

B05C

APPARATUS FOR APPLYING LIQUIDS OR OTHER FLUENT MATERIALS TO SURFACES, IN GENERAL (spraying apparatus, atomising apparatus, nozzles [B05B](#); plant for applying liquids or other fluent materials to objects by electrostatic spraying [B05B 5/08](#); processes for applying liquids or other fluent materials to surfaces [B05D](#); [N: coating of foodstuffs [A23P 1/084](#), [A23P 1/085](#), of shaped or preshaped ceramic articles [B28B 11/04](#)])

Definition statement

This subclass/group covers:

- Apparatus or hand tools, in general, for applying liquids or other fluent materials to a surface or part thereof, by any mechanical or physical method, in particular apparatus for obtaining a uniform distribution of liquids or other fluent materials on a surface.
- Apparatus in which liquids or other fluent materials are applied by bringing the work into contact with a member carrying liquid or other fluent materials or into contact with a bulk quantity of liquid or other fluent materials (e.g. using immersion baths or tanks).
- Apparatus in which liquid or other fluent materials is projected, poured or allowed to flow on to the surface of the work.
- Apparatus specially designed for applying liquids or other fluent materials to the inside of a hollow work.
- Means for manipulating or holding work, e.g. for separate articles, to facilitate the application of liquids or other fluent materials thereto.
- Enclosures and booths to accommodate apparatus for applying liquids or other fluent materials to surfaces.
- Hand tools for the application or partial removal of liquids or other fluent materials from surfaces.
- Apparatus specially adapted for applying particulate materials to surfaces.

Relationship between large subject matter areas

Subclass [B05B](#) relates to spraying, sprinkling and atomising apparatus, including nozzles, for the release or projection of drops or droplets into the atmosphere or into a chamber to form a mist or the like. The material to be sprayed or atomised may be suspended in a stream of gas or vapour. Accordingly, [B05B](#) covers spray heads, sprinkling apparatus, electrostatic spraying apparatus, hand-held spraying apparatus, spraying plants (e.g. spray

booths), delivery control means associated with such apparatus, and the like. Also covered are means for heating, mixing or pressurising of the materials to be sprayed, sprinkled or atomised. Whilst spray booths are covered by [B05B 15/12](#), enclosures for the general application of liquids or other fluent materials to surfaces are covered by [B05C 15/00](#).

Subclass [B05D](#) relates to processes (including processes performed by spraying) for applying liquids or other fluent materials to surfaces in general. Also included in this subclass are the processes of dipping, flocking and the application of liquids or other fluent materials to surfaces using brushes, pads or rollers. The process of fluidised-bed technique to coat surfaces is covered in [B05D 1/22](#), whilst the apparatus used for such is classified in [B05C 19/02](#). Pre-treatment of surfaces, after-treatment of applied coatings and processes to obtain special surface effects using liquids and other fluent materials are also covered by [B05D](#).

References relevant to classification in this subclass

This subclass/group does not cover:

| | |
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| Brushes | A46B |
| Implements for writing and drawing | B43K |

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| Apparatus for coating or filling sweetmeats or confectionery | A23G 3/20 |
| Apparatus for coating or filling frozen sweets | A23G 9/24 |
| Coating of foodstuffs | A23P 1/084 A23P 1/085 |
| Appliances specially adapted for applying liquid cosmetic or toilet substances, e.g. using roller or ball | A45D 34/04 |
| Hand implements for shoe-cleaning with applicators for shoe polish | A47L 23/05 |
| Inking arrangements or devices for printing machines or presses | B41F 31/00 |
| Ball-point pens | B43K 7/00 |
| Hand or desk devices of the office or personal type for applying liquid, other than ink, by contact to surfaces, | B43M 11/00 |

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| e.g. for applying adhesive | |
| Accessories or implements for use in connection with painting or artistic drawing | B44D 3/00 , B44D 3/38 |
| Pliable tubular containers adapted to be permanently deformed to expel contents for applying contents to surfaces | B65D 35/36 |
| Container closures with pads or like contents-applying means | B65D 47/42 |
| Hot-dipping or immersion apparatus for applying the coating metal in the molten state without affecting the shape | C23C 2/00 |
| Liquid processing apparatus for processing exposed photographic materials | G03D 3/00 , G03D 5/00 |
| Apparatus for coating photoresists in photomechanical, e.g. photolithographic, production of textured or patterned surfaces | G03F 7/16 |
| Apparatus for coating conductors or cables with impervious material | H01B 13/32 |
| Apparatus for applying conductive material to the surface of the insulating support in the manufacture of printed circuits | H05K 3/02 , H05K 3/10 |

