p>Margins: top margin of 25mm, bottom margin of 10mm, left margin of 25mm, right margin of 15mm</p> <p>Drawing area: 262mm (L) x 170mm (W)</p> <p>Reference </p>

Allowable features in drawings

Image format

Lowest Common Denominator (IP5-Safe Format):
JPEG (JFIF) with some limitations.
Resolution: 300dpi

Varying formal requirements across the IP5 Offices/WIPO







EPO	JPO	KIPO	CNIPA	USPTO	WIPO (PCT)
<p>JPEG, TIFF, PNG and others</p> <p>The requirements on the image format depend on the method of filing used by the applicant. The indicated maximum size may vary for filings under the PCT.</p> <p>PDF, in accordance with the Administrative Instructions under the PCT, Part 7 and Annex F, max. size 312mm x 227mm</p> <p>XML (in accordance with the Administrative Instructions under the PCT, Part 7 and Annex F), including referenced JPEG (JFIF) and TIFF images, max. image size 255mm x 170mm</p> <p>DOCX (in pilot project), embedded images must be in TIFF, JPEG (JFIF) or PNG format, maximum allowable size for a single embedded image is 1 Mb</p> <div>Reference</div>	<p>PNG/GIF/BMP for black and white, JPEG for grayscale, with resolution up to 2677×4015pixels (automatically adjusts to 200, 300, 400dpi depending on the pixels)</p> <p>JPEG (JFIF) for grayscale is intended for certain photographs that serve as substitutes for drawings (see the following Color/Grayscale table) and is not recommended for other uses. Additionally, it is recommended to create images in 8-bit grayscale JFIF format, as some types of JPEG (JFIF) may be rejected or converted by internet application software upon submission.</p> <p>Images should be embedded in an HTML file.</p> <div>Reference</div>	<p>TIFF for black and white, JPEG for grayscale and color</p> <p>300dpi~400dpi (300dpi is recommended)</p> <p>Images can be submitted directly into the system.</p> <p>Images are automatically embedded in the XML file by the system.</p> <div>Reference</div>	<p>JPEG or TIFF files</p> <p>(The size of the industrial design image or photograph should be no larger than 150mm×220mm, the size of other images should be no larger than 165mm×245mm, and the resolution of the image or photograph must be between 72~300dpi)</p> <p>72dpi~300dpi</p> <p>Images can be submitted directly or should be embedded in a PDF, DOC, or DOCX file.</p> <div>Reference</div>	<p>GIF, BMP, TIFF or JPEG</p> <p>For resolution, 300dpi or higher recommended, 25 MB maximum</p> <p>Images should be embedded in a PDF or DOCX file.</p> <div>Reference</div>	<p>TIFF</p> <p>The only fully supported format is TIFF V6.0 with Group 4 compression, single strip, Intel encoded (pure black and white – no color or greyscale).</p> <p>JPEG and other file formats (dependent on receiving Office and whether referenced in an XML application or embedded in PDF or DOCX files) may be accepted for filing, but will be subject to conversion before publication with likely loss of image quality unless in that format.</p> <p>The maximum size for individual drawings is 255mm x 170mm at 300 or 400dpi, based on the ability to fit the drawing within the margins of an A4 published page.</p> <div>Reference</div>

