

EUROPEAN PATENT OFFICE
U.S. PATENT AND TRADEMARK OFFICE

CPC NOTICE OF CHANGES 1345

DATE: AUGUST 1, 2022

PROJECT RP10451

The following classification changes will be effected by this Notice of Changes:

<u>Action</u>	<u>Subclass</u>	<u>Group(s)</u>
SCHEME:		
Symbols New:	C23C	2/0032, 2/00322, 2/0034, 2/00342, 2/00344, 2/00348, 2/0035, 2/0036, 2/00361, 2/00362, 2/0038, 2/004, 2/0062, 2/0064, 2/022, 2/0222, 2/0224, 2/024, 2/026, 2/261, 2/29, 2/325, 2/50, 2/51, 2/52, 2/521, 2/522, 2/523, 2/524, 2/5245, 2/525, 2/526, 2/54, 2/542, 2/544
Titles Changed:	C23C	2/003, 2/006, 2/28
Warnings New:	C23C	2/00, 2/003, 2/0032, 2/0034, 2/0035, 2/0036, 2/0038, 2/006, 2/0062, 2/0064, 2/02, 2/022, 2/024, 2/026, 2/14, 2/26, 2/261, 2/265, 2/28, 2/285, 2/29, 2/325, 2/50
Guidance Headings Modified:	C23C	2/00
	C23C	16/00
	C23C	22/00
DEFINITIONS:		
Definitions New:	C23C	2/0034, 2/00342, 2/00344, 2/0035, 2/0036, 2/00361, 2/0038, 2/004, 2/0062, 2/0064, 2/026, 2/16, 2/32, 2/325, 2/51, 2/52, 2/524, 2/526, 2/54
Definitions Modified:	C23C	2/00, 2/006, 2/02, 2/30

No other subclasses/groups are impacted by this Notice of Changes.

This Notice of Changes includes the following [Check the ones included]:

1. CLASSIFICATION SCHEME CHANGES

- A. New, Modified or Deleted Group(s)
- B. New, Modified or Deleted Warning(s)
- C. New, Modified or Deleted Note(s)
- D. New, Modified or Deleted Guidance Heading(s)

2. DEFINITIONS

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- A. New or Modified Definitions (Full definition template)
- B. Modified or Deleted Definitions (Definitions Quick Fix)
- 3. REVISION CONCORDANCE LIST (RCL)
- 4. CHANGES TO THE CPC-TO-IPC CONCORDANCE LIST (CICL)
- 5. CHANGES TO THE CROSS-REFERENCE LIST (CRL)

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1. CLASSIFICATION SCHEME CHANGES

A. New, Modified or Deleted Group(s)

SUBCLASS C23C - COATING METALLIC MATERIAL; COATING MATERIAL WITH METALLIC MATERIAL; SURFACE TREATMENT OF METALLIC MATERIAL BY DIFFUSION INTO THE SURFACE, BY CHEMICAL CONVERSION OR SUBSTITUTION; COATING BY VACUUM EVAPORATION, BY SPUTTERING, BY ION IMPLANTATION OR BY CHEMICAL VAPOUR DEPOSITION, IN GENERAL

<u>Type*</u>	<u>Symbol</u>	<u>Indent Level Number of dots (e.g. 0, 1, 2)</u>	<u>Title</u> <u>“CPC only” text should normally be enclosed in {curly brackets}**</u>	<u>Transferred to#</u>
C	C23C2/00	0	Hot-dipping or immersion processes for applying the coating material in the molten state without affecting the shape; Apparatus therefor	C23C2/00, C23C2/325, C23C2/50, C23C2/51, C23C2/52, C23C2/521, C23C2/522, C23C2/523, C23C2/524, C23C2/5245, C23C2/525, C23C2/526, C23C2/54, C23C2/542, C23C2/544
C	C23C2/003	1	{Apparatus}	C23C2/003, C23C2/0032, C23C2/00322, C23C2/0034, C23C2/00342, C23C2/00344, C23C2/00348, C23C2/0035, C23C2/0036, C23C2/00361, C23C2/00362, C23C2/0038, C23C2/004, C23C2/325, C23C2/50, C23C2/51, C23C2/52, C23C2/521, C23C2/522, C23C2/523, C23C2/524, C23C2/5245, C23C2/525, C23C2/526, C23C2/54, C23C2/542, C23C2/544
N	C23C2/0032	2	{specially adapted for batch coating of substrate}	
N	C23C2/00322	3	{Details of mechanisms for immersing or removing substrate from molten liquid bath, e.g. basket or lifting mechanism}	
N	C23C2/0034	2	{Details related to elements immersed in bath}	
N	C23C2/00342	3	{Moving elements, e.g. pumps or mixers}	
N	C23C2/00344	4	{Means for moving substrates, e.g. immersed rollers or immersed bearings}	
N	C23C2/00348	3	{Fixed work supports or guides}	

