

IP5 PHEP Update on Progress “Allowable Features in Drawings”

IP5 Industry Consultation Group Meeting

March, 2022

Japan Patent Office



Second PHEP Projects

- At the 2021 ICG Meeting, the IP5 Offices received feedback on new PHEP projects from the Industry.
- Based on the feedback, the IP5 Offices agreed to cover two topics in the PHEP: “Global Assignment” and “Allowable Features in Drawings.”
- In June 2021, at their annual meeting, the IP5 Heads of Office endorsed the launch of the new projects.



Lowest Common Denominator (IP5-Safe Format)

- At the 2021 ICG Meeting, the IP5 Industry expected official guidance on the lowest common denominator which complies IP5 drawing requirements for convenience.
- The JPO, as the lead office of this project, distributed a questionnaire on allowable features in drawings in each office to the IP5 Offices and received responses.
- Based on the responses, the Lowest Common Denominator (IP5-Safe Format) was identified for most of the items.
- The responses and the Lowest Common Denominator (IP5-Safe Format) for each item will be presented in the following slides.

(a) Paper size and Margins

	Lowest Common Denominator (IP5-Safe Format)	EPO	JPO	KIPO	CNIPA	USPTO	WIPO (PCT)
Requirements	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): 222 mm (L) x 165 mm (W), for patent and utility model application: (photograph): 150mm (W) x 220mm (L)	A4 Minimum margins: top margin of 25 mm, bottom margin of 10 mm, left margin of 25 mm, right margin of 15 mm Maximum drawing area: 262 mm (L) x 170 mm (W)	A4 size (portrait) No margin setting required. Drawing area: 255 mm (L) x 170 mm (W)	A4 Margins: top margin of 40mm, bottom margin of 20mm, left margin of 25mm, right margin of 20mm Drawing area: 222mm (L) x 165mm (W)	A4 Margins: top margin of 25mm, bottom margin of 15mm, left margin of 25mm, right margin of 15mm 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)	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) 21.0 cm. by 29.7 cm. (DIN size A4), or (2) 21.6 cm. by 27.9 cm. (8 1/2 by 11 inches). 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 catercorner margin corners. Each sheet must include a top margin of at least 2.5 cm. (1 inch), a left side margin of at least 2.5 cm. (1 inch), a right side margin of at least 1.5 cm. (5/8 inch), and a bottom margin of at least 1.0 cm. (3/8 inch), thereby leaving a sight no greater than 17.0 cm. by 26.2 cm. on 21.0 cm. by 29.7 cm. (DIN size A4) drawing sheets, and a sight no greater than 17.6 cm. by 24.4 cm. (6 15/16 by 9 5/8 inches) on 21.6 cm. by 27.9 cm. (8 1/2 by 11 inch) drawing sheets.	A4 Margins: top margin of 25mm, bottom margin of 10mm, left margin of 25mm, right margin of 15mm Drawing area: 262mm (L) x 170mm (W)
Reference	N/A	Rule 46(1) EPC, Guidelines for Examination in the European Patent Office, Part A – Guidelines for Formalities Examination, Chapter IX Drawings 3 and Drawings 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 https://www.law.go.kr/LSW//fIDownload.do?fIDSeq=103316183&fINm=%5B%EB%B3%84%EC%A7%80+%EC%A0%9C17%ED%98%B8%EC%84%9C%EC%8B%9D%5D+%EB%8F%84%EB%A9%B4%0A	1.GUIDELINES FOR PATENT EXAMINATION Part. V , Chapter I, 4.2 and 4.3 2.电子申请文件格式要求说明「2. 图片」(Electronic application file format requirements instructions 2. figures)	MPEP § 608.02 and 37 C.F.R. § 1.84 Standards for drawings. (f) and (g) https://rdms-mpep-vip.uspto.gov/RDMS/MPEP/current#/current/d0e320999.html https://rdms-mpep-vip.uspto.gov/RDMS/MPEP/current#/current/d0e47639.html	PCT Rules 11.5 and 11.6(c).