Allowable features in drawings

Color / grayscale

Lowest Common Denominator (IP5-Safe Format): Black and White

Varying formal requirements across the IP5 Offices/WIPO

EPO	JPO	KIPO	CNIPA	USPTO	WIPO (PCT)
<p>Drawings are to be executed without colourings in durable, black, sufficiently dense and dark, uniformly thick and well-defined lines and strokes (black and white line drawings). Colour drawings / photographs/gray-scale can however be submitted but will be scanned, printed and made available via file inspection in black and white only. If problems arise due to the conversion from colour to black and white this may lead to an objection under Rule 58 EPC in conjunction with Rule 57 (i) EPC.</p> <div>Reference </div>	<p>Grayscale: Acceptable (when the object shown in the drawing is a micrograph, an X-ray photograph, a crystal structure, a metallic structure, the shape of a fiber, a partial structure, the form of an organism, an oscilloscope waveform, electrophoresis, the structure of a ceramic material, a colloid, a thin film, a chromatograph, a minute pattern formed on a substrate, a halftone image displayed on a display, or the state of a cut surface of glass, it is extremely difficult to draw according to the drawing method, so the photograph can be substituted for the drawing.) Color: Not acceptable</p> <div>Reference </div>	<p>Grayscale: Acceptable Color: Acceptable (A grayscale or color image is acceptable only when it is unavoidable in order to describe the invention)</p> <div>Reference </div>	<p>Grayscale: Acceptable Color: Acceptable (when necessary, for the purpose of clearly describing the technical content of the patent application.)</p> <div>Reference </div>	<p>Grayscale: acceptable in India ink, or its equivalent that secures solid black lines, must be used for drawings. However, black and white drawings normally required. Color: color drawings are permitted in design applications. The Office will accept color drawings in utility patent applications only after granting a petition filed under 37 C.F.R. § 1.84(a)(2) explaining why the color drawings are necessary and fee payment.</p> <div>Reference </div>	<p>Color or grayscale: not permitted. However, this restriction is not necessarily followed by applicants and is inconsistently handled by receiving Offices. The original documents are retained on file, but converted to black and white for publication and international phase processing. The variable quality of this conversion results in significant extra work for Offices and applicants and is a major cause of requests for republication. Note that problems may occur even when the original drawings were pure black and white if the applicant's software transforms a black and white image into a color format prior to submission, even if that color format only represents black and white pixels. It would be worth consideration of recommending the use of XML based filing (either directly in XML or attached as Docx in ePCT filing), as full XML filings referencing colour drawings are published on PATENTSCOPE with the original colour drawings supplied by the applicant.</p> <div>Reference </div>

Allowable features in drawings

Line drawings

Lowest Common Denominator (IP5-Safe Format): For patent and utility model application: Solid line thickness: approx. 0.4mm, Leader line width: approx. 0.2mm, Dotted and dashed lines width: approx. 0.2mm
Also, the drawings must still allow all details to be distinguished without difficulty with a linear reduction in size to two thirds.

Varying formal requirements across the IP5 Offices/WIPO







EPO	JPO	KIPO	CNIPA	USPTO	WIPO (PCT)
<p>The thickness of the lines and strokes must take into account the scale, nature, execution and perfect legibility of the drawing and of the reproductions.</p> <div>Reference</div>	<p>Solid line thickness: approx. 0.4mm Leader line thickness: approx. 0.2mm Dotted and dashed lines thickness: approx. 0.2mm A line thickness of 0.2mm is equivalent to 0.57 DTP points, and a line thickness of 0.4mm is equivalent to 1.13 DTP points.</p> <div>Reference</div>	<p>Solid line thickness: approx. 0.4mm Leader line width: approx. 0.2mm Dotted and dashed lines width: approx. 0.2mm (A line width of 0.2mm is equivalent to 0.57 DTP points, and a line width of 0.4mm is equivalent to 1.13 DTP points.) Reference</p> <div>Reference</div>	<p>Acceptable if it is appropriate.</p> <div>Reference</div>	<p>Must be durable, clean, black (except for color drawings), sufficiently dense and dark, and uniformly thick and well-defined, and must be heavy enough to permit adequate reproduction. Lines and strokes of different thicknesses may be used in the same drawing where different thicknesses have a different meaning.</p> <div>Reference</div>	<p>The scale of the drawings and the distinctness of their graphical execution shall be such that a photographic reproduction with a linear reduction in size to two-thirds would enable all details to be distinguished without difficulty.</p> <div>Reference</div>

Allowable features in drawings

Size of characters and symbols

Lowest Common Denominator (IP5-Safe Format): The size of the characters shall be approximately 5mm x 5mm (approx. 14pt) with sufficient space between characters.