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<u>Type*</u>	<u>Symbol</u>	<u>Indent Level Number of dots (e.g. 0, 1, 2)</u>	<u>Title</u> <u>“CPC only” text should normally be enclosed in {curly brackets}**</u>	<u>Transferred to#</u>
N	C23C2/0035	2	{Means for continuously moving substrate through, into or out of the bath (C23C2/00344 takes precedence)}	
N	C23C2/0036	2	{Crucibles }	
N	C23C2/00361	3	{characterised by structures including means for immersing or extracting the substrate through confining wall area }	
N	C23C2/00362	4	{Details related to seals, e.g. magnetic means }	
N	C23C2/0038	2	{characterised by the pre-treatment chambers located immediately upstream of the bath or occurring locally before the dipping process }	
N	C23C2/004	3	{Snouts }	
C	C23C2/006	1	{Pattern or selective deposits }	C23C2/006, C23C2/0032, C23C2/00322, C23C2/0034, C23C2/00342, C23C2/00344, C23C2/00348, C23C2/0035, C23C2/0036, C23C2/00361, C23C2/00362, C23C2/0038, C23C2/004, C23C2/0062, C23C2/0064, C23C2/50, C23C2/51, C23C2/52, C23C2/521, C23C2/522, C23C2/523, C23C2/524, C23C2/5245, C23C2/525, C23C2/526, C23C2/54, C23C2/542, C23C2/544
N	C23C2/0062	2	{without pre-treatment of the material to be coated, e.g. using masking elements such as casings, shields, fixtures or blocking elements }	
N	C23C2/0064	2	{using masking layers }	
C	C23C2/02	1	Pretreatment of the material to be coated, e.g. for coating on selected surface areas (C23C2/30 takes precedence)	C23C2/02, C23C2/022, C23C2/0222, C23C2/0224, C23C2/024, C23C2/026, C23C2/0032, C23C2/00322, C23C2/0034, C23C2/00342, C23C2/00344, C23C2/00348, C23C2/0035, C23C2/0036, C23C2/00361, C23C2/00362, C23C2/0038, C23C2/004, C23C2/325, C23C2/50, C23C2/51, C23C2/52, C23C2/521, C23C2/522, C23C2/523,

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<u>Type*</u>	<u>Symbol</u>	<u>Indent Level Number of dots (e.g. 0, 1, 2)</u>	<u>Title</u> <u>“CPC only” text should normally be enclosed in {curly brackets}**</u>	<u>Transferred to#</u>
				C23C2/524, C23C2/5245, C23C2/525, C23C2/526, C23C2/54, C23C2/542, C23C2/544
N	C23C2/022	2	{by heating}	
N	C23C2/0222	3	{in a reactive atmosphere, e.g. oxidising or reducing atmosphere (C23C2/024 takes precedence)}	
N	C23C2/0224	3	{Two or more thermal pretreatments}	
N	C23C2/024	2	{by cleaning or etching}	
N	C23C2/026	2	{Deposition of sublayers, e.g. adhesion layers or pre-applied alloying elements or corrosion protection}	
C	C23C2/14	1	Removing excess of molten coatings; Controlling or regulating the coating thickness	C23C2/14, C23C2/50, C23C2/51, C23C2/52, C23C2/521, C23C2/522, C23C2/523, C23C2/524, C23C2/5245, C23C2/525, C23C2/526, C23C2/54, C23C2/542, C23C2/544
C	C23C2/26	1	After-treatment (C23C2/14 takes precedence)	C23C2/26, C23C2/261, C23C2/325, C23C2/50, C23C2/51, C23C2/52, C23C2/521, C23C2/522, C23C2/523, C23C2/524, C23C2/5245, C23C2/525, C23C2/526, C23C2/54, C23C2/542, C23C2/544
N	C23C2/261	2	{in a gas atmosphere, e.g. inert or reducing atmosphere}	
C	C23C2/265	2	{by applying solid particles to the molten coating}	C23C2/265, C23C2/261
C	C23C2/28	2	Thermal after-treatment, e.g. treatment in oil bath	C23C2/261, C23C2/28, C23C2/29
C	C23C2/285	3	{for remelting the coating}	C23C2/261, C23C2/285
N	C23C2/29	3	{Cooling or quenching}	
U	C23C2/32	1	using vibratory energy applied to the bath or substrate (C23C2/14 takes precedence)	
N	C23C2/325	1	{Processes or devices for cleaning the bath}	
U	C23C2/34	1	characterised by the shape of the material to be treated (C23C2/14 takes precedence)	
U	C23C2/405	4	{Plates of specific length}	
N	C23C2/50	1	{Controlling or regulating the coating processes (C23C2/14 takes precedence)}	