Informative references

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

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| Containers of accessories specially adapted for handling liquid toilet or cosmetic substances, e.g. perfumes | A45D 34/00 |
| Casings or accessories specially adapted for storing or handling solid | A45D 40/00 |

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| or pasty toilet or cosmetic substances, e.g. shaving soap, lipstick or make-up | |
| Domestic cleaning | A47L |
| Amalgam presses or mixers for filling or capping teeth | A61C 5/06 |
| Coating of shaped or preshaped ceramic articles | B28B 11/04 |
| Forming layered products | B32B |
| Implements or apparatus for removing dry paint from surfaces | B44D 3/16 |
| Conveying workpieces through baths of liquid | B65G 49/02 |
| Paints, varnishes or lacquers | C09D |
| Laundering | D06F |
| Repairing buildings, e.g. filling cracks | E04G 23/02 |
| Drying ovens | F26B |

Special rules of classification within this subclass

Arrangement for cleaning discharge opening/devices/dispensing heads of apparatus belonging to subclass [B05C](#) are classified in the relevant place of [B05C](#) as well as in [B05B 15/02](#) and subgroups.

Glossary of terms

In this subclass/group, the following terms (or expressions) are used with the meaning indicated:

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| Coating | The applied material. A coating may be a solidified layer originally applied as a liquid (e.g. dried paint) or a layer of material which, once applied, remains in a liquid or semi-liquid state (e.g. lubricant). |
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| Fluidised-bed technique | A technique used to cause dry particulate material to behave like a fluid. This is commonly achieved by the introduction of a pressurised fluid into the material and promotes a high degree of contact between the fluid and material. |
| Liquid or fluent | designates materials which can flow, e.g. liquids, including solutions, dispersions and suspensions, as well as semi-liquids, pastes, melts and particulate materials. |
| Particulate materials | Solid materials in the form of very small pieces, e.g. powders, granules, short fibres or chips. |

B05C 1/00

Apparatus in which liquid or other fluent material is applied to the surface of the work by contact with a member carrying the liquid or other fluent material, e.g. a porous member loaded with a liquid to be applied as a coating ([B05C 5/02](#), [B05C 7/00](#) take precedence)

Definition statement

This subclass/group covers:

Apparatus for applying liquids or other fluent materials to a surface by contact of the member carrying the fluid with the work surface, e.g. by using brushes, pads or rollers

B05C 3/00

Apparatus in which the work is brought into contact with a bulk quantity of liquid or other fluent material

Definition statement

This subclass/group covers:

Apparatus in which the work is brought into contact with a greater quantity of fluent material by being immersed therein, e.g. dip coating. The work or coating fluid can be moved, e.g. transported or vibrated or agitated, to intensify the contact with the fluid.

B05C 3/15

not supported on conveying means ([N: [B05C 3/125](#) takes precedence]; web or filament feeding arrangements [B65H](#))

Definition statement

This subclass/group covers:

Apparatus in which the work is endless but not supported on conveying means to being brought into contact with the fluent material

Informative references

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

| | |
|--------------------------------------|----------------------|
| Web or filament feeding arrangements | B65H |
|--------------------------------------|----------------------|

B05C 5/00

Apparatus in which liquid or other fluent material is projected, poured or allowed to flow on to the surface of the work ([B05C 7/00](#) takes precedence; essentially involving spraying or electrostatic projection [B05B](#))

Definition statement

This subclass/group covers:

Apparatus in which the liquid or fluid is projected, poured or allowed to flow on the surface of the work, e.g. by using coating heads or nozzles.

Informative references

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

| | |
|------------------------------------|----------------------|
| Spraying or electrostatic spraying | B05B |
|------------------------------------|----------------------|

B05C 7/00

Apparatus specially designed for applying liquid or other fluent material to the inside of hollow work

Definition statement

This subclass/group covers:

Devices for applying fluent material to the inside of hollow work, e.g. a tube, a pipe or reservoir.

