

B27K

PROCESSES, APPARATUS OR SELECTION OF SUBSTANCES FOR IMPREGNATING, STAINING, DYEING, BLEACHING OF WOOD OR SIMILAR MATERIALS, OR TREATING OF WOOD OR SIMILAR MATERIALS WITH PERMEANT LIQUIDS, NOT OTHERWISE PROVIDED FOR (applying liquids or other fluent materials to surfaces in general [B05](#); coating wood or similar material [B44D](#)); CHEMICAL OR PHYSICAL TREATMENT OF CORK, CANE, REED, STRAW OR SIMILAR MATERIALS

Definition statement

This place covers:

Methods and apparatus for the following treatments of wood:

- Dampening;
- Impregnating;
- Staining;
- Dyeing;
- Bleaching;
- Softening;
- Hardening; and
- other methods and apparatus for treating of wood with permeant liquids, unless provided for in other subclasses.

Methods and apparatus for bleaching or impregnating wood in combination with drying;

Methods and apparatus for chemical or physical treatment of cork;

Methods and apparatus for chemical or physical treatment of cane, reed, straw, bamboo or similar fibrous material of plant origin;

Selection (i.e. use) of chemical substances for the treatments covered by this subclass, unless provided for in other subclasses.

Relationships with other classification places

This subclass covers the selection of chemical substances, i.e. the use thereof, for the treatments covered by the subclass. Substances or compositions per-se are not covered by this subclass.

The structure or composition of the chemical substances selected is covered by pure chemistry classes [C01](#), [C07](#), or [C08](#). Special activities or special properties of the chemical substances selected are covered in places for these activities or properties, for example in [A01N](#) (biocides), [A62D 1/00](#) (fire extinguishing compositions), [C09B](#) (dyes), [C09D](#) (stains) or [C09K](#) (anti-oxidant compositions or fireproofing materials).

References

Limiting references

This place does not cover:

Biocidal compositions	A01N
Fire-extinguishing compositions	A62D 1/00
Coating wood	B05D 7/06
Planing, drilling, milling, or turning wood	B27C

Mechanical working of veneer or plywood	B27D
Applying adhesives or glue to surfaces of wood to be joined	B27G 11/00
Bending wood	B27H 1/00
Mechanical working of cane, cork, or of tree or plant material not otherwise provided for	B27J
Debarking, splitting wood, manufacture of veneer, wooden sticks, wood shavings, chips, powder, or the like	B27L
Compressing, punching out, burning or charring wood	B27M 1/00
Manufacture or reconditioning of specific semi-finished or finished wood articles	B27M 3/00
Manufacture of articles made by dry processes from particles or fibres consisting of wood or other lignocellulosic or like organic material; after-treatment of these articles	B27N
Impregnation of stoppers for bottles, jars, or similar containers	B67B 1/03
Impregnation of matches	C06F
Water repellent compositions of oils, fats or waxes or of derivatives thereof	C08L 91/00
Woodstains	C09D 15/00
Drying-oils, siccatives	C09F
Fireproofing materials	C09K 21/00
Paper-pulp impregnation	D21H
Impregnation and after-treatment of fibreboard manufactured by wet processes	D21J
Protection of building elements, e.g. against pests or fire	E04B 1/62
Drying solid materials	F26B
Treatment of materials for manufacturing musical instruments	G10D

Informative references

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

Apparatus for applying liquids or other fluent materials to surfaces	B05C
Multilayer materials (essentially comprising wood B32B 21/00 ; impregnation, colouring B32B 38/00)	B32B
Artistic painting or surface treatment	B44D
Compositions inhibiting chemical change, e.g. of antioxidants	C09K 15/00
Building materials, also made of wood	E04C 2/00
Roof coverings, also made of wood	E04D
Flooring made of wood	E04F 15/04