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<u>Type*</u>	<u>Symbol</u>	<u>Indent Level Number of dots (e.g. 0, 1, 2)</u>	<u>Title</u> <u>“CPC only” text should normally be enclosed in {curly brackets}**</u>	<u>Transferred to#</u>
N	C23C2/51	2	{Computer-controlled implementation}	
N	C23C2/52	2	{with means for measuring or sensing}	
N	C23C2/521	3	{Composition of the bath}	
N	C23C2/522	3	{Temperature of the bath}	
N	C23C2/523	3	{Bath level or amount}	
N	C23C2/524	3	{Position of the substrate}	
N	C23C2/5245	4	{for reducing vibrations of the substrate}	
N	C23C2/525	3	{Speed of the substrate}	
N	C23C2/526	3	{for visually inspecting the surface quality of the substrate}	
N	C23C2/54	2	{of the mixing or stirring the bath}	
N	C23C2/542	3	{using static devices separate from the substrate, e.g. a fixed plate}	
N	C23C2/544	3	{using moving mixing devices separate from the substrate, e.g. an impeller of blade}	

*N = new entries where reclassification into entries is involved; C = entries with modified file scope where reclassification of documents from the entries is involved; Q = new entries which are firstly populated with documents via administrative transfers from deleted (D) entries. Afterwards, the transferred documents into the Q entry will either stay or be moved to more appropriate entries, as determined by intellectual reclassification; T = existing entries with enlarged file scope, which receive documents from C or D entries, e.g. when a limiting reference is removed from the entry title; M = entries with no change to the file scope (no reclassification); D = deleted entries; F = frozen entries will be deleted once reclassification of documents from the entries is completed; U = entries that are unchanged.

NOTES:

- **No {curly brackets} are used for titles in CPC only subclasses, e.g. C12Y, A23Y; 2000 series symbol titles of groups found at the end of schemes (orthogonal codes); or the Y section titles. The {curly brackets} are used for 2000 series symbol titles found interspersed throughout the main trunk schemes (breakdown codes).
- U groups: it is obligatory to display the required “anchor” symbol (U group), i.e. the entry immediately preceding a new group or an array of new groups to be created (in case new groups are not clearly subgroups of C-type groups). Always include the symbol, indent level and title of the U group in the table above.
- All entry types should be included in the scheme changes table above for better understanding of the overall scheme change picture. Symbol, indent level, and title are required for all types.
- “Transferred to” column must be completed for all C, D, F, and Q type entries. F groups will be deleted once reclassification is completed.
- When multiple symbols are included in the “Transferred to” column, avoid using ranges of symbols in order to be as precise as possible.
- For administrative transfer of documents, the following text should be used: “<administrative transfer to XX>”, “<administrative transfer to XX and YY simultaneously>”, or “<administrative transfer to XX, YY, ...and ZZ simultaneously>” when administrative transfer of the same documents is to more than one place.
- Administrative transfer to main trunk groups is assumed to be the source allocation type, unless otherwise indicated.
- Administrative transfer to 2000/Y series groups is assumed to be “additional information”.
- If needed, instructions for allocation type should be indicated within the angle brackets using the abbreviations “ADD” or “INV”: <administrative transfer to XX ADD>, <administrative transfer to XX INV>, or <administrative transfer to XX ADD, YY INV, ... and ZZ ADD simultaneously>.
- In certain situations, the “D” entries of 2000-series or Y-series groups may not require a destination (“Transferred to”) symbol, however it is required to specify “<no transfer>” in the “Transferred to” column for such cases.
- For finalisation projects, the deleted “F” symbols should have <no transfer> in the “Transferred to” column.

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- For more details about the types of scheme change, see CPC Guide.

B. New, Modified or Deleted Warning(s)

SUBCLASS C23C - COATING METALLIC MATERIAL; COATING MATERIAL WITH METALLIC MATERIAL; SURFACE TREATMENT OF METALLIC MATERIAL BY DIFFUSION INTO THE SURFACE, BY CHEMICAL CONVERSION OR SUBSTITUTION; COATING BY VACUUM EVAPORATION, BY SPUTTERING, BY ION IMPLANTATION OR BY CHEMICAL VAPOUR DEPOSITION, IN GENERAL