The work piece could be coated by projecting the fluid material into the hollow part. A different method for partly closed work pieces is to fill it with fluid material and then empty it.

B05C 9/00

Apparatus or plant for applying liquid or other fluent material to surfaces by means not covered by any preceding group, or in which the means of applying the liquid or other fluent material is not important

Definition statement

This subclass/group covers:

- Apparatus for applying two different fluid materials or the same fluid material twice
- Apparatus for applying fluent material and performing an auxiliary operation
- Residual subject matter for applying fluent material to surfaces not covered by the previous main groups

B05C 11/00

Component parts, details or accessories not specifically provided for in groups [B05C 1/00](#) to [B05C 9/00](#) (means for manipulating or holding work [B05C 13/00](#); enclosures for apparatus, booths [B05C 15/00](#); spray booths [B05B 15/12](#))

Definition statement

This subclass/group covers:

- Apparatus for spreading or distributing fluid materials already applied to a surface; Controlling means therefor
- Storage, supply or control of fluid material
- Component parts or accessories for storage, supply or control of fluid material
- Accessories for recovery of excess fluid material
- Special vats or other containers for fluid materials forming accessories

for apparatus of preceding main groups

Informative references

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

| | |
|--------------|----------------------------|
| Spray booths | B05B 15/12 |
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B05C 11/02

Apparatus for spreading or distributing liquids or other fluent materials already applied to a surface; [N: Controlling means therefor] ([B05C 7/00](#) takes precedence; Hand tools for such purposes [B05C 17/10](#)); Control of the thickness of a coating [N: by spreading or distributing liquids or other fluent materials already applied to the coated surface] (controlling supply of liquid or other fluent material [B05C 11/10](#))

Definition statement

This subclass/group covers:

- Apparatus for spreading or distributing fluid materials already applied to a surface; Controlling means therefore
- Control of the thickness of a coating by spreading or distributing fluid materials already applied to the coated surface

References relevant to classification in this subclass

This subclass/group does not cover:

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| Hand tools for removing partially or for spreading or redistributing applied fluent materials, e.g. colour touchers | B05B17/10 |
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Informative references

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

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|---|----------------------------|
| Controlling supply of liquid or other fluent material | B05C 11/10 |
| Implements for after- treatment of plaster or the like, e.g. smoothing tools, profile trowels | E04F 21/16 |

B05C 13/00

Means for manipulating or holding work, e.g. for separate articles [N: ([B05C 1/0821](#) takes precedence)]

Definition statement

This subclass/group covers:

Means for handling or holding work pieces, e.g. relatively small articles like cans or bottles

B05C 15/00

Enclosures for apparatus; Booths (spray booths [B05B 15/12](#))

Definition statement

This subclass/group covers:

Cover or sheath for the apparatus

References relevant to classification in this subclass

This subclass/group does not cover:

Examples of places where the subject matter of this group is covered when specially adapted, used for a particular purpose, or incorporated in a larger system:

| | |
|--------------|----------------------------|
| Spray booths | B05B 15/12 |
|--------------|----------------------------|

B05C 17/00

Hand tools or apparatus using hand held tools, for applying liquids or other fluent materials to, for spreading applied liquids or other fluent materials on, or for partially removing applied liquids or other fluent materials from, surfaces ([N: casings or accessories for storing or handling solid or pasty toilet or cosmetic substances [A45D 40/00](#);] brushes [A46B](#); [N: shoe polish applicators [A47L 23/05](#); surgical glue applicators [A61B 17/00491](#);] absorbent pads, e.g. swabs, for applying media to the human body [A61F 13/15](#); [N: hand-held applicators for applying or spreading media, e.g. remedies, on the human body [A61M 35/003](#); implements for writing or

drawing [B43K](#); hand-held desk devices for applying liquid, e.g. adhesive, by contact to surfaces [B43M 11/06](#);) implements or apparatus for removing dry paint from surfaces [B44D 3/16](#)[N: container closures with pads or like contents-applying means [B65D 47/42](#)])

Definition statement

This subclass/group covers:

- Hand tools for spreading or distributing fluid materials already applied to a surface, e. g, calking guns; Controlling means therefore
- Hand tools comprising coating rollers or coating endless belts; Rollers therefore
- Stencils or stencil holders
- Hand tools for producing patterns

References relevant to classification in this group

This subclass/group does not cover:

| | |
|---------|----------------------|
| Brushes | A46B |
|---------|----------------------|

Examples of places where the subject matter of this group is covered when specially adapted, used for a particular purpose, or incorporated in a larger system:

| | |
|---|-------------------------------|
| Shoe polish applicators | A47L 23/05 |
| Surgical glue applicators | A61B 17/00491 |
| Absorbent pads, e.g. swabs, for removing media from the human body | A61F 13/15 |
| Devices for applying media, e.g. remedies, on the human body | A61M 35/003 |
| Hand-held desk devices for applying fluid material, e.g. adhesive, by contact to surfaces | B64M11/06 |

Informative references

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

| | |
|---|----------------------------|
| Casings or accessories for storing or handling solid or pasty toilet or cosmetic substances | A45D 40/00 |
| Implements for writing or drawing | B43K |
| Implements or apparatus for removing dry paint from surfaces | B44D 3/16 |
| Container closures with pads or like contents-applying means | B65D 47/42 |

B05C 17/005

[N: for discharging material from a reservoir or container located in or on the hand tool through an outlet orifice by pressure without using surface contacting members like pads or brushes]

Definition statement

This subclass/group covers:

- Hand tools for discharging material from a reservoir or container located in or on the hand tool through an outlet orifice by pressure
- Hand tools where the material being supplied in a solid state, e.g. using rods, and melted before application, e.g. melt guns for adhesives

References relevant to classification in this group

This subclass/group does not cover:

Examples of places where the subject matter of this group is covered when specially adapted, used for a particular purpose, or incorporated in a larger system:

| | |
|-------------|---------------------------|
| Grease guns | F16N 3/12 |
|-------------|---------------------------|

Informative references

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

| | |
|-------------------------------------|----------------------------------|
| Containers or packages with special | B65D83/76 |
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|---|--|
| means for dispensing fluent material by means of a piston or the like | |
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B05C 17/06

Stencils ([B05C 17/04](#) takes precedence; stencils used in connection with printing plates or foils [B41N 1/24](#); drawing accessories [B43L 13/00](#))

References relevant to classification in this group

This subclass/group does not cover:

Examples of places where the subject matter of this group is covered when specially adapted, used for a particular purpose, or incorporated in a larger system:

| | |
|---|---------------------------|
| Stencils used in connection with printing plates or foils | B41N 1/24 |
|---|---------------------------|

Informative references

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

| | |
|---------------------|----------------------------|
| Drawing accessories | B43L 13/00 |
|---------------------|----------------------------|

B05C 19/00

Apparatus specially adapted for applying particulate materials to surfaces

Definition statement

This subclass/group covers:

- Fluidised-bed techniques to apply special material to surfaces
- Apparatus to apply the particular material by flocking
- Apparatus specially designed for applying particulate materials to the inside of hollow work
- Storage, supply or recovery of the particulate material

B05C 19/02

using fluidised-bed techniques (fluidised-bed technique in general [B01J 8/24](#))

Informative references

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

| | |
|-------------------------------------|---------------------------|
| Fluidised-bed technique, in general | B01J 8/24 |
|-------------------------------------|---------------------------|

B05C 19/04

the particulate material being projected, poured or allowed to flow onto the surface of the work ([B05C 19/02](#) takes precedence; involving spraying or electrostatic projection [B05B](#)) [N: ([B05C 19/005](#) takes precedence)]

Informative references

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

| | |
|------------------------------------|----------------------|
| Spraying or electrostatic spraying | B05B |
|------------------------------------|----------------------|

B05C 21/00

Accessories or implements for use in connection with applying liquids or other fluent materials to surfaces, not provided for in groups [B05C 1/00](#) to [B05C 19/00](#) (accessories or implements for use in connection with painting or artistic drawing and fully provided for in [B44D 3/02](#) to [B44D 3/38](#), see subgroups of [B44D 3/00](#))

Definition statement

This subclass/group covers:

- Masking devices
- Other accessories or implement which are used in connection with applying fluid materials to surfaces and are not covered by other groups of this subclass