Varying formal requirements across the IP5 Offices/WIPO

EPO	JPO	KIPO	CNIPA	USPTO	WIPO (PCT)
<p>At least 0.32cm in height</p> <p>Reference </p>	<p>The size of the characters shall be approximately 5mm x 5mm (approx. 14pt) with sufficient space between characters.</p> <p>Reference </p>	<p>The size of characters shall be at least 3mm x 3mm (approx. 8.5pt).</p> <p>Reference </p>	<p>At least 3.5mm in height.</p> <p>Reference </p>	<p>Numbers, letters, and reference characters must measure at least 0.32cm. (1/8 inch) in height. Graphical drawing symbols may be used for conventional elements when appropriate. The elements for which such symbols and labeled representations are used must be adequately identified in the specification. Known devices should be illustrated by symbols which have a universally recognized conventional meaning and are generally accepted in the art. Other symbols which are not universally recognized may be used, subject to approval by the Office, if they are not likely to be confused with existing conventional symbols, and if they are readily identifiable.</p> <p>Reference </p>	<p>Text in drawings: At least 0.32cm in height. The drawings shall not contain text matter, except a single word or words, when absolutely indispensable, such as „water,“ „steam,“ „open,“ „closed,“ „section on AB,“ and, in the case of electric circuits and block schematic or flow sheet diagrams, a few short catchwords indispensable for understanding. However, this requirement is not necessarily followed by applicants (especially with regard to flowcharts) and cannot readily be enforced by receiving Offices since the defect cannot generally be corrected without significant changes to both description and drawings, going beyond the expectation of corrections or the capacity of formalities officers to judge reliably. Where the drawing is chosen for the front page, this results in significant extra work and often a poor quality reproduction at the reduced size with added labels and translated text.</p> <p>Reference </p>

Allowable features in drawings

Availability of photos

Lowest Common Denominator (IP5-Safe Format): Acceptable if it is appropriate

Varying formal requirements across the IP5 Offices/WIPO

EPO	JPO	KIPO	CNIPA	USPTO	WIPO (PCT)
<p>Acceptable (if it is impossible to present in a drawing what is to be shown and provided that they are directly reproducible and fulfil the applicable requirements for drawings (e.g. paper size, margins, etc.))</p> <div>Reference</div>	<p>Acceptable (when the object shown in the drawing is a micrograph, an X-ray photograph, a crystal structure, a metallic structure, the shape of a fiber, a partial structure, the form of an organism, an oscilloscope waveform, electrophoresis, the structure of a ceramic material, a colloid, a thin film, a chromatograph, a minute pattern formed on a substrate, a halftone image displayed on a display , or the state of a cut surface of glass, it is extremely difficult to draw according to the drawing method, so the photograph can be substituted for the drawing.)</p> <p>Color photos can be submitted as reference materials</p> <div>Reference</div>	<p>Acceptable (A grayscale or color image is acceptable only when it is unavoidable in order to describe the invention. For example, microscopy image of tissue specimens, grayscale image for weaving conditions of specialty fibers).</p> <div>Reference</div>	<p>Generally, photographs shall not be used as drawings, however, under special circumstances, for example, when a metallographic structure, histocyte, or electrophoresis pattern is to be shown, photographs may be used as drawings and they may be pasted on the sheet of drawings.</p> <div>Reference</div>	<p>Acceptable (if photographs are the only practicable medium for illustrating the claimed invention. For color photograph, approval by USPTO and fee payment are required.) Must be of sufficient quality so that all details in the photographs are reproducible in the printed patent.</p> <div>Reference</div>	<p>Same as color drawings</p> <div>Reference</div>