<u>Type*</u>	<u>Location</u>	<u>Old Warning</u>	<u>New/Modified Warning</u>
N	C23C 2/00		Group C23C 2/00 is impacted by reclassification into groups C23C 2/325, C23C 2/50 - C23C 2/544. All groups listed in this Warning should be considered in order to perform a complete search.
N	C23C 2/003		Group C23C 2/003 is impacted by reclassification into groups C23C 2/0032 - C23C 2/004, C23C 2/325, C23C 2/50 - C23C 2/544. All groups listed in this Warning should be considered in order to perform a complete search.
N	C23C 2/0032		Groups C23C 2/0032 and C23C 2/00322 are incomplete pending reclassification of documents from groups C23C 2/003, C23C 2/006 and C23C 2/02. All groups listed in this Warning should be considered in order to perform a complete search.
N	C23C 2/0034		Groups C23C 2/0034-C23C 2/00348 are incomplete pending reclassification of documents from groups C23C 2/003, C23C 2/006 and C23C 2/02. All groups listed in this Warning should be considered in order to perform a complete search.
N	C23C 2/0035		Group C23C 2/0035 is incomplete pending reclassification of documents from groups C23C 2/003, C23C 2/006 and C23C 2/02. All groups listed in this Warning should be considered in order to perform a complete search.
N	C23C 2/0036		Groups C23C 2/0036-C23C 2/00362 are incomplete pending reclassification of documents from groups C23C 2/003, C23C 2/006 and C23C 2/02. All groups listed in this Warning should be considered in order to perform a complete search.

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<u>Type*</u>	<u>Location</u>	<u>Old Warning</u>	<u>New/Modified Warning</u>
N	C23C 2/0038		Groups C23C 2/0038 and C23C 2/004 are incomplete pending reclassification of documents from groups C23C 2/003, C23C 2/006 and C23C 2/02. All groups listed in this Warning should be considered in order to perform a complete search.
N	C23C 2/006		Group C23C 2/006 is impacted by reclassification into groups C23C 2/0032, C23C 2/00322, C23C 2/0034, C23C 2/00342, C23C 2/00344, C23C 2/00348, C23C 2/0035, C23C 2/0036, C23C 2/00361, C23C 2/00362, C23C 2/0038, C23C 2/004, C23C 2/0062, C23C 2/0064, C23C 2/50, C23C 2/51, C23C 2/52, C23C 2/521, C23C 2/522, C23C 2/523, C23C 2/524, C23C 2/5245, C23C 2/525, C23C 2/526, C23C 2/54, C23C 2/542 and C23C 2/544. All groups listed in this Warning should be considered in order to perform a complete search.
N	C23C 2/0062		Group C23C 2/0062 is incomplete pending reclassification of documents from group C23C 2/006. Groups C23C 2/006 and C23C 2/0062 should be considered in order to perform a complete search.
N	C23C 2/0064		Group C23C 2/0064 is incomplete pending reclassification of documents from group C23C 2/006. Groups C23C 2/0064 and C23C 2/006 should be considered in order to perform a complete search.
N	C23C 2/02		Group C23C 2/02 is impacted by reclassification into groups C23C 2/022, C23C 2/0222, C23C 2/0224, C23C 2/024, C23C 2/026, C23C 2/0032 - C23C 2/004, C23C 2/325 and C23C 2/50 - C23C 2/544. All groups listed in this Warning should be considered in order to perform a complete search.
N	C23C 2/022		Groups C23C 2/022 - C23C 2/0224 are incomplete pending reclassification of documents from group C23C 2/02. All groups listed in

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<u>Type*</u>	<u>Location</u>	<u>Old Warning</u>	<u>New/Modified Warning</u>
			this Warning should be considered in order to perform a complete search.
N	C23C 2/024		Group C23C 2/024 is incomplete pending reclassification of documents from group C23C 2/02. Groups C23C 2/02 and C23C 2/024 should be considered in order to perform a complete search.
N	C23C 2/026		Group C23C 2/026 is incomplete pending reclassification of documents from group C23C 2/02. Groups C23C 2/02 and C23C 2/026 should be considered in order to perform a complete search.
N	C23C 2/14		Group C23C 2/14 is impacted by reclassification into groups C23C 2/50 - C23C 2/544. All groups listed in this Warning should be considered in order to perform a complete search.
N	C23C 2/26		Group C23C 2/26 is impacted by reclassification into groups C23C 2/261, C23C 2/325 and C23C 2/50 - C23C 2/544. All groups listed in this Warning should be considered in order to perform a complete search.
N	C23C 2/261		Group C23C 2/261 is incomplete pending reclassification of documents from groups C23C 2/26, C23C 2/265, C23C 2/28 and C23C 2/285. All groups listed in this Warning should be considered in order to perform a complete search.
N	C23C 2/265		Group C23C 2/265 is impacted by reclassification into group C23C 2/261. Groups C23C 2/265 and C23C 2/261 should be considered in order to perform a complete search.
N	C23C 2/28		Group C23C 2/28 is impacted by reclassification into groups C23C 2/261 and C23C 2/29. Groups C23C 2/28, C23C 2/261 and C23C 2/29 should be considered in order to perform a complete search.
N	C23C2/285		Group C23C 2/285 is impacted by reclassification into group C23C 2/261. Groups C23C 2/285 and C23C 2/261 should be considered in order to perform a complete search.

