

ECLA**EUROPEAN CLASSIFICATION****C25D****PROCESSES FOR THE ELECTROLYTIC OR ELECTROPHORETIC PRODUCTION OF COATINGS; ELECTROFORMING** (decorating textiles by metallising [D06Q1/04](#); manufacturing printed circuits by metal deposition [H05K3/18](#)); **APPARATUS THEREFOR**

[N: **WARNING**[N9602] [M1207]

The following IPC groups are not used in the internal ECLA classification system. Subject matter covered by these groups is classified in the following ECLA groups : [C25D5/24](#) covered by [C25D5/34](#) [C25D5/26](#) covered by [C25D5/36](#) [C25D5/28](#) covered by [C25D5/38](#) [C25D5/30](#) covered by [C25D5/42](#), [C25D5/44](#) [C25D5/32](#) covered by [C25D5/46](#) [C25D13/06](#) covered by [C09D5/44](#) [C25D13/08](#) covered by [C09D5/44](#)F [C25D13/10](#) covered by [C09D5/44](#)H [C25D19/00](#) covered by [C25D17/00](#)

C25D1/00**Electroforming**[C25D1/00B](#)

- [N: 3D structures, e.g. superposed patterned layers] [\[N1204\]](#)

[C25D1/00D](#)

- [N: Nanostructures, e.g. aluminum anodic oxidation templates [AAO]] [\[N1204\]](#)

[C25D1/02](#)

- Tubes; Rings; Hollow bodies

[C25D1/04](#)

- Wires; Strips; Foils

[C25D1/06](#)

- Wholly-metallic mirrors

[C25D1/08](#)

- Perforated or foraminous objects, e.g. sieves ([C25D1/10](#) takes precedence)

[C25D1/10](#)

- Moulds; Masks; Masterforms [N:, e.g. mandrels, stampers] [\[N1204\]](#)

[C25D1/12](#)

- by electrophoresis [N: (electrophoretic coating [C25D13/00](#))] [\[N1204\]](#)

[C25D1/14](#)

- . . of inorganic material

[C25D1/16](#)

- . . . Metals

[C25D1/18](#)

- . . of organic material

[C25D1/20](#)

- Separation of the formed objects from the electrodes [N: with no destruction of said electrodes] [\[N1204\]](#)

[C25D1/22](#)

- . . Separating compounds

C25D3/00**Electroplating: Baths therefor**[C25D3/02](#)

- from solutions ([C25D5/24](#) to [C25D5/32](#) take precedence)

[C25D3/04](#)

- . . of chromium

[C25D3/06](#)

- . . . from solutions of trivalent chromium

[C25D3/08](#)

- . . . Deposition of black chromium [N: , e.g. hexavalent chromium, CrVI] [\[N1204\]](#)

[C25D3/10](#)

- . . . characterised by the organic bath constituents used

C25D3/12	. . of nickel or cobalt [N: (C25D3/56 takes precedence)]
C25D3/14	. . . from baths containing acetylenic or heterocyclic compounds
C25D3/16 Acetylenic compounds
C25D3/18 Heterocyclic compounds
C25D3/20	. . of iron
C25D3/22	. . of zinc
C25D3/24	. . . from cyanide baths
C25D3/26	. . of cadmium
C25D3/28	. . . from cyanide baths
C25D3/30	. . of tin
C25D3/32	. . . characterised by the organic bath constituents used
C25D3/34	. . of lead
C25D3/36	. . . characterised by the organic bath constituents used
C25D3/38	. . of copper
C25D3/40	. . . from cyanide baths [N: , e.g. with Cu+] [N1204]
C25D3/42	. . of light metals
C25D3/44	. . . Aluminium
C25D3/46	. . of silver
C25D3/48	. . of gold
C25D3/50	. . of platinum group metals
C25D3/52	. . . characterised by the organic bath constituents used
C25D3/54	. . of metals not provided for in groups C25D3/04 to C25D3/50
C25D3/56	. . of alloys
C25D3/56B	. . . [N: containing more than 50% by weight of iron or nickel or cobalt [N: ; NiP, FeP, CoP (Phosphatising C25D11/36)] [N1204]
C25D3/56C	. . . [N: containing more than 50% by weight of zinc]
C25D3/56D	. . . [N: containing more than 50% by weight of platinum group metals]
C25D3/58	. . . containing more than 50% by weight of copper
C25D3/60	. . . containing more than 50% by weight of of tin [N: ; SnP] [N1204]
C25D3/62	. . . containing more than 50% by weight of gold
C25D3/64	. . . containing more than 50% by weight of silver
C25D3/66	. from melts
C25D3/66B	. . [N: from ionic liquids] [N1204]
	[N: WARNING [M1207] Group C25D3/66B is not complete, pending reorganization, see also C25D3/66]]
C25D5/00	Electroplating characterised by the process; Pretreatment or after-treatment of work-pieces
C25D5/00B	. [N: Electroplating characterised by the use of gases, e.g. pressure influence (removal or gases or vapours, C25D21/04)] [N1204] [N: WARNING [M1207]