Glossary of terms

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

Dampening	Treating wood for increasing its water content (e.g. by steaming)
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Dyeing	Treating a material with a soluble colouring substance that has an affinity to the material to which it is applied (as opposed to colouring with a pigment, which is usually insoluble)
Impregnation	Incorporation of a substance into the pores of a material by absorption, adsorption or penetration
OSB	Oriented strand board
Staining	Treating a surface with a paint that is formulated to transport the pigment into the pores of the surface, rather than creating a film on top of the surface
Thermal treatment	Treatment of wood at temperatures well over 100°C allowing for the modification of its chemical structure
Wood	Natural whole wood, or wood-based products other than those made from fibres or particles, for example plywood or laminated veneer lumber

B27K 1/00

Damping wood

Definition statement

This place covers:

Methods and apparatus for increasing the water content of the wood. The main purpose of such treatments is to prevent cracking of wood by overdrying.

Relationships with other classification places

Steam drying wood is covered by [F26B](#).

Glossary of terms

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

Dampening or damping	Humidifying, moistening
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B27K 3/00

Impregnating wood, {e.g. impregnation pretreatment, for example puncturing; Wood impregnation aids not directly involved in the impregnation process} (dyeing, staining [B27K 5/00](#))

Definition statement

This place covers:

Methods and apparatus for impregnating wood and for pre- and after-treatments related to wood impregnation.

References

Limiting references

This place does not cover:

Biocides, Pest repellants	A01N
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Fire-extinguishing compositions	A62D 1/00
Coating wood	B05D 7/06
Manufacture of articles made by dry processes from particles or fibres consisting of wood or other lignocellulosic or like organic material; after-treatment of these articles	B27N
Impregnation of stoppers for bottles, jars, or similar containers	B67B 1/03
Impregnation of matches	C06F
Water repellent compositions of oils, fats or waxes or of derivatives thereof	C08L 91/00
Woodstains	C09D 15/00
Drying-oils	C09F 5/00
Siccatives	C09F 9/00
Fireproofing materials	C09K 21/00
Paper-pulp impregnation	D21H
Impregnation and after-treatment of fibreboard manufactured by wet processes	D21J
Protection of building elements, e.g. against pests or fire	E04B 1/62
Treatment of materials for manufacturing musical instruments	G10D

Glossary of terms

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

Active component	A component of an impregnation mixture which is essential for the purpose of the impregnation. Solvents, surfactants, thickeners, and the like are normally not falling within this definition
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B27K 3/002

{employing compositions comprising microorganisms}

Relationships with other classification places

Compositions employing microorganisms are covered by [C12N](#). Processes using microorganisms in general are covered by [C12R](#), apparatus thereof by [C12M](#), measuring and testing by [C12Q](#).

B27K 3/005

{employing compositions comprising microparticles}

Relationships with other classification places

Biocidal compositions characterised by their form are covered by [A01N 25/00](#).

Glossary of terms

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

Microparticles	Particles with diameters between 0.1-100 microns
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B27K 3/007**{employing compositions comprising nanoparticles}****Relationships with other classification places**Biocidal compositions characterised by their form are covered by [A01N 25/00](#).**Glossary of terms***In this place, the following terms or expressions are used with the meaning indicated:*

Nanoparticles	particles with diameters between 1-100 nm
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B27K 3/0221**{Pore opening ([B27K 3/0214](#) takes precedence)}****Definition statement***This place covers:*

Pre-treatments aimed to open the wood pores, excepting drying.

B27K 3/0242**{using melt impregnation}****Definition statement***This place covers:*

Impregnation processes employing melted solids.

B27K 3/0264**{using staples or nails}****Definition statement***This place covers:*

Impregnation processes employing staples or nails made of materials with biocidal properties.

B27K 3/0271**{Vapour phase impregnation}****Definition statement***This place covers:*

Impregnation processes employing biocides in vapour phase.