(b) Image format

	Lowest Common Denominator (IP5-Safe Format)	EPO	JPO	KIPO	CNIPA	USPTO	WIPO (PCT)
Requirements	<p>There is no IP5-Safe image format.</p> <p>Resolution: 300dpi</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 312 mm x 227 mm</p> <p>XML (in accordance with the Administrative Instructions under the PCT, Part 7 and Annex F), including referenced JPEG and TIF images, max. image size 255 mm x 170 mm</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>	<p>PNG/GIF/BMP for black and white, JPEG for grayscale, with resolution up to 2677×4015pixels (automatically adjusts to 200,300,400 dpi depending on the pixels)</p> <p>JPEG can be accepted for black and white, however, it is not recommended.</p>	<p>TIFF for black and white, JPEG for grayscale and color</p> <p>300dpi ~ 400dpi (300dpi is recommended)</p>	<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 photogram must be between 72 ~ 300DPI)</p> <p>72dpi - 300dpi</p>	<p>PDF(GIF, BMP, TIFF or PNG can be used if they are part of PDF files)</p> <p>For resolution, 300 dpi or higher recommended, 25MB maximum</p>	<p>TIFF (Resolution of either 300 or 400 dpi; Maximum size: whole pages should be either A4 or Letter size, however the recommended maximum size is 255mm by 170mm) or JFIF (Resolution of either 300 or 400 dpi; Maximum size of 255mm by 170mm)</p> <p>(Note that images are resampled to 300dpi resolution for publication irrespective of the original resolution.)</p>
Reference	N/A	<p>OJ 2021, A42, Art. 10</p> <p>https://www.epo.org/law-practice/legal-texts/official-journal/2021/05/a42/2021-a42.pdf</p> <p>AI, PCT, Part 7, Annex F: https://www.wipo.int/export/sites/www/pct/en/texts/pdf/ai_anf.pdf</p> <p>OJ 2020, A44 and A45</p> <p>https://www.epo.org/applying/online-services/improving/online-filing-20-pilot-continuation.html</p>	<p>Online Application guide (Only Japanese)</p> <p>https://www.pcinfo.jpo.go.jp/guide/Content/Rules/ImageRules.htm</p>	<p>Enforcement rules of the patent act Form 17</p> <p>https://www.law.go.kr/LSW//fildownload.do?flSeq=103316183&fINm=%5B%EB%B3%84%EC%A7%80+%EC%A0%9C17%ED%98%B8%EC%84%9C%EC%8B%9D%5D+%EB%8F%84%EB%A9%B4%0A</p>	<p>电子申请文件格式要求说明「2.图片」(Electronic application file format requirements instructions 2. figures)</p>	<p>MPEP § 502.05 (I)(D)(1): Filing Documents as PDF Files via EFS</p> <p>https://www.uspto.gov/web/offices/pac/mpep/s502.html</p> <p>PDF Creation for EFS-Web, section Images</p> <p>https://www.uspto.gov/sites/default/files/efb/portal/efs/pdf-creation.pdf</p>	<p>PCT Administrative Instructions, Annex F, 3.1.3</p>

(c) Color / grayscale

	Lowest Common Denominator (IP5-Safe Format)	EPO	JPO	KIPO	CNIPA	USPTO	WIPO (PCT)
Requirements	Black and white	<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).</p> <p>Colour drawings / photographs/grayscale 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>	<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.)</p> <p>Color: Not acceptable</p>	<p>grayscale: Acceptable</p> <p>color: Acceptable</p> <p>(A grayscale or color image is acceptable only when it is unavoidable in order to describe the invention)</p>	<p>grayscale: not specified</p> <p>for invention patent and utility model application: color is not acceptable now, but in the <guidelines for patent examination amendment draft (open for public comment)> (the period open for public comment is from 3rd, August,2021-22nd, September,2021), it stated that when necessary, color drawing can be submitted, for the purpose of clearly describing the technical content of the patent application.</p> <p>for industrial design application, color is accepted.</p>	<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.</p> <p>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>	<p>Color or grayscale: not permitted.</p> <p>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>
Reference	N/A	<p>Rule 46 (2) (a) (Form of the drawings)</p> <p>https://www.epo.org/law-practice/legal-texts/html/epc/2016/e/r46.html</p> <p>https://www.epo.org/law-practice/legal-texts/html/guidelines/e/a_ix_1_2.htm</p> <p>https://www.epo.org/law-practice/legal-texts/html/guidelines/e/a_ix_7_1.htm, and 7.2</p>	<p>Regulation under the Patent Act, Form 30 (related to Article 25)</p> <p>e-filing application software support website [guidance for writing application forms] (https://www.pcinfo.jpo.go.jp/guide/Content/Rules/ImageRules.htm)</p> <p>Formality Examination Manual 24.11</p> <p>https://www.jpo.go.jp/system/laws/rule/guideline/hoshiki-shinsa-binran/document/index/24_11.pdf</p>	Enforcement rules of the patent act Form 17	<p>1.GUIDELINES FOR PATENT EXAMINATION AMENDMENT DRAFT(OPEN FOR PUBLIC COMMENT), Part.I, Chapter I, 4.3</p> <p>2.Rule 27</p>	<p>37 C.F.R. § 1.84 Standards for drawings. (a)(1) and (a)(2)</p> <p>MPEP § 608.02 – guidance for color conveyed by symbols in pen and ink drawings.</p>	PCT Rule 11.13(a)