Groups [C25D5/00B](#), [C25D5/00D](#) are not complete, pending reorganization, see also [C25D5/00](#)
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- [C25D5/00D](#)
 - [N: Electroplating with applied electromagnetic field, not locally , e.g. for plating magnetic layers] [\[N1204\]](#)
- [C25D5/02](#)
 - Electroplating of selected surface areas
- [C25D5/02B](#)
 - . [N: using masking means [N: (C25D11/02B takes precedence)]] [\[N1204\]](#)
- [C25D5/02C](#)
 - . [\[N: using locally applied electromagnetic radiation e.g. lasers\]](#)
- [C25D5/02D](#)
 - . [\[N: using locally applied jets of electrolyte\]](#)
- [C25D5/02E](#)
 - . [N: one side electroplating [N:, e.g. substrate conveyed in a bath with inhibited background plating] [\[N1204\]](#)
- [C25D5/04](#)
 - Electroplating with moving electrodes
- [C25D5/06](#)
 - . Brush or pad plating [N: (electrodes for pad plating C25D17/14)] [\[N1204\]](#)
- [C25D5/08](#)
 - Electroplating with moving electrolyte [N:, characterised by electrolyte flow], e.g. jet electroplating [N: (spraying of electrolyte on wires strip or foils C25D7/06C8, means or devices for moving the electrolyte C25D21/10, C25D5/02D takes precedence)] [\[N1204\]](#)
- [C25D5/10](#)
 - Electroplating with more than one layer of the same or of different metals [\(for bearings C25D7/10\)](#)
- [C25D5/12](#)
 - . at least one layer being of nickel or chromium
- [C25D5/14](#)
 - . . two or more layers being of nickel or chromium, e.g. duplex or triplex layers
- [C25D5/16](#)
 - Electroplating with layers of varying thickness [N:, e.g. rough surfaces] [N: ; Hull cells] [\[N1204\]](#)
- [C25D5/18](#)
 - Electroplating using modulated, pulsed or reversing current
- [C25D5/20](#)
 - Electroplating using ultrasonics [\[N: , vibrations\]](#) [\[M1207\]](#)
- [C25D5/22](#)
 - Electroplating combined with mechanical treatment during the deposition
- [C25D5/34](#)
 - Pretreatment of metallic surfaces to be electroplated
- [C25D5/36](#)
 - . of iron or steel
- [C25D5/38](#)
 - . of refractory metals or nickel
- [C25D5/40](#)
 - . . Nickel; Chromium
- [C25D5/42](#)
 - . of light metals
- [C25D5/44](#)
 - . . Aluminium
- [C25D5/46](#)
 - . of actinides
- [C25D5/48](#)
 - After-treatment of electroplated surfaces
- [C25D5/50](#)
 - . by heat-treatment
- [C25D5/50B](#)
 - . . [\[N: of electroplated tin coatings, e.g. by melting\]](#)
- [C25D5/52](#)
 - . by brightening or burnishing

- C25D5/54 . Electroplating [N: on] non-metallic surfaces [N: ,e.g. on carbon or carbon composites] (C25D7/12 takes precedence) [C1204]
- C25D5/56 . . on [N: thin or conductive] plastics [N: (coating metallic material C23C)] [N1204]

C25D7/00 Electroplating characterised by the article coated

- C25D7/00B . [N: Magnets] [N1204]