B27K 3/0292

{for improving fixation ([B27K 3/0285](#) takes precedence)}

Special rules of classification

Polymer impregnation for improving the fixation of an impregnation agent should be not classified here, but only in [B27K 3/15](#) and/or its subgroups.

B27K 3/083

{along the fibers, i.e. longitudinal impregnation}

Definition statement

This place covers:

Impregnation processes employing a pressure gradient along the wood fibres.

B27K 3/14**Bandage methods****Definition statement**

This place covers:

Impregnation processes employing a bandage for storing and releasing the impregnation agent.

B27K 3/15

Impregnating involving polymerisation {including use of polymer-containing impregnating agents (macromolecular compounds derived from lignocellulosic materials [C08H](#); compositions of lignin-containing materials [C08L 97/02](#))}

Definition statement

This place covers:

Impregnation processes involving the use of polymerized or polycondensed substances.

Relationships with other classification places

Macromolecular compounds derived from lignocellulosic materials are covered by [C08H](#).

Compositions of lignocellulosic containing materials are covered by [C08L 97/02](#).

Special rules of classification

The documents of this head group are classified additionally in [C08L 101/16](#) and [C08K](#) for information regarding the chemical nature of the polymer composition employed in impregnation.

B27K 3/153

{Without in-situ polymerisation, condensation, or cross-linking reactions}

Definition statement

This place covers:

Impregnation processes involving substances polymerized or polycondensed before impregnation.

Special rules of classification

The documents of this subgroup are classified additionally in [C08L 101/16](#) and [C08K](#) for information regarding the chemical nature of the polymer composition employed in impregnation.

B27K 3/156

{Combined with grafting onto wood fibres}

Definition statement

This place covers:

Impregnation processes involving the use of polymerized or polycondensed substances which react with the chemical structure of wood.

Special rules of classification

The documents of this subgroup are classified additionally in [C08L 101/16](#) and [C08K](#) for information regarding the chemical nature of the polymer composition employed in impregnation.

B27K 3/16

Inorganic impregnating agents

Relationships with other classification places

Inorganic biocidal compositions are covered by [A01N](#).

Special rules of classification

This head group covers impregnation processes involving the use of inorganic substances either not covered by the subgroups [B27K 3/163](#) - [B27K 3/32](#), or when their chemical nature is not especially relevant.

This head group and its subgroups [B27K 3/163](#) - [B27K 3/30](#) refer only to the active components of the impregnation mixtures.

B27K 3/32

Mixtures of different inorganic impregnating agents

Special rules of classification

This subgroup covers impregnation processes characterized by the presence of a synergistic effect caused by at least two active inorganic components. The active inorganic components should be classified in their specific subgroups [B27K 3/163](#) - [B27K 3/30](#), too.

B27K 3/34

Organic impregnating agents {(polymers [B27K 3/15](#))}

Relationships with other classification places

Organic biocidal compositions are covered by [A01N](#).

Special rules of classification

This head group covers impregnation processes involving the use of organic substances either not covered by the subgroups [B27K 3/343](#) - [B27K 3/48](#), or when their chemical nature is not especially relevant.

This head group and its subgroups [B27K 3/343](#) - [B27K 3/48](#) refer only to the active components of the impregnation mixtures.

B27K 3/346

{Grafting onto wood fibres ([B27K 3/156](#) takes precedence; macromolecular compounds derived from lignocellulosic materials [C08H](#))}

Definition statement

This place covers:

Impregnation processes involving the use of organic substances which react with the chemical structure of wood.

B27K 3/50

Mixtures of different organic impregnating agents

Special rules of classification

This subgroup covers impregnation processes characterized by the presence of a synergistic effect caused by at least two active organic components. The active organic components should be classified in their specific subgroups [B27K 3/343](#) - [B27K 3/48](#), too.

B27K 3/52

Impregnating agents containing mixtures of inorganic and organic compounds

Special rules of classification

This subgroup covers impregnation processes characterized by the presence of a synergistic effect caused by at least one inorganic and at least one organic component. The active components should be classified in their specific subgroups [B27K 3/163](#) - [B27K 3/30](#) and [B27K 3/343](#) - [B27K 3/48](#), respectively, too.

