EUROPEAN PATENT OFFICE
U.S. PATENT AND TRADEMARK OFFICE

CPC NOTICE OF CHANGES 1857

DATE: JANUARY 1, 2026

PROJECT MP12804

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

Action	**Subclass**	**Group(s)**
SCHEME:		
Titles Changed:	B23K	SUBCLASS
	B23K	1/00, 1/0012, 1/0016, 1/0053, 1/0056, 1/14, 1/20
	B23K	3/00, 3/0376, 3/04, 3/08
	B23K	5/003, 5/02, 5/023, 5/04, 5/24
	B23K	7/00, 7/002, 7/003, 7/005, 7/06, 7/08, 7/10, 7/102
	B23K	9/00, 9/038, 9/0673, 9/0675, 9/08, 9/093, 9/1018, 9/1025, 9/127, 9/16, 9/201, 9/202, 9/207, 9/24, 9/28, 9/287, 9/293, 9/295, 9/32, 9/321, 9/322, 9/323, 9/327
	B23K	10/003, 10/006
	B23K	11/0006, 11/0013, 11/004, 11/0053, 11/0093, 11/084, 11/245, 11/251, 11/30, 11/31
	B23K	13/04, 13/06
	B23K	15/00, 15/0006, 15/0013, 15/002, 15/0086
	B23K	20/008, 20/02, 20/127, 20/129
	B23K	25/00, 25/005
	B23K	26/009, 26/0093, 26/0096, 26/037, 26/0624, 26/067, 26/0853, 26/0861, 26/0884, 26/12, 26/1435, 26/1437, 26/20, 26/348, 26/3576, 26/3584, 26/389, 26/705
	B23K	28/00, 28/006
	B23K	31/00, 31/02, 31/027
	B23K	33/00
	B23K	35/0216, 35/0222, 35/0227, 35/0233, 35/025, 35/0261, 35/26, 35/28, 35/30, 35/32, 35/36, 35/40
	B23K	37/00
	B23K	2101/34
	B23K	2103/04, 2103/16, 2103/30, 2103/38, 2103/42, 2103/50, 2103/56
Warnings Modified:	B23K	SUBCLASS
Guidance Headings New:	B23K	2101/00
DEFINITIONS:		
Definitions Deleted: (no frozen (F) symbol definitions should be deleted)		
Definitions New:	B23K	1/14, 1/20
	B23K	3/04, 3/08

Action	**Subclass**	**Group(s)**
	B23K	5/02, 5/24
	B23K	7/10
	B23K	9/038, 9/08, 9/127, 9/207, 9/24, 9/28, 9/287, 9/32, 9/321, 9/322, 9/323, 9/327
	B23K	10/003, 10/006
	B23K	11/0053, 11/0093, 11/245, 11/30, 11/31
	B23K	13/06
	B23K	20/02, 20/127
	B23K	26/0093, 26/0096, 26/348, 26/389
	B23K	28/006
	B23K	31/02
	B23K	2101/34
	B23K	2103/16
Definitions Modified:	B23K	SUBCLASS
	B23K	1/00
	B23K	3/00
	B23K	7/00
	B23K	9/00
	B23K	10/00
	B23K	11/00
	B23K	13/00
	B23K	15/00
	B23K	17/00
	B23K	20/00
	B23K	23/00
	B23K	25/00
	B23K	26/00, 26/0006, 26/02, 26/0821, 26/12, 26/126, 26/16, 26/18, 26/20, 26/211, 26/32, 26/322, 26/324, 26/34, 26/352, 26/354, 26/36, 26/402, 26/706
	B23K	28/00
	B23K	31/00
	B23K	33/00
	B23K	35/00, 35/001, 35/02, 35/22, 35/36, 35/38, 35/40
	B23K	37/00

The following subclasses/groups are also impacted by this Notice of Changes (indicate subclasses/groups outside of the project scope, such as those listed in the CRL):
C04B, C23F, H01J

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

☒ 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)