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<u>Type*</u>	<u>Location</u>	<u>Old Warning</u>	<u>New/Modified Warning</u>
N	C23C 2/29		Group C23C 2/29 is incomplete pending reclassification of documents from group C23C 2/28. Groups C23C 2/28 and C23C 2/29 should be considered in order to perform a complete search.
N	C23C 2/325		Group C23C 2/325 is incomplete pending reclassification of documents from groups C23C 2/00, C23C 2/003, C23C 2/02 and C23C 2/26. All groups listed in this Warning should be considered in order to perform a complete search.
N	C23C 2/50		Groups C23C 2/50 - C23C 2/544 are incomplete pending reclassification of documents from groups C23C 2/00, C23C 2/003, C23C 2/006, C23C 2/02, C23C 2/14 and C23C 2/26. All groups listed in this Warning should be considered in order to perform a complete search.

*N = new warning, M = modified warning, D = deleted warning

NOTE: The "Location" column only requires the symbol PRIOR to the location of the warning. No further directions such as "before" or "after" are required.

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D. New, Modified or Deleted Guidance Heading(s)**SUBCLASS C23C - COATING METALLIC MATERIAL; COATING MATERIAL WITH METALLIC MATERIAL; SURFACE TREATMENT OF METALLIC MATERIAL BY DIFFUSION INTO THE SURFACE, BY CHEMICAL CONVERSION OR SUBSTITUTION; COATING BY VACUUM EVAPORATION, BY SPUTTERING, BY ION IMPLANTATION OR BY CHEMICAL VAPOUR DEPOSITION, IN GENERAL**

<u>Type*</u>	<u>Location</u>	<u>Old Guidance Heading</u>	<u>New/Modified Guidance Heading</u>
M	C23C2/00	Coating by applying the coating material in the molten state (casting B22D, e.g. B22D 19/08, B22D 23/04, B29; built-up welding B23K, e.g. B23K 5/18, B23K 9/04)	Coating by applying the coating material in the molten state
M	C23C16/00	Chemical deposition or plating by decomposition; Contact plating (solid state diffusion C23C 8/00 - C23C 12/00)	Chemical deposition or plating by decomposition; Contact plating
M	C23C22/00	Chemical surface treatment of metallic material by reaction of the surface with a reactive medium (with a reactive gas C23C 8/00)	Chemical surface treatment of metallic material by reaction of the surface with a reactive medium

*N = new guidance heading, M =modified guidance heading, D = deleted guidance heading

NOTES:

- The "Location" column requires the symbol AFTER the guidance heading location. No further directions such as "before" or "after" are required.
- In cases where there may be confusion as to whether a new group falls within the scope of a guidance heading, indicate the guidance heading and whether the group does or does not go with the guidance heading. This can be included in the "Location" column. For example, the guidance heading "Compounds containing carbon together with sulfur, selenium or tellurium with or without hydrogen, halogens, oxygen or nitrogen" encompasses groups C07C 301/00-395/00 only. If a new group C07C 398/00 is proposed and is included in the guidance heading scope, indicate this in the "Location" column as follows: 398/00 to be included under the guidance heading: "Compounds containing carbon together with sulfur, selenium or tellurium with or without hydrogen, halogens, oxygen or nitrogen."

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2. A. DEFINITIONS (new)

Insert: The following new Definitions.

C23C 2/0034

Definition statement

This place covers:

Elements that are immersed within the bath, such as walls, baffles, pumps, elements supporting the substrate during coating or elements for moving the substrate through the bath. Non-moving immersed elements are classified here.

C23C 2/00342

Definition statement

This place covers:

Elements that are immersed within the bath which are in motion relative to the bath, such as pumps (i.e. the internal impeller moves relative to the bath), mixers, impellers, rollers or bearings.

Special rules of classification

Devices for mixing or stirring of the bath with control or regulation should also be classified in C23C 2/54, C23C 2/542 or C23C 2/544 as appropriate.

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C23C 2/00344

Definition statement

This place covers:

Elements that are immersed within the bath and act to force movement of the substrate through the bath, such as rollers or portions thereof, e.g. bearings.

C23C 2/0035

Definition statement

This place covers:

Elements that act upon the substrate to be coated to move the substrate through the bath, such as take-up rollers or supply rollers.

Limiting references

This place does not cover

Rollers immersed within the bath	C23C 2/00344
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C23C 2/0036

Definition statement

This place covers:

Crucibles and heating devices. This area also covers the vessel for a holding bath.

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C23C 2/00361

Glossary of terms

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

Wall	Any portion of the receptacle which confines the bath is located below the upper surface of the bath and may include a side wall as well as a floor of the receptacle which the substrate passes through
------	--

C23C 2/0038

Definition statement

This place covers:

Pre-treatment chamber(s), and elements thereof, that are directly associated with the hot-dipping or immersion apparatus, such as specific structure of pretreatment chamber(s), chamber mechanisms, transportation mechanism, seals, or heat or atmospheric conditions.