B27K 5/00

Treating of wood not provided for in groups [B27K 1/00](#), [B27K 3/00](#)

References

Limiting references

This place does not cover:

Coating wood	B05D 7/06
Planing, drilling, milling, or turning wood	B27C
Mechanical working of veneer or plywood	B27D
Applying adhesives or glue to surfaces of wood to be joined	B27G 11/00
Bending wood	B27H 1/00
Mechanical working of cane, cork, or of tree or plant material not otherwise provided for	B27J
Debarking, splitting wood, manufacture of veneer, wooden sticks, wood shavings, chips, powder, or the like	B27L
Compressing, punching out, burning or charring wood	B27M 1/00

Manufacture or reconditioning of specific semi-finished or finished wood articles	B27M 3/00
Manufacture of articles made by dry processes from particles or fibres consisting of wood or other lignocellulosic or like organic material; after-treatment of these articles	B27N
Woodstains	C09D 15/00
Drying solid materials	F26B
Treatment of materials for manufacturing musical instruments	G10D

B27K 5/04**Combined bleaching or impregnating and drying of wood****Special rules of classification**

Pre-drying before impregnation is covered by [B27K 3/0214](#). The polymerizing, condensation, or cross-linking of the impregnating compositions comprising monomers or polymers is normally not covered by this group.

B27K 5/06**Softening or hardening of wood****Special rules of classification**

Processes inherently leading to softening or hardening, like dampening, polymer impregnation, or thermal treatment are classified here only in connection with a special effect.

B27K 7/00**Chemical or physical treatment of cork (mechanical working of cork [B27J 5/00](#))****References****Limiting references**

This place does not cover:

Mechanical working of cane, cork, or of tree or plant material not otherwise provided for	B27J
Impregnation of stoppers for bottles, jars, or similar containers	B67B 1/03
Drying solid materials	F26B

Special rules of classification

Documents of this head group may be classified in [B27K 1/00-B27K 5/06](#) for additional information.

B27K 9/00

Chemical or physical treatment of reed, straw, or similar material (mechanical working of cane or the like [B27J 1/00](#))

References**Limiting references**

This place does not cover:

Mechanical working of cane, cork, or of tree or plant material not otherwise provided for	B27J
Protection of building elements, e.g. against pests or fire	E04B 1/62
Drying solid materials	F26B

Special rules of classification

Documents of this head group may be classified in [B27K 1/00-B27K 5/06](#) for additional information.

B27K 2200/10

Articles made of particles or fibres consisting of wood or other lignocellulosic material

References**Informative references**

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

Manufacture by dry processes of articles with or without organic binding agents, made from particles or fibres consisting of wood or other lignocellulosic or like organic material	B27N
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B27K 2200/30

Multilayer articles comprising wood

References**Informative references**

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

Layered products, i.e. products built-up of strata of flat or non-flat, e.g. cellular or honey comb, form	B32B
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B27K 2240/10

Extraction of components naturally occurring in wood, cork, straw, cane or reed

References**Informative references**

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

Solvent extraction	B01D 11/00
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B27K 2240/15

Decontamination of previously treated wood

References**Informative references**

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

Processes for making harmful chemical substances harmless or less harmful, by effecting chemical change in the substances	A62D 3/00
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B27K 2240/20

Removing fungi, molds or insects

References**Informative references**

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

Biocidal compositions	A01N
Methods or apparatus for sterilising materials or objects in general; Disinfection, sterilisation or deodorisation of air; Chemical aspects of bandages, dressings, absorbent pads or surgical articles; Materials for bandages, dressing absorbent pads or surgical articles	A61L

B27K 2240/30

Fireproofing

References**Informative references**

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

Fireproofing materials in general	C09K 21/00
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