CPC NOTICE OF CHANGES 1857

DATE: JANUARY 1, 2026

PROJECT MP12804

1. CLASSIFICATION SCHEME CHANGES

A. New, Modified or Deleted Group(s)

SUBCLASS B23K - SOLDERING OR UNSOLDERING; WELDING; CLADDING OR PLATING BY SOLDERING OR WELDING; CUTTING BY APPLYING HEAT LOCALLY, e.g. FLAME CUTTING; WORKING BY LASER BEAM

Type*	Symbol	Indent Level Number of dots (e.g. 0, 1, 2)	Title "CPC only" text should normally be enclosed in {curly brackets}**	Transferred to#
M	B23K	Subclass	SOLDERING OR UNSOLDERING; WELDING; CLADDING OR PLATING BY SOLDERING OR WELDING; CUTTING BY APPLYING HEAT LOCALLY, e.g. FLAME CUTTING; WORKING BY LASER BEAM	
M	B23K 1/00	0	Soldering, e.g. brazing, or unsoldering (B23K 3/00 takes precedence)	

M	B23K 1/0012	2	{Brazing of heat exchangers}	
M	B23K 1/0016	2	{Soldering of electronic components}	
M	B23K 1/0053	2	{soldering by means of infrared [IR]}	
M	B23K 1/0056	2	{soldering by means of beams, e.g. lasers, electron beams [EB]}	
M	B23K 1/14	1	specially adapted for soldering seams	
M	B23K 1/20	1	Preliminary treatment of work or areas to be soldered, e.g. in respect of a galvanic coating	
M	B23K 3/00	0	Tools, devices or special appurtenances for soldering, e.g. brazing, or unsoldering, not specially adapted for particular methods	
M	B23K 3/0376	3	{comprising carbon heating elements or electrodes (B23K 3/0384, B23K 3/0392 take precedence)}	
M	B23K 3/04	1	Heating appliances	
M	B23K 3/08	1	Auxiliary devices therefor	

M	B23K 5/003	1	{the welding zone being shielded against the influence of the surrounding atmosphere}	
M	B23K 5/02	1	Seam welding	
M	B23K 5/023	2	{of horizontal seams in assembling vertical plates, a welding unit being adapted to travel along the upper horizontal edge of the plates}	
M	B23K 5/04	2	using additional profiled strips or {the} like of welding metal along seam edges	
M	B23K 5/24	2	Arrangements for supporting torches	
M	B23K 7/00	0	Cutting, scarfing, or desurfacing by applying flames	
M	B23K 7/002	1	{Machines, apparatus or equipment for cutting plane workpieces, e.g. plates}	
M	B23K 7/003	2	{Machines, apparatus or equipment for cutting long articles, e.g. cast stands, plates, in parts of predetermined length}	
M	B23K 7/005	1	{Machines, apparatus or equipment specially adapted for cutting curved workpieces}	
U	B23K 7/006	2	{for tubes}	
M	B23K 7/06	1	Machines, apparatus or equipment specially designed for scarfing or desurfacing	
M	B23K 7/08	1	by applying additional compounds or means favouring the cutting, scarfing or desurfacing procedure	
M	B23K 7/10	1	Auxiliary devices, e.g. for guiding or supporting the torch	

M	B23K 7/102	2	{for controlling the spatial relationship between the workpieces and the gas torch}	
M	B23K 9/00	0	Arc welding or cutting	
M	B23K 9/038	2	using moulding means	
M	B23K 9/0673	4	{Ionisation of the arc gap by means of pulsed or high-frequency voltages}	
M	B23K 9/0675	4	{Ionization of the arc gap by means of radiation or particle bombardment}	
M	B23K 9/08	1	Arrangements or circuits for magnetic control of the arc	
M	B23K 9/093	3	{the frequency of the pulses produced being modulable}	
M	B23K 9/1018	4	{Improvements of the power factor of arc welding installations}	
M	B23K 9/1025	4	{Means for suppressing or reducing direct-current [DC] components in alternating-current [AC] arc welding installations}	