Glossary of terms

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

Locally	The same physical location, e.g. plant, so as to exclude pre-treatment chamber(s) which treat a substrate which then require shipping the pre-treated substrate from one location to another
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C23C 2/004

Definition statement

This place covers:

Fixed enclosures between the furnace and the molten metal bath.

C23C 2/0062

Definition statement

This place covers:

Methods or devices for forming patterned or selective deposition by means external to the substrate, e.g. using masking elements such as casings, shields, fixtures or blocking elements.

C23C 2/0064

Definition statement

This place covers:

Pattern or selective deposition done by means of applying a masking layer to the substrate.

C23C 2/026

Definition statement

This place covers:

Application of complete or partial layers onto the substrate to be coated prior to entry into the bath. Examples of these layers are adhesion layers that promote adhesion between the substrate and the bath material, pre-applied alloying elements that mix with

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the bath material in the coating, and layers that protect the substrate from corrosion prior to entry into the bath.

Special rules of classification

Masking layers for forming patterned or selective deposition are not considered sub-layers and are classified in C23C 2/0064.

C23C 2/16

References

Informative references

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

Apparatus for spreading or distributing liquids or other fluent materials already applied to a surface with a blast of gas or vapour	B05C 11/06
Machines or apparatus for drying objects with progressive movement	F26B 15/00

C23C 2/32

Definition Statement

This place covers:

Application of vibrations using physical, magnetic or other means to the bath or to the substrate. An example of subject matter covered by this group is the use of ultrasonic energy to a substrate to cause vibrations of the substrate to enhance wettability of the substrate.

Special rules of classification

Application of vibratory energy to remove excess coating material is classified in C23C 2/14.

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C23C 2/325

Definition statement

This place covers:

Processes for cleaning of the bath and the devices that perform the cleaning.

“Cleaning” is intended to cover removal, by chemical or physical means, of impurities within the bath, such as devices which skim material from the surface of the bath or which remove a portion of the bath for treatment to remove impurities before returning the treated portion to the bath.

C23C 2/51

Definition statement

This place covers:

Control or regulation of the coating process, wherein the control or regulation is performed responsive by a computer.

Examples include standard PID controllers, “fuzzy” logic controllers and artificial intelligence or machine-learning implemented control of the coating process.

Special rules of classification

This subgroup should be used in combination with any appropriate subgroups that are also indented under C23C 2/50.

C23C 2/52

Definition statement

This place covers:

Control or regulation of the coating process wherein at least one variable is measured or sensed.

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"Measured or sensed" includes both electronic and mechanical detection of variables, as well as "measuring or sensing" by an operator of the coating process, such as visual inspection of the variable of the coating process.

C23C 2/524

Definition statement

This place covers:

Measuring or sensing the position of the substrate, which includes at least the location of the substrate with respect to fixed portions of the coating apparatus and any change in the location of the substrate over time, e.g. vibration of the substrate.

C23C 2/526

Definition statement

This place covers:

Using image processing techniques to investigate the surface quality of the substrate.

C23C 2/54

Definition statement

This place covers:

Methods or devices for controlling or regulating the mixing or stirring of the bath.

Special rules of classification

Devices for mixing or stirring of the bath without control or regulation are classified in C23C 2/003 or in C23C 2/00342 as appropriate.

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2. A. DEFINITIONS (modified)

C23C 2/00

Insert: The following new Relationships with other classification places section.

Relationships with other classification places

Enameling of, or applying a vitreous layer to metals is classified in C23D5/00.

Formation of mono or polycrystalline Si coatings by pulling high temperature resistant wires and/or sheets through molten silicon is classified in C30B29/06.

Single-crystal growth by pulling from a melt, pulling on a substrate C30B15/007.

Production of homogeneous polycrystalline material with defined structure, from liquids, by pulling from a melt C30B28/10.

References

Delete: The entire Limiting references section.

Informative references

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

Replace: The existing Informative references table with the following updated table.

Control devices or methods specially adapted for metal-rolling mills	B21B 37/00
Manufacture of coated wire or bars	B21C 37/042
Of tubes or metal hoses; Combined procedures for making tubes, e.g. for making multi-wall tubes	B21C 37/06
Using rods or strips of soldering material	B21C 37/087
Of coated strip material	B21C 37/09
Layered products essentially comprising metal	B32B 15/00
Casting molten material on the substrate	C23C 6/00
Controlling or regulating thickness in general	G05D 5/02

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Special rules of classification

Replace: The existing Special rules of classification text with the following updated text.

Classification is given to well disclosed coatings and/or processes. Classification is further given to related processes, such as pre-treatment(s) of the substrate or after-treatment(s) of the coating. Classification is also further given to apparatus features important to the coating process.