(d) Line drawings

	Lowest Common Denominator (IP5-Safe Format)	EPO	JPO	KIPO	CNIPA	USPTO	WIPO (PCT)
Requirements	<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>	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>Solid line thickness: approx. 0.4mm</p> <p>Leader line thickness: approx 0.2mm</p> <p>Dotted and dashed lines thickness: approx. 0.2mm</p> <p>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>	<p>Solid line thickness: approx. 0.4mm</p> <p>Leader line width: approx. 0.2mm</p> <p>Dotted and dashed lines width: approx. 0.2mm</p> <p>(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.)</p>	For industrial design, Lines thickness in drawings shall be between 0.25mm and 0.5mm.	<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.</p> <p>Lines and strokes of different thicknesses may be used in the same drawing where different thicknesses have a different meaning.</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.
Reference	N/A	<p>Rule 46 (2) (a) EPC, Guidelines for Examination Part A. Chapter IX 7.1 Drawings of lines and strokes</p> <p>https://www.epo.org/law-practice/legal-texts/html/guidelines/e/a_ix_7_1.htm</p>	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)	<p>MPEP § 507 Drawing Review in the Office of Patent Application Processing</p> <p>MPEP § 608.02 Drawings</p> <p>37 C.F.R. 1.152 – requirements regarding solid/broken lines, surface shading, views, and photographs for design drawings.</p> <p>37 C.F.R. 1.84(m) – requirements regarding character of lines and shading.</p>	PCT Rule 11.13(c)

(e) Size of characters and symbols

	Lowest Common Denominator (IP5-Safe Format)	EPO	JPO	KIPO	CNIPA	USPTO	WIPO (PCT)
Requirements	There is no IP5-Safe size of characters and symbols.	at least 0.32cm in height	The size of the characters shall be approximately 5mm x 5mm (\cong 14pt) with sufficient space between characters.	The size of characters shall be at least 3mm x 3mm (approx. 8.5pt).	Height of characters shall be 3.5mm to 4.5mm.	<p>Numbers, letters, and reference characters must measure at least .32 cm. (1/8 inch) in height.</p> <p>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>Text in drawings:</p> <p>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.</p> <p>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>
Reference	N/A	<p>Rule 46(2) (g) EPC</p> <p>Guidelines for Examination Part A. Chapter IX 7.5.3</p> <p>Height of the numbers and letters in the drawings</p> <p>https://www.epo.org/law-practice/legal-texts/html/guidelines/e/a_ix_7_5_3.htm</p>	<p>Regulation under the Patent Act, Form 30 (related to Article 25) Notes 6</p> <p>Formality Examination Manual 24.10</p> <p>https://www.jpo.go.jp/system/laws/rule/guideline/hoshiki-shinsa-binran/document/index/24_10.pdf</p>	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)

(f) Availability of photos

	Lowest Common Denominator (IP5-Safe Format)	EPO	JPO	KIPO	CNIPA	USPTO	WIPO (PCT)
Requirements	Acceptable if it is appropriate	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.))	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 photos can be submitted as reference materials	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).	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.	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.	same as color drawings
Reference	N/A	Guidelines for Examination in the European Patent Office Part A Part A – Guidelines for Formalities Examination Chapter IX – Drawings 1.2. Photographs	Formality Examination Manual 24.11 https://www.jpo.go.jp/system/laws/rule/guideline/hoshiki-shinsa-binran/document/index/24_11.pdf	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)

Next Steps

- The responses from each office and the Lowest Common Denominator (IP5-Safe Format) will be made available to the public via the IP5 website after the IP5 Heads of Office Meeting in June this year.
- Phase 1 will be completed with the publication on the website.
- The IP5 Offices will conduct a feasibility assessment of Phase 2 at the next PHEP meeting. In other words, the Offices will determine:
 - If the project should or can progress to the next phase; and
 - The scope and timeline of the next phase.

Discussion Points

- The JPO would appreciate any feedback from the IP5 Industry on the work and product during Phase 1.
- The JPO would also appreciate any comments from the Industry on this project after Phase 2.



Thank you