M	B23K 9/127	2	Means for tracking lines during arc welding or cutting	
M	B23K 9/16	1	making use of shielding gas	
U	B23K 9/173	2	and of a consumable electrode	
M	B23K 9/201	2	{of the extremity of a small piece on a large basis}	
M	B23K 9/202	3	{by means of portable equipment, e.g. stud-welding gun}	
M	B23K 9/207	2	{Features related to studs}	
M	B23K 9/24	1	Features related to electrodes	
M	B23K 9/28	2	Supporting devices for electrodes	
M	B23K 9/287	3	{Supporting devices for electrode holders}	
M	B23K 9/293	5	{using consumable rod electrodes}	
M	B23K 9/295	5	{using consumable wire electrodes}	
M	B23K 9/32	1	Accessories	

M	B23K 9/321	2	{Protecting means}	
M	B23K 9/322	3	{Head protecting means}	
M	B23K 9/323	2	{Combined coupling means, e.g. gas, electricity, water or the like}	
M	B23K 9/327	2	{Means for transporting supplies}	
M	B23K 10/003	1	{Scarfing, desurfacing or deburring}	
M	B23K 10/006	1	{Control circuits therefor}	
M	B23K 11/0006	1	{the welding zone being shielded against the influence of the surrounding atmosphere}	
M	B23K 11/0013	1	{welding for purposes other than joining, e.g. build-up welding}	
M	B23K 11/004	2	{Welding of a small piece to a large or broad piece}	
M	B23K 11/0053	4	{Stud welding, i.e. resistive}	

M	B23K 11/0093	2	{Welding of honeycomb sandwich structures}	
M	B23K 11/084	3	{of helicoidal seams}	
M	B23K 11/245	3	{using a stepping counter in synchronism with the welding pulses}	
M	B23K 11/251	3	{using analogue means}	
M	B23K 11/30	1	Features relating to electrodes	
M	B23K 11/31	2	Electrode holders {and actuating devices therefor}	
M	B23K 13/04	1	by conduction heating	
M	B23K 13/06	1	characterised by the shielding of the welding zone against influence of the surrounding atmosphere	
M	B23K 15/00	0	Electron-beam welding or cutting	
M	B23K 15/0006	1	{specially adapted for particular articles or work}	
M	B23K 15/0013	1	{Positioning or observing workpieces, e.g. with respect to the impact; Aligning, aiming or focusing electron beams}	
M	B23K 15/002	1	{Devices involving relative movement between electron beam and workpiece}	

M	B23K 15/0086	2	{welding for purposes other than joining, e.g. build-up welding}	
M	B23K 20/008	1	{combining pressure with radiant energy}	
M	B23K 20/02	1	by means of a press {; Diffusion bonding}	
M	B23K 20/127	3	{Friction stir welding involving a mechanical connection}	
M	B23K 20/129	2	{specially adapted for particular articles or work}	
M	B23K 25/00	0	Slag welding, i.e. using a heated layer or mass of powder, slag or the like in contact with the material to be joined	
M	B23K 25/005	1	{Welding for purposes other than joining, e.g. build-up welding}	
M	B23K 26/009	1	{using a non-absorbing, e.g. transparent, reflective or refractive, layer on the workpiece (using a mask on the workpiece B23K 26/0661)}	
M	B23K 26/0093	1	{combined with mechanical machining or metal-working covered by other subclasses than B23K}	