[N: **WARNING** [M1207]
Groups C25D7/00B-C25D7/00K are not complete, pending reorganization, see also C25D7/00]
- C25D7/00D . [N: Threaded pieces, e.g. bolts, nuts] [N1204]
- C25D7/00F . [N: Jewels or clockworks] [N1204]
- C25D7/00H . [N: Nanoparticles] [N1204]
- C25D7/00K . [N: Thermal barrier coatings] [N1204]
- C25D7/02 . Slide fasteners
- C25D7/04 . Tubes; Rings; Hollow bodies
- C25D7/06 . Wires; Strips; Foils
- C25D7/06B . . [N: Wires] [N9708]
- C25D7/06C . . [N: Strips or foils] [N9708]
- C25D7/06C2 . . . [N: In horizontal cells] [N9708]
- C25D7/06C4 . . . [N: In vertical cells] [N9708]
- C25D7/06C6 . . . [N: In radial cells] [N9708]
- C25D7/06C8 . . . [N: Anodes] [N9708]
- C25D7/06C10 . . . [N: Diaphragms] [N9708]
- C25D7/06C12 . . . [N: Conducting rolls] [N9708]
- C25D7/06C14 . . . [N: Isolating rolls] [N9708]
- C25D7/06C16 . . . [N: Selective plating] [N9708]
- C25D7/06C16B [N: using masks] [N9708]
- C25D7/06C18 . . . [N: Spraying of electrolyte] [N9708]
- C25D7/06C20 . . . [N: Regulating the thickness of the coating] [N9708]
- C25D7/08 . Mirrors; Reflectors
- C25D7/10 . Bearings
- C25D7/12 . Semiconductors [N: without seed layer] [N1204]
- C25D7/12B . . [N: Semiconductors first coated with a seed layer for filling vias] [N1204]

[N: **WARNING** [M1207]

Groups [C25D7/12B](#)-[C25D7/12C](#) are not complete, pending reorganization, see also [C25D7/12](#)]

[C25D7/12C](#) . . [N: Semiconductors first coated with a seed layer for solar cells] [[N1204](#)]

[C25D9/00](#) **Electrolytic coating other than with metals** ([C25D11/00](#), [C25D15/00](#) take precedence; electrophoretic coating [C25D13/00](#))

[C25D9/02](#) . with organic materials

[C25D9/04](#) . with inorganic materials

[C25D9/06](#) . . by anodic processes

[C25D9/08](#) . . by cathodic processes

[C25D9/10](#) . . . on iron or steel

[C25D9/12](#) . . . on light metals

[C25D11/00](#) **Electrolytic coating by surface reaction, i.e. forming conversion layers**

[C25D11/00B](#) . [[N](#): Apparatus specially adapted for electrolytic conversion coating (apparatus in general for electrolytic coating [C25D17/00](#))] [[N1204](#)]

[[N](#): **WARNING**[[M1207](#)]

Groups [C25B11/00B](#), [C25D11/02B](#)-[C25D11/02F](#), [C25D11/04B](#) are not complete, pending reorganization, see also [C25D11/00](#)]

[C25D11/02](#) . Anodisation

[C25D11/02B](#) . . [[N](#): Anodisation on selected surface areas] [[N1204](#)]

[C25D11/02C](#) . . [[N](#):Anodisation under pulsed or modulated current or potential] [[N1204](#)]

[C25D11/02D](#) . . [[N](#): Anodisation with spark discharge [ANOF]] [[N1204](#)]

[C25D11/02F](#) . . [[N](#): Borodising,, i.e. borides formed electrochemically] [[N1204](#)]

[C25D11/04](#) . . of aluminium or alloys based thereon

[C25D11/04B](#) . . . [[N](#): for forming AAO templates] [[N1204](#)]

[C25D11/06](#) . . . characterised by the electrolytes used

[C25D11/08](#) containing inorganic acids

[C25D11/10](#) containing organic acids

[C25D11/12](#) . . . Anodising more than once, e.g. in different baths

[C25D11/14](#) . . . Producing integrally coloured layers

[C25D11/16](#) . . . Pretreatment [[N](#):, e.g. desmutting] [[N1204](#)]

[C25D11/18](#) . . . After-treatment, e.g. pore sealing ([lacquering](#) [B44D](#))

[C25D11/20](#) Electrolytic after-treatment

[C25D11/22](#) for colouring layers

[C25D11/24](#) Chemical after-treatment

[C25D11/24B](#) [[N](#): using organic dyestuffs]

[C25D11/24D](#) [[N](#): for sealing layers]

- C25D11/26 . . . of refractory metals or alloys based thereon
- C25D11/28 . . . of actinides or alloys based thereon
- C25D11/30 . . . of magnesium or alloys based thereon
- C25D11/32 . . . of semiconducting materials
- C25D11/34 . . . of metals or alloys not provided for in groups [C25D11/04](#) to [C25D11/32](#)

- C25D11/36 . Phosphatising [N: e.g. NiP, CoP, FeP (bath solutions of NiP, CoP, FeP C25D3/56B)] [\[N1204\]](#)

- C25D11/38 . Chromatising

- C25D13/00** **Electrophoretic coating** ([C25D15/00](#) takes precedence; apparatus for continuously conveying articles into baths [B65G](#), e.g. [B65G49/00](#))