In this main group, an operation is considered as pre-treatment or after-treatment when it is specially adapted for, but quite distinct from, the coating process concerned and constitutes an independent operation.

All well-disclosed, non-trivial examples of processes and/or coatings are classified. Precedence rules indicated in the headers of the subgroups are to be strictly followed, e.g. removal by air knives of an excess of molten material on a strip is to be classified only in C23C2/20, and not also in C23C2/26 and C23C2/40.

Alloys based on a given metal are alloys where said metal makes up at least 50% by weight of said alloy (see in particular C23C2/06, C23C2/08, C23C2/10 and C23C2/12).

Magnetic energy being applied to the system is classified based upon the intended effect of the magnetic energy on the system.

C23C 2/00362 covers the use of magnetic energy to effect sealing or otherwise containing the molten material within the container at an opening in the wall which the substrate travels.

C23C 2/24 covers the use of magnetic or electric fields energy to remove excess molten coating or to otherwise control the thickness of the coating applied to the substrate after the substrate exits the coating bath.

C23C 2/32 covers the use of magnetic energy to cause vibrations of the liquid metal in the bath for stirring purposes etc. or the substrate while in the molten bath.

C23C 2/5245 covers the use of magnetic energy to reduce vibrations of the substrate travelling through the bath.

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C23C 2/006

Definition statement

This place covers:

Replace: The existing Definition statement text with the following updated text.

Processes or devices for conducting patterned or selective deposition on the substrate.

C23C 2/02

References

Insert: The following new Limiting references section.

Limiting references

This place does not cover:

Fluxes or coverings on molten baths	C23C 2/30
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Insert: The following new Special rules of classification section.

Special rules of classification

For pre-treatments (e.g. cold or hot rolling or heat treatments) that are covered by C21D and/or C22F, an allocation is made in both C23C 2/02 and the relevant subgroups in C21D and/or C22F.

C23C 2/30

Insert: The following new Limiting references section.

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Limiting references

This place does not cover:

Removing excess of molten coatings from elongated material by rubbing	C23C 2/22
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3. REVISION CONCORDANCE LIST (RCL)

<u>Type*</u>	<u>From CPC Symbol (existing)</u>	<u>To CPC Symbol(s)</u>
C	C23C 2/00	C23C 2/00, C23C 2/325, C23C 2/50, C23C 2/51, C23C 2/52, C23C 2/521, C23C 2/522, C23C 2/523, C23C 2/524, C23C 2/5245, C23C 2/525, C23C 2/526, C23C 2/54, C23C 2/542, C23C 2/544
C	C23C 2/003	C23C 2/003, C23C 2/0032, C23C 2/00322, C23C 2/0034, C23C 2/00342, C23C 2/00344, C23C 2/00348, C23C 2/0035, C23C 2/0036, C23C 2/00361, C23C 2/00362, C23C 2/0038, C23C 2/004, C23C 2/325, C23C 2/50, C23C 2/51, C23C 2/52, C23C 2/521, C23C 2/522, C23C 2/523, C23C 2/524, C23C 2/5245, C23C 2/525, C23C 2/526, C23C 2/54, C23C 2/542, C23C 2/544
C	C23C 2/006	C23C 2/006, C23C 2/0032, C23C 2/00322, C23C 2/0034, C23C 2/00342, C23C 2/00344, C23C 2/00348, C23C 2/0035, C23C 2/0036, C23C 2/00361, C23C 2/00362, C23C 2/0038, C23C 2/004, C23C 2/0062, C23C 2/0064, C23C 2/50, C23C 2/51, C23C 2/52, C23C 2/521, C23C 2/522, C23C 2/523, C23C 2/524, C23C 2/5245, C23C 2/525, C23C 2/526, C23C 2/54, C23C 2/542, C23C 2/544
C	C23C 2/02	C23C 2/02, C23C 2/022, C23C 2/0222, C23C 2/0224, C23C 2/024, C23C 2/026, C23C 2/0032, C23C 2/00322, C23C 2/0034, C23C 2/00342, C23C 2/00344, C23C 2/00348, C23C 2/0035, C23C 2/0036, C23C 2/00361, C23C 2/00362, C23C 2/0038, C23C 2/004, C23C 2/325, C23C 2/50, C23C 2/51, C23C 2/52, C23C 2/521, C23C 2/522, C23C 2/523, C23C 2/524, C23C 2/5245, C23C 2/525, C23C 2/526, C23C 2/54, C23C 2/542, C23C 2/544
C	C23C 2/14	C23C 2/14, C23C 2/50, C23C 2/51, C23C 2/52, C23C 2/521, C23C 2/522, C23C 2/523, C23C 2/524, C23C 2/5245, C23C 2/525, C23C 2/526, C23C 2/54, C23C 2/542, C23C 2/544
C	C23C 2/26	C23C 2/26, C23C 2/261, C23C 2/325, C23C 2/50, C23C 2/51, C23C 2/52, C23C 2/521, C23C 2/522, C23C 2/523, C23C 2/524, C23C 2/5245, C23C 2/525, C23C 2/526, C23C 2/54, C23C 2/542, C23C 2/544
C	C23C 2/265	C23C 2/265, C23C 2/261
C	C23C 2/28	C23C 2/261, C23C 2/28, C23C 2/29
C	C23C 2/285	C23C 2/261, C23C 2/285