M	B23K 26/0096	1	{Portable laser equipment, e.g. hand-held laser apparatus}	
M	B23K 26/037	3	{by pressing on the workpiece, e.g. using a pressing roller foot}	
M	B23K 26/0624	5	{using ultrashort pulses, i.e. pulses of 1 ns or less}	
M	B23K 26/067	3	Dividing the beam into multiple beams, e.g. multi-focusing	
M	B23K 26/0853	3	{Devices involving movement of the workpiece in at least two axial directions, e.g. in a plane}	
M	B23K 26/0861	4	{in at least three axial directions}	
M	B23K 26/0884	4	{in at least three axial directions, e.g. manipulators, robots}	
M	B23K 26/12	1	in a special environment or atmosphere, e.g. in an enclosure	
M	B23K 26/1435	2	{involving specially adapted flow-control means}	
M	B23K 26/1437	3	{for flow-rate control}	
M	B23K 26/20	1	Bonding (soldering by means of radiant energy B23K 1/005)	
M	B23K 26/348	2	in combination with arc heating, e.g. tungsten inert gas [TIG], metal inert gas [MIG] or plasma welding	

M	B23K 26/3576	3	{Diminishing rugosity, e.g. by grinding, polishing or smoothing}	
M	B23K 26/3584	3	{Increasing rugosity, i.e. roughening}	
M	B23K 26/389	4	{of fluid openings, e.g. nozzles, jets}	
M	B23K 26/705	3	{Beam measuring devices}	
M	B23K 28/00	0	Welding or cutting not covered by groups B23K 5/00 - B23K 26/00	
U	B23K 28/003	1	{Welding in a furnace}	
M	B23K 28/006	1	{Welding metals by means of an electrolyte}	
M	B23K 31/00	0	Processes relevant to this subclass, specially adapted for particular articles or purposes, but not covered by any single one of main groups B23K 1/00 - B23K 28/00	
M	B23K 31/02	1	relating to soldering or welding	
M	B23K 31/027	2	{Making tubes by soldering or welding}	
M	B23K 33/00	0	Specially-profiled edge portions of workpieces for making soldering or welding connections; Filling the seams formed thereby	

M	B23K 35/0216	3	{Rods, electrodes or wires}	
M	B23K 35/0222	2	{for use in soldering or brazing (B23K 35/0205 takes precedence)}	
M	B23K 35/0227	3	{Rods or wires (B23K 35/0244 takes precedence)}	
M	B23K 35/0233	3	{Sheets or foils (B23K 35/0244 takes precedence)}	
M	B23K 35/025	4	{Pastes, creams or slurries}	
M	B23K 35/0261	3	{Rods, electrodes or wires}	
M	B23K 35/26	3	with the principal constituent melting at less than 400°C	
M	B23K 35/28	3	with the principal constituent melting at less than 950°C	
M	B23K 35/30	3	with the principal constituent melting at less than 1550°C	
M	B23K 35/32	3	with the principal constituent melting at more than 1550°C	
M	B23K 35/36	2	Selection of non-metallic compositions, e.g. coatings or fluxes (B23K 35/34 takes precedence); Selection of soldering or welding materials, conjoint with selection of non-metallic compositions, both selections being of interest	
M	B23K 35/40	1	Making wire or rods for soldering or welding	

M	B23K 37/00	0	Auxiliary devices or processes, not specially adapted for a procedure covered by only one of the other main groups of this subclass	
M	B23K 2101/34	1	Coated articles {; Surface treated articles}	
M	B23K 2103/04	2	Steel {or steel} alloys	
M	B23K 2103/16	1	Composite materials	
M	B23K 2103/30	1	{Organic materials}	
M	B23K 2103/38	2	{Fabrics; Fibrous materials}	
M	B23K 2103/42	2	{Plastics other than composite materials}	
M	B23K 2103/50	1	{Inorganic materials other than metals or composite materials}	
M	B23K 2103/56	2	{being semiconducting}	

*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 finalization projects, the deleted "F" symbols should have <no transfer> in the "Transferred to" column.
- For more details about the types of scheme change, see CPC Guide.