References for varying formal requirements for allowable features in drawings across the IP5 Offices/WIPO					
EPO	JPO	KIPO	CNIPA	USPTO	WIPO (PCT)
Paper size and Margins					
OJ 2022, A113 , see Art. 1(1) Guidelines for Examination in the EPO A-IX , 3 and 4.1	Regulation under the Patent Act, Form 30 (related to Article 25) Notes 1 and 2	Enforcement rules of the patent act Form 17	<div><div>1. GUIDELINES FOR PATENT EXAMINATION Part. V, Chapter I, 4.2 and 4.3</div><div>2. 专利业务办理系统办事指南 (Guidelines for Patent Business Processing System of CNIPA) 第二部分, 第二章, 电子申请文件格式的要求(Part II,section II,Electronic application file format requirements)</div></div>	MPEP § 608.02 and 37 C.F.R. § 1.84 Standards for drawings. (f) and (g)	PCT Rules 11.5 and 11.6(c)
Image format					
OJ 2021, A42 , see Art. 10 AI, PCT, Part 7, Annex F OJ 2020, A44 OJ 2020, A45 See also: Online Filing 2.0 pilot project for DOCX filing	Online Application guide (Only Japanese)	Enforcement rules of the patent act Form 17	专利业务办理系统办事指南 (Guidelines for Patent Business Processing System of CNIPA) 电子申请文件格式要求说明「2. 图片」 (Electronic application file format requirements instructions 2. figures)	MPEP § 502.05 (I)(D)(1) : Filing Documents as PDF Files PDF Guidelines DOCX Guidelines	PCT Administrative Instructions, Annex F , see 3.1.3
Color / greyscale					
OJ 2022, A113 , see Art. 1(2)(a) Guidelines for Examination in the EPO, A-IX , 1.2 , 7.1 and 7.2	Regulation under the Patent Act, Form 30 (related to Article 25) e-filling application software support website [guidance for writing application forms] Formality Examination Manual 24.11	Enforcement rules ofthe patent act Form 17	<div><div>1. GUIDELINES FOR PATENT EXAMINATION AMENDMENT DRAFT, Part.I, Chapter I, 4.3</div><div>2. Rule 30 of Implementing regulations of patent law</div></div>	37 C.F.R. § 1.84 Standards for drawings. (a)(1) and (a)(2) MPEP § 608.02 – guidance for color conveyed by symbols in pen and ink drawings.	PCT Rule 11.13(a) PCT Applicant’s Guide, paragraph 5.159 (for photographs and color drawings)

Allowable features in drawings

References

References for varying formal requirements for allowable features in drawings across the IP5 Offices/WIPO					
EPO	JPO	KIPO	CNIPA	USPTO	WIPO (PCT)
Line drawings					
OJ 2022, A113 , see Art. 1(2)(a) Guidelines for Examination in the EPO, A-IX, 7.1	Regulation under the Patent Act, Form 30 (related to Article 25) Notes 7	Enforcement rules of the patent act Form 17	外观设计电子申请视图及简要说明制作与提交规范 (the creation and submission standard for industrial design electronic application's view and brief explanation)	MPEP § 507 Drawing Review in the Office of Patent Application Processing MPEP § 608.02 Drawings 37 C.F.R. 1.152 – requirements regarding solid/broken lines, surface shading, views, and photographs for design drawings. 37 C.F.R. 1.84(m) – requirements regarding character of lines and shading.	PCT Rule 11.13(c)
Size of characters and symbols					
OJ 2022, A113 , see Art. 1(2)(g) Guidelines for Examination in the EPO, A-IX, 7.5.3	Regulation under the Patent Act, Form 30 (related to Article 25) Notes 6 Formality Examination Manual 24.10	Enforcement rules of the patent act Form 17	GUIDELINES FOR PATENT EXAMINATION Part. V, Chapter I, 5.2	37 C.F.R. § 1.84 Standards for drawings. (n) and (p)(3)	PCT Rules 11.11(a) and 11.13(h)
Availability of photos					
Guidelines for Examination in the EPO, A-IX, 1.2	Formality Examination Manual 24.11	Enforcement rules of the patent act Form 17	GUIDELINES FOR PATENT EXAMINATION Part I, Chapter I, 4.3	37 C.F.R. § 1.84 Standards for drawings. (a)2 and (b)(1) and (2) MPEP § 608.02 – request and fee required to access copies of color drawings or photographs.	PCT Rule 11.13(a) PCT Applicant's Guide, paragraph 5.159 (for photographs and color drawings)