- C25D13/02 . with inorganic material

- C25D13/04 . with organic material
- C25D13/06 . . with polymers [\[N: not used, see C09D5/44\]](#)
- C25D13/08 . . . by polymerisation in situ of monomeric materials [\[N: not used, see C09D5/44F\]](#)

- C25D13/10 . characterised by the additives used [\[N: not used, see C09D5/44H\]](#)

- C25D13/12 . characterised by the article coated
- C25D13/14 . . Tubes; Rings; Hollow bodies
- C25D13/16 . . Wires; Strips; Foils

- C25D13/18 . using modulated, pulsed, or reversing current

- C25D13/20 . Pre-treatment

- C25D13/22 . Servicing or operating [N: apparatus or multistep processes] [\[N1204\]](#)
- C25D13/24 . . Regeneration of process liquids

- C25D15/00** **Electrolytic or electrophoretic production of coatings containing [N: uncharged] embedded materials, e.g. particles, whiskers, wires** [\[N1204\]](#)

- C25D15/02 . Combined electrolytic and electrophoretic processes [N: with charged materials] [\[N1204\]](#)

- C25D17/00** **Constructional parts, or assemblies thereof, of cells for electrolytic coating (apparatus for continuously conveying articles into baths [B65G](#), e.g. [B65G49/00](#); electric devices see the relevant classes, e.g. [H01B](#), [H02G](#)) [N: ([C25D7/06](#), [C25D11/42](#), [C25D13/22](#), [C25](#) takes precedence)]** [\[N1204\]](#)

- C25D17/00B . [\[N: Apparatus specially adapted for plating wafers, e.g. semiconductors, solar cells\]](#) [\[N1204\]](#)

- [\[N: **WARNING**\]](#)

Groups [C25B17/00B-C25D17/00M](#) are not complete, pending reorganization, see also [C25D17/00](#)
]

- [C25D17/00D](#) . [N: Cell separation, e.g. membranes, diaphragms] [\[N1204\]](#)
- [C25D17/00F](#) . [N: Sealing devices] [\[N1204\]](#)
- [C25D17/00H](#) . [N: Contacting devices] [\[N1204\]](#)
- [C25D17/00K](#) . [N: Current conducting devices] [\[N1204\]](#)
- [C25D17/00M](#) . [N: Current insulating devices] [\[N1204\]](#)
- [C25D17/02](#) . Tanks; Installations therefor
- [C25D17/04](#) . . External supporting frames or structures
- [C25D17/06](#) . Suspending or supporting devices for articles to be coated
- [C25D17/08](#) . . [N: Supporting] racks[N: i.e. not for suspending] [\[N1204\]](#)
- [C25D17/10](#) . Electrodes [N: e.g. composition, counter electrode] [\[N1204\]](#)
- [C25D17/12](#) . . Shape or form ([C25D17/14](#) takes precedence)
- [C25D17/14](#) . . for pad-plating
- [C25D17/16](#) . Apparatus for electrolytic coating of small objects in bulk
- [C25D17/18](#) . . having closed containers
- [C25D17/20](#) . . . Horizontal barrels
- [C25D17/22](#) . . having open containers
- [C25D17/24](#) . . . Oblique barrels
- [C25D17/26](#) . . . Oscillating baskets
- [C25D17/28](#) . . with means for moving the objects individually through the apparatus during treatment
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- [C25D21/00](#) Processes for servicing or operating cells for electrolytic coating**
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- [C25D21/02](#) . Heating or cooling
-
- [C25D21/04](#) . Removal of gases or vapours [N:; gas or pressure control (electroplating characterized by the use of gases [C25D5/00B](#))] [\[N1204\]](#)
-
- [C25D21/06](#) . Filtering [N: particles other than ions (filtering ions [C25D21/22](#))] [\[N1204\]](#)
-
- [C25D21/08](#) . Rinsing
-
- [C25D21/10](#) . Agitating of electrolytes; Moving of racks
-
- [C25D21/11](#) . Use of protective surface layers on electrolytic baths

- C25D21/12 . Process control or regulation ([controlling or regulating in general G05](#))
- C25D21/14 . . Controlled addition of electrolyte components
- C25D21/16 . Regeneration of process solutions [N: (C25D13/24 takes precedence)] [\[N1204\]](#)
- C25D21/18 . . of electrolytes ([C25D21/22 takes precedence](#))
- C25D21/20 . . of rinse-solutions ([C25D21/22 takes precedence](#))
- C25D21/22 . . by ion-exchange