B. New, Modified or Deleted Warning notice(s)

SUBCLASS B23K - SOLDERING OR UNSOLDERING; WELDING; CLADDING OR PLATING BY SOLDERING OR WELDING; CUTTING BY APPLYING HEAT LOCALLY, e.g. FLAME CUTTING; WORKING BY LASER BEAM

Type*	Location	Old Warning notice	New/Modified Warning
M	B23K	1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups: B23K 35/04 - B23K 35/20 covered by B23K 35/0205 - B23K 35/0294 B23K 35/363 covered by B23K 35/3601 - B23K 35/3618 2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.	The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups: B23K 35/04 - B23K 35/20 covered by B23K 35/0205 - B23K 35/0294 B23K 35/363 covered by B23K 35/3601 - B23K 35/3618

*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.

D. New, Modified or Deleted Guidance Heading(s)

SUBCLASS B23K - SOLDERING OR UNSOLDERING; WELDING; CLADDING OR PLATING BY SOLDERING OR WELDING; CUTTING BY APPLYING HEAT LOCALLY, e.g. FLAME CUTTING; WORKING BY LASER BEAM

Type*	Location	Old Guidance Heading	New/Modified Guidance Heading
N	B23K 2101/00 – B23K 2103/00		Indexing scheme associated with groups B23K 1/00 - B23K 31/00, relating to articles made by soldering, welding or cutting or to materials to be soldered, welded or cut

*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."

2.A. DEFINITIONS (new)

B23K 1/14

References

Informative references

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

Making tubes involving operations other than soldering	B21C

B23K 1/20

References

Informative references

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

Preparation of surfaces in particular ways, see the relevant subclasses for the treatments or the materials treated, e.g.	C04B, C23C

B23K 3/04

References

Informative references

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

Soldering lamps or blow-pipes	F23D
Electric heating in general	H05B

B23K 3/08

References

Informative references

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

Cleaning pipes or tubes or systems of pipes or tubes, e.g. before soldering	B08B 9/02

B23K 5/02

References

Informative references

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

Making tubes involving operations other than welding	B21C

B23K 5/24

References

Informative references

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

Arrangements for supporting torches not restricted to flame welding	B23K 37/02

B23K 7/10

References

Informative references

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

Guiding means applicable to other metal-working machines	B23Q

B23K 9/038

References

Informative references

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

Auxiliary devices or processes for positioning the molten material, e.g. confining it to a desired area	B23K 37/06

B23K 9/08

References

Informative references

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

Stabilising of the arc position	B23K 9/0737

B23K 9/127

References

Informative references

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

Copying in general	B23Q 35/00

B23K 9/207

References

Informative references

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

Welding studs per se	B23K 35/0288

B23K 9/24

References

Informative references

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

Form or composition of electrodes	B23K 35/00

B23K 9/28

References

Informative references

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

Supporting devices for electrodes not restricted to arc welding or cutting	B23K 37/02

B23K 9/287

References

Informative references

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

Supporting devices for electrode holders not restricted to arc welding or cutting	B23K 37/02

B23K 9/32

References

Informative references

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

Earthing connections	H01R

B23K 9/321

References

Informative references

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

Protective means in general	F16P 1/06

B23K 9/322

References

Informative references

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

Masks, shields or hoods for welders	A61F 9/06

B23K 9/323

References

Informative references

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

Electrical coupling devices	H01R

B23K 9/327

References

Informative references

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

Carriages for supporting the welding or cutting element not restricted to arc welding or cutting	B23K 37/02

B23K 10/003

References

Informative references

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

Machines, apparatus or equipment specially designed for scarfing or desurfacing by applying flames	B23K 7/06

B23K 10/006

References

Informative references

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

Circuits arrangements for plasma torches in general	H05H 1/36

B23K 11/0053

References

Informative references

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

Stud welding with an arc	B23K 9/20

B23K 11/0093

References

Informative references

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

Brazing of honeycomb sandwich structures	B23K 1/0014

B23K 11/245

References

Informative references

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

Electromagnetic counters	G06M

B23K 11/30

References

Informative references

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

Form or composition of electrodes	B23K 35/00

B23K 11/31

References

Informative references

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

Electrode holders not restricted to resistance welding or severing by resistance heating	B23K 37/02