* C = entries with modified file scope where reclassification of documents from the entries is involved; Q = new entries which are firstly populated with documents via administrative transfers from deleted (D) entries. Afterwards, the transferred documents into the Q entry will either stay or be moved to more appropriate entries, as determined by intellectual reclassification; D = deleted entries; F = frozen entries will be deleted once reclassification of documents from the entries is completed.

NOTES:

- Only C, D, F, and Q type entries are included in the table above.
- When multiple symbols are included in the “To” column, do not use ranges of symbols.
- For administrative transfer of documents, the following text should be used: “<administrative transfer to XX>”, “<administrative transfer to XX and YY simultaneously>”, or “<administrative transfer to XX, YY, ...and ZZ simultaneously>” when administrative transfer of the same documents is to more than one place.
- Administrative transfer to main trunk groups is assumed to be the source allocation type, unless otherwise indicated.
- Administrative transfer to 2000/Y series groups is assumed to be “additional information”.

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- If needed, instructions for allocation type should be indicated within the angle brackets using the abbreviations “ADD” or “INV”: <administrative transfer to XX ADD>, <administrative transfer to XX INV>, or < administrative transfer to XX ADD, YY INV, ... and ZZ ADD simultaneously>.
- In certain situations, the “D” entries of 2000-series or Y-series groups may not require a destination (“To”) symbol, however it is required to specify “<no transfer>” in the “To” column for such cases.
- RCL is not needed for finalisation projects.

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4. CHANGES TO THE CPC-TO-IPC CONCORDANCE LIST (CICL)

<u>CPC</u>	<u>IPC</u>	<u>Action*</u>
C23C 2/0032	C23C 2/00	NEW
C23C 2/00322	C23C 2/00	NEW
C23C 2/0034	C23C 2/00	NEW
C23C 2/00342	C23C 2/00	NEW
C23C 2/00344	C23C 2/00	NEW
C23C 2/00348	C23C 2/00	NEW
C23C 2/0035	C23C 2/00	NEW
C23C 2/0036	C23C 2/00	NEW
C23C 2/00361	C23C 2/00	NEW
C23C 2/00362	C23C 2/00	NEW
C23C 2/0038	C23C 2/00	NEW
C23C 2/004	C23C 2/00	NEW
C23C 2/0062	C23C 2/00	NEW
C23C 2/0064	C23C 2/00	NEW
C23C 2/022	C23C 2/02	NEW
C23C 2/0222	C23C 2/02	NEW
C23C 2/0224	C23C 2/02	NEW
C23C 2/024	C23C 2/02	NEW
C23C 2/026	C23C 2/02	NEW
C23C 2/261	C23C 2/26	NEW
C23C 2/29	C23C 2/28	NEW
C23C 2/325	C23C 2/00	NEW
C23C 2/50	C23C 2/00	NEW
C23C 2/51	C23C 2/00	NEW
C23C 2/52	C23C 2/00	NEW
C23C 2/521	C23C 2/00	NEW
C23C 2/522	C23C 2/00	NEW
C23C 2/523	C23C 2/00	NEW
C23C 2/524	C23C 2/00	NEW
C23C 2/5245	C23C 2/00	NEW
C23C 2/525	C23C 2/00	NEW
C23C 2/526	C23C 2/00	NEW
C23C 2/54	C23C 2/00	NEW
C23C 2/542	C23C 2/00	NEW
C23C 2/544	C23C 2/00	NEW

*Action column:

- For an (N) or (Q) entry, provide an IPC symbol and complete the Action column with “NEW.”
- For an existing CPC main trunk entry or indexing entry where the existing IPC symbol needs to be changed, provide an updated IPC symbol and complete the Action column with “UPDATED.”
- For a (D) CPC entry or indexing entry complete the Action column with “DELETE.” IPC symbol does not need to be included in the IPC column.

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- For an (N) 2000 series CPC entry which is positioned within the main trunk scheme (breakdown code) provide an IPC symbol and complete the action column with “NEW”.
- For an (N) 2000 series CPC entry positioned at the end of the CPC scheme (orthogonal code), with no IPC equivalent, complete the IPC column with “CPCONLY” and complete the action column with “NEW”.

NOTES:

- F symbols are not included in the CICL table above.

T and M symbols are not included in the CICL table above unless a change to the existing IPC is desi