

D21H

PULP COMPOSITIONS; PREPARATION THEREOF NOT COVERED BY SUBCLASSES [D21C](#) OR [D21D](#); IMPREGNATING OR COATING OF PAPER; TREATMENT OF FINISHED PAPER NOT COVERED BY CLASS [B31](#) OR SUBCLASS [D21G](#); PAPER NOT OTHERWISE PROVIDED FOR

Definition statement

This place covers:

Pulp compositions and preparation thereof including after-treatment not covered by subclasses [D21B](#), [D21C](#), [D21D](#): (a) from cellulose or lignocellulose fibres of natural origin, (b) from synthetic cellulose or non-cellulose fibres or web-forming material, or (c) non-fibrous material added to the pulp.

Coated paper characterised by: (a) coating material, (b) paper substrate, or (c) comprising more than one coating.

Processes or apparatus for adding material to the pulp or to the paper (processes for making continuous lengths of paper [D21F 11/00](#)).

Treatment of finished paper not covered by class [B31](#) or subclass [D21G](#).

Special paper not otherwise provided for, i.e. paper with special properties or applications which are only partially or not at all provided for elsewhere in the classification, e.g. made by multi-step processes. Whenever possible, however, these papers are classified according to the criteria used in the other groups of this subclass.

Paper-impregnating material characterised by its constitution.

Relationships with other classification places

Subclass [D21B](#), further processes from the wood chips to the pulp, usually mechanical processes.

Subclass [D21C](#), further processes from the wood chips to the pulp, usually chemical processes.

Subclass [D21D](#), further mechanical processing of cellulose containing materials after initial pulp preparation to cellulose, and before processing it in paper-making machines.

Subclass [D21F](#) covers methods of producing paper.

Subclass [D21G](#), further treatment of finished paper, e.g. in calendars.

Class [B31](#) covers making paper articles and working paper, where subclass [B31B](#) covers boxes, cartons, envelopes or bags, subclass [B31C](#) covers wound articles and subclass [B31D](#) covers other articles not covered by class [B31](#), as well as subclass [B31F](#) covers mechanical working or deformation of paper or cardboard.

References

References out of a residual place

Examples of places in relation to which this place is residual:

Making paper articles; Working paper	B31
Processes from the wood chips to the pulp, usually chemical processes	D21C
Mechanical processing of cellulose containing materials after initial pulp preparation to cellulose, and before processing it in paper-making machines	D21D

References out of a residual place

Treatment of finished paper, e.g. in calendars	D21G
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Informative references

Attention is drawn to the following places, which may be of interest for search:

Self-supporting filtering material	B01D 39/14
Applying liquids or other fluent materials to surfaces, in general	B05
Layered products	B32B
Printing processes to produce watermarks	B41M 3/10
Printing processes to produce security printing	B41M 3/14
Printing processes to produce particular kinds of wallpapers	B41M 3/18
Recording sheets characterised by the coating used to improve ink, dye or pigment receptivity	B41M 5/50
Books, book covers, loose leaves, printed matter	B42D
Securities; Bank notes	B42D 25/29
Identification or security features, e.g. for preventing forgery	B42D 25/30
Decorative panels	B44C 5/04
Paperhanging	B44C 7/00
Wood grain effects	B44F 9/02
Packaging materials of special type or form	B65D 65/38
Adhesives	C09J
Adhesives in the form of paper or textile fabric	C09J 7/21
Chemical features in the manufacture of artificial filaments and fibres	D01F
Non-woven fabrics formed of relatively short fibres	D04H 1/00
Treating fibres with macromolecular compounds	D06M 15/00
Mechanical treatment of fibrous raw materials by dry methods	D21B 1/06
Methods of producing watermarking devices	D21F 1/44
Dryer section of machines for making continuous webs of paper	D21F 5/00
Complete machines for making continuous webs of paper	D21F 9/00
Processes for making continuous lengths of paper	D21F 11/00
Patterned paper prepared on the paper-making machines	D21F 11/10
Coated fibreboard	D21J 1/08
Anti-coiling photographic support	G03C 1/81
Testing valuable papers, e.g. banknotes, for genuineness	G07D 7/00

Special rules of classification

In groups [D21H 11/00](#) - [D21H 15/00](#), in the absence of an indication to the contrary, classification is made in the last appropriate place.

In groups [D21H 17/01](#) - [D21H 17/63](#), in the absence of an indication to the contrary, a material is classified in the last appropriate place.

In groups [D21H 27/30](#) - [D21H 27/42](#), layered products classified in this group are also classified in subclass [B32B](#).

Glossary of terms

In this place, the following terms or expressions are used with the meaning indicated:

binder or binding agent	usually a macromolecular product used to bind the paper-making fibres together in order to give cohesion to the final paper sheet, e.g. starchy materials, latexes, etc.
coating	layer of material applied to the paper substrate. Although part of this material may penetrate through the substrate, a coated paper is characterised by the presence of said layer on its surface.
fibres	under paper-making fibres are meant short fibres (maximum length in the range of the mm). Papers also comprising long fibres or filaments are classified in D21H 15/00 .
filler or pigment	usually designating fine particles added to the pulp (very often inorganic materials such as talc, kaolin, silica, calcium carbonate, etc.).
finished paper	paper after passing to the finishing process, creating a surface characteristic of a sheet created by either on-machine or off-machine papermaking processes. Popular text and cover finishes include smooth, vellum, felt, laid, and linen.
impregnation	application of a liquid material to a paper substrate wherein the liquid material penetrates substantially the substrate, e.g. by submerging the substrate into a bath containing the liquid material.
pulp	a dispersion, e.g. an aqueous suspension comprising paper-making fibres and optional additives, which is to be processed, and covers the term "stock"; it also means dry paper-making fibres which are to be made into paper by either wet or dry processes.
sizing agent or hydrophobising agent	substances used during paper manufacture to reduce the paper's tendency when dry to absorb liquid, allowing inks and paints to remain on the surface of the paper and to dry there, rather than be absorbed into the paper or agent added in order to increase the hydrophobicity of the paper.
stock or paper stock	term used to define pulp after mechanical (refining or beating) and/or chemical treatment (sizing, loading, dyeing, etc.) in the paper making process, e.g. the pulp ready to make paper.

Synonyms and Keywords

In patent documents, the following words/expressions are often used with the meaning indicated:

fibres	fibers
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D21H 11/00

Pulp or paper, comprising cellulose or lignocellulose fibres of natural origin only

References**Limiting references**

This place does not cover:

Pulp or paper containing any kind of synthetic fibres	D21H 13/00
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Informative references

Attention is drawn to the following places, which may be of interest for search:

Pulp manufacturing	D21C
Pulp comprising secondary fibres	D21C 5/02

D21H 13/00

Pulp or paper, comprising synthetic cellulose or non-cellulose fibres or web-forming material (chemical features in the manufacture of artificial fibres [D01F](#))

Relationships with other classification places

Paper comprising synthetic fibres (possibly up to 100% synthetic fibres) may be used for different purposes. Such paper claimed per se is classified in this group.

References**Informative references**

Attention is drawn to the following places, which may be of interest for search:

Filters, particle separators, etc	B01D , B01D 46/00
Glass fibres; manufacture of fibres from mineral materials	C03B 37/00
Synthetic fibres	D01D , D01F
Insulating papers; electrical papers	H01B 3/52
Batteries (separators, spacing elements)	H01M 50/409 , H01M 50/48

D21H 15/00

Pulp or paper, comprising fibres or web-forming material characterised by features other than their chemical constitution

Definition statement

This place covers:

Paper comprising long fibres, filaments, flakes or special fibres, being defined by their configuration (geometry, curled fibres, filaments, etc) or by specific properties (e.g. composite fibres).

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

Manufacture/treatment of fibres, filaments, flake from glass, mineral or slags	C03B 37/00
Fibres or filament composition	C03C 13/00
Use of fibres or whiskers characterized by shape	C08K 7/02
Synthetic fibres	D01D , D01F

D21H 17/00

Non-fibrous material added to the pulp, characterised by its constitution; Paper-impregnating material characterised by its constitution

Definition statement

This place covers:

Substances added to the pulp or to the paper by impregnation, characterized by their nature. Macromolecular or non-macromolecular compounds, material of vegetable origin, inorganic materials, etc.

In principle substances to be added by coating are to be found in [D21H 19/00](#), unless both groups are possible.

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

Other metals (beryllium, magnesium, aluminium, calcium, etc.)	C01F
Compounds containing metal	C01G
Particles morphology	C01P 2004/00
Physical properties of inorganic compounds	C01P 2006/00
Polysaccharides; derivatives thereof (preparations of cellulose, starch, amylose, etc.)	C08B
Use of inorganic ingredients	C08K 3/00
Use of prepared ingredients	C08K 9/00
Compositions of macromolecular compounds	C08L
Inorganic materials	C09C
Coating/impregnating compositions per se	C09D
Inks	C09D 11/00
Microorganisms or enzymes	D21C 5/005 , C12N , C12R

D21H 19/00

Coated paper (coated fibreboard [D21J 1/08](#)); Coating material (recording sheets characterised by the coating used to improve ink, dye or pigment receptivity [B41M 5/50](#))

Definition statement

This place covers:

This group covers paper which have been coated (i.e. by means of a coated process per se) as well as the coating material per se.

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

Recording sheets characterised by the coating used to improve ink, dye or pigment receptivity	B41M 5/50
Polysaccharides; derivatives thereof (preparations of cellulose, starch, amylose, etc.)	C08B
Compositions of macromolecular compounds	C08L
Coating/impregnating compositions per se	C09D
Inks	C09D 11/00
Coated fibreboard	D21J 1/08

Where the coating is characterized by the filler/pigment used:

Other metals (beryllium, magnesium, aluminium, calcium, etc.)	C01F
Compounds containing metal	C01G
Particles morphology	C01P 2004/00
Physical properties of inorganic compounds	C01P 2006/00
Use of inorganic ingredients	C08K 3/00
Use of prepared ingredients	C08K 9/00
Inorganic materials	C09C

D21H 21/00

Non-fibrous material added to the pulp, characterised by its function, form or properties; Paper-impregnating or coating material, characterised by its function, form or properties

Definition statement

This place covers:

In this group the substances added to the paper are classified according to the function (hydrophobic agents, biocidal agents, ignifugeants, agents improving the absorbency of the formed paper, wet-strength agents, etc.) or specific properties (size, geometry, etc.) of the substance.

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

As to security paper:

Making microcapsules	B01J 13/00
Watermarking	B41M 3/10
Security printing	B41M 3/14
Printing plates	B41N 1/00
Banknotes, cheques, shares, bonds:	B42D 25/29
Identity card, cheque, etc	B42D 25/29
With moiré effects	B42D 25/342
With security threads	B42D 25/355
Watermarking devices	D21F 1/44
Testing paper currency or valuable paper for genuineness	G04D 7/00

Additives defined by length or shape: see references given in [D21H 15/00](#), [D21H 17/00](#), [D21H 19/00](#) regarding the fillers/pigments or other additional materials

Methods or apparatus for disinfecting or sterilising materials	A61L 2/00
Fire extinguishing compositions	A62D 1/00
Organic dyes or closely-related compounds for producing dyes; mordants; lakes	C09B
Treatment of inorganic materials	C09C
Fire proof paints	C09D 5/18
Inks	C09D 11/00
Modification of pulp properties	D21C 9/001
Removal of fats, resins, pitch or waxes from the pulp	D21C 9/08

D21H 23/00

Processes or apparatus for adding material to the pulp or to the paper (applying liquids or other fluent material to surfaces, in general [B05](#); processes for making continuous lengths of paper [D21F 11/00](#))

Definition statement

This place covers:

Processes for adding a substance to the pulp ([D21H 23/04](#) - [D21H 23/20](#)) or to the formed paper ([D21H 23/22](#) - [D21H 23/74](#)).

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

General coating processes (i.e. applying liquids or other fluent material to surfaces)	B05
Papermaking per se: machines and methods	D21F
Calenders and accessories for papermaking	D21G

D21H 25/00

After-treatment of paper not provided for in groups [D21H 17/00](#) - [D21H 23/00](#)

Definition statement

This place covers:

This group is concerned with treatment of the formed/finished paper (e.g. mechanical treatments, chemical treatments, physical treatments, etc.). Coating processes per se do not fall within the scope of this group.

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

General coating processes (i.e. applying liquids or other fluent material to surfaces)	B05
Papermaking per se: machines and methods	D21F
Calenders and accessories for papermaking	D21G

D21H 27/00

Special paper not otherwise provided for, e.g. made by multi-step processes

Definition statement

This place covers:

Paper materials for a special use (release paper, tissue paper, packing paper, wallpaper, etc.) or having a multi-ply structure.

Relationships with other classification places

Layered products per se are classified in the subclass [B32B](#).

References

Limiting references

This place does not cover:

Cigarette papers	A24D 1/02
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Informative references

Attention is drawn to the following places, which may be of interest for search:

Medals or badges	A44C 3/00
Paper filter inlays for filters/strainers for coffee or tea makers	A47J 31/08
Toilet paper; paper towels	A47K 10/00
Absorbent pads, e.g. sanitary towel, swab or tampon	A61F 13/15 , A61F 2013/16 , A61L 15/00
Cosmetic	A61L
Filter paper (see also informative ref. given for D21H 13/00); made on papermaking machine	B01D 39/14 , D21F 11/14
Embossing	B31F 1/07
Creping	B31F 1/12 , B31F 1/16 , B31F 1/18
Attaching together paper or cardboard sheets	B31F 5/00
By adhesive means	B31F 5/06
Layered products comprising a layer of paper	B32B 27/10
Printed wallpapers	B41M 3/18
Sheets temporarily attached together	B42F
Decorative sheet/papers	B44C 5/0469
Paperhanging	B44C 7/00
Labelling	B65C
Packing; packaging; containers	B65D
Paper support for adhesive film / pre-gummed wallpaper	C09J 7/21
Non-woven	D04H
Multi-ply papers made on papermaking machines	D21F 9/006
On the papermaking machine	D21F 11/006
Anti-coil photographic support	G03C 1/81
Labels, tag ticket	G09F 3/00
Embossed/patterned papers:	