B23K 13/06

References

Informative references

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

Selection of media	B23K 35/38

B23K 20/02

References

Informative references

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

Welding by extrusion or drawing	B23K 20/001
Welding by means of a rolling mill	B23K 20/04

B23K 20/127

References

Informative references

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

Setting rivets by friction heating	B21J 15/027
Uniting components by friction heat forging	B21K 25/005

B23K 26/0093

References

Informative references

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

Combined welding or cutting procedures or apparatus	B23K 28/02

B23K 26/0096

References

Informative references

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

Surgical laser instruments	A61B 18/20
Dental lasers	A61C 1/0046
Hand-held dental apparatus	A61C 19/004

B23K 26/348

References

Informative references

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

Laser beam for starting a welding or cutting arc	B23K 9/067

B23K 26/389

References

Application-oriented references

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

Laser machining of inkjet nozzles	B41J 2/1634

B23K 28/006

References

Informative references

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

Working of metal by the action of a high concentration of electric current on a workpiece using an electrode which takes the place of a tool	B23H

B23K 31/02

References

Informative references

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

Dip or wave soldering in the manufacture of printed circuits	H05K 3/34

B23K 2101/34

Definition statement

This place covers:

- Coated articles, e.g. plated or painted articles;
- Surface treated articles.

B23K 2103/16

Definition statement

This place covers:

Composite materials, e.g. fibre reinforced.

2. A. DEFINITIONS (modified)

B23K

Delete: The entire Definition statement.

Insert: The following new Relationships section.

Relationships with other classification places

Welding of metallic materials is classified in subclass B23K.

Welding of non-metallic materials, provided the methods applied are similar to those used in metal welding and not provided for elsewhere, is classified in subclass B23K.

Welding of preformed plastic parts is classified in group B29C 65/02.

References

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

Informative references

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

Making metal-coated products by extruding metal	B21C 23/22
Building up linings or coverings by casting	B22D 19/08
Casting by dipping	B22D 23/04
Manufacture of composite layers by sintering metal powder	B22F 7/00
Arrangements on machine tools for copying or controlling	B23Q
Cutting in general	B26D
Covering metals or covering materials with metals, not otherwise provided for	C23C
Burners	F23D

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

Special rules of classification

Upon classifying in groups B23K 31/00, B23K 33/00, B23K 35/00 or B23K 37/00, the appropriate classification in B23K 1/00 - B23K 26/00 or subgroups should be added, if applicable.

B23K 1/00

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

Definition statement

This place covers:

- Soldering or brazing, which are processes in which two or more metal items are joined together by melting and flowing a filler metal (solder) into the joint, the filler metal having a lower melting point than the workpiece. Brazing is a form of soldering, wherein the temperatures used to melt the filler metal are above 450°C.
- Unsoldering, wherein solder is removed from a joint prior to resoldering.

References

Insert: The following new Limiting references section.

Limiting references

This place does not cover:

Tools, devices or special appurtenances for soldering, e.g. brazing, or unsoldering, not specially adapted for particular methods	B23K 3/00

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

Informative references

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

Soldering, e.g. brazing, or unsoldering, characterised only by the use of special materials or media	B23K 35/00
Dip or wave soldering in the manufacture of printed circuits	H05K 3/34

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

Special rules of classification

Arc soldering or brazing is classified in groups B23K 9/16 and B23K 1/00.

Arc brazing apparatuses are classified in group B23K 3/0384.

MIG soldering or brazing is classified in groups B23K 9/173 and B23K 1/00.

TIG soldering or brazing is classified in groups B23K 9/167 and B23K 1/00.

B23K 3/00

Delete: The entire Definition statement.

References

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

Informative references

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

Materials used for soldering	B23K 35/00

B23K 7/00

References

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

Informative references

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

Methods, machines or devices for thermal deburring of metal	B23D 79/005

Replace: The existing Glossary of terms table with the following updated table.

Glossary of terms

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

scarfing	also termed deseaming. It is a process for burning out defective areas on the surface of ingots or semi-finished products such as billets so that the product is suitable for subsequent rolling or forging.
desurfacing	removing surface metal by means of oxidizing gas jets

B23K 9/00

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

Definition statement

This place covers:

- Welding methods or apparatus, wherein a welding power supply is used to create an electric arc between an electrode and the base material to melt the metals at the welding point;
- Arc welding or cutting with direct current [DC] or alternating current [AC];
- Arc welding with consumable or non-consumable electrodes;
- Arc welding with or without shielding means;
- Underwater arc welding;

- Backing means for arc welding;
- Inserts between the pieces to be joined through arc welding;
- Power supply for arc welding;
- Drag welding;
- Submerged arc welding;
- Stud welding;
- Percussion welding;
- Protecting means used during arc welding.

References

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

Informative references

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

Electro-slag welding	B23K 25/00
Welding studs	B23K 35/0288
Selection of media for use during welding or cutting	B23K 35/38
Welding transformers	H01F
Electrical coupling devices	H01R
Welding generators	H02K

Replace: The existing Glossary of terms table with the following updated table.

Glossary of terms

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

TIG welding	tungsten inert gas welding

MIG/MAG welding	metal inert gas/metal active gas welding
SAW	submerged arc welding
SMAW	shielded metal arc welding
MMA	manual metal arc welding
stud welding	stud welding is a form of spot welding where a bolt or specially formed nut is welded onto another metal part
percussion welding	percussion welding [PEW] is a type of resistance welding that blends dissimilar metals together. Percussion welding creates a high temperature arc that is formed from a short quick electrical discharge. Immediately following the electrical discharge, pressure is applied which forges the materials together. This type of joining brings the materials together in a percussive manner.
drag welding	known as gravity welding or gravity arc welding. It employs an electrode holder attached to an inclined bar along the length of the weld. Once started, the process continues until the electrode is spent.

B23K 10/00

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

Definition statement

This place covers:

- Plasma arc welding [PAW], wherein heat is produced between an electrode and a constricting orifice (non-transferred arc). Shielding is generally obtained from the hot, ionized gas issuing from the orifice of the constricting nozzle, which may be supplemented by an auxiliary source of shielding gas. Shielding gas may be an inert gas or a mixture of gases.
- Plasma arc cutting [PAC], wherein a pilot arc is first generated between the electrode (cathode) and the nozzle (anode). The pilot arc ionizes gas passing through the nozzle exit orifice. After the ionized gas reduces the electrical resistance between the electrode and the workpiece, the arc transfers from the nozzle to the workpiece. The torch is operated in this transferred plasma arc mode, which is characterized by the conductive flow of ionized gas from the electrode to the workpiece, for the cutting of the workpiece.

References

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

Informative references

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

Circuit arrangements for plasma torches	H05H 1/36

B23K 11/00

References

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

Informative references

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

Brazing of honeycomb sandwich structures	B23K 1/0014
Stud welding with an arc	B23K 9/20
Electromagnetic counters	G06M

B23K 13/00

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

Definition statement

This place covers:

- Welding by conduction heating, wherein a high frequency current produces heat in a tool contacting the workpiece;
- Welding by induction heating, high frequency current (called eddy current or Foucault's current) is produced by induction in the workpiece and is used to heat the same.

B23K 15/00

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

Definition statement

This place covers:

- Electron beam welding, wherein a beam of high-velocity electrons is applied to the materials being joined;
- Electron beam cutting, wherein high-velocity electrons concentrated into a narrow beam are directed toward the work piece, creating heat and vaporizing the material.

B23K 17/00

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

Definition statement

This place covers:

Welding or micromachining using an ion beam.

B23K 20/00

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

Definition statement

This place covers:

- Wire welding; Capillary welding; Ball bonding.
- Isostatic pressure welding.
- Thermo-compression bonding; Bonding tips therefor.
- Explosive welding.
- Ultrasonic welding.
- Friction welding; Friction stir welding.

References

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

Informative references

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

Coating by spraying the coating material in the molten state, e.g. by flame, plasma or electric discharge	C23C 4/00

B23K 23/00

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

Definition statement

This place covers:

- Alumino-thermic welding during which a reacting composition of iron oxide red (rust) powder and aluminium powder is ignited at high temperatures and a strongly exothermic (heat-generating) reaction occurs that produces through reduction and oxidation a white-hot mass of molten iron and a slag of refractory aluminium oxide;
- Welding, wherein heat is generated by an exothermic reaction other than alumino-thermic.

B23K 25/00

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

Definition statement

This place covers:

Electroslag welding [ESW], which is a single pass welding process for thick materials in a vertical or close to vertical position, wherein an electric arc is initially struck by a wire that is fed into the desired weld location, flux is added until the molten slag, reaching the tip of the electrode, extinguishes the arc upon which the wire is then continually fed through a consumable guide tube into the surfaces of the metal workpieces and the filler metal are then melted using the electrical resistance of the molten slag to cause coalescence.

References

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

Informative references

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

Submerged-arc welding [SAW]	B23K 9/18
Alumino-thermic welding	B23K 23/00

B23K 26/00

References

Insert: The following new Limiting references section.

Limiting references

This place does not cover:

Laser sintering of metallic powder	B22F 3/105
Laser sintering of plastics	B29C 67/04
Laser sintering of glass	C03B 19/06
Laser sintering of ceramics	C04B 35/64
Laser assisted deposition	C23C
Laser assisted chemical etching	C23F 1/00

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

Informative references

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

Additive manufacturing, i.e. manufacturing of three-dimensional [3D] objects by additive deposition, additive agglomeration or additive layering of plastics material, e.g. by selective laser sintering	B29C 64/00
Laser marking for applying identification marks	B41M 5/24
General processes of remelting of metals; Apparatus for electroslag or arc remelting of metals	C22B 9/00
Electroplating using locally applied electromagnetic radiation, e.g. lasers	C25D 5/024
Measuring length, thickness, angles, areas, irregularities of surfaces using laser	G01B
Originals for photomechanical production of textured or patterned surfaces, e.g. masks, photo-masks or reticles; Mask blanks or pellicles therefor	G03F 1/00
Lasers per se	H01S 3/00
Semiconductor lasers per se	H01S 5/00

Replace: The existing Synonyms and Keywords text with the following updated text.

Synonyms and Keywords

In patent documents, the following words/expressions are often used as synonyms:

- "multiphoton lithograph", "direct laser lithography" and "direct laser writing [DLW]"

In patent documents, the word/expression in the first column is often used instead of the word/expression in the second column, which is used in the classification scheme of this place:

Masers, X-ray lasers, gamma lasers, optical amplifiers	Laser

B23K 26/0006

References

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

Informative references

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

Surgical instruments, devices or methods for applying laser energy to the body	A61B 18/20
Dental lasers	A61C 1/0046
Eye surgery using laser	A61F 9/008
Laser surface treatment of glass, not in the form of fibres or filaments	C03C 23/0025
Laser surface treatment of glass, in the form of fibres or filaments	C03C 25/6208

Insert: A period at the end of the Special rules section.

Special rules of classification

In this group, the involved material should be identified by allocating the appropriate indexing codes as foreseen in B23K 2103/00 and subgroups.

B23K 26/02

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

Definition statement

This place covers:

- Method or devices for positioning or observing the workpiece;
- Aligning, aiming or focussing the laser beam by exchanging the focussing optics.

References

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

Informative references

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

Optical focussing aids	G02B 7/04
Interchange of lenses in general	G02B 7/14
Automatic generation of focusing signals for optical elements	G02B 7/28

B23K 26/0821

References

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

Informative references

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

Scanning systems using multifaceted mirrors, in general	G02B 26/12

B23K 26/12

References

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

Informative references

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

Features inside the nozzle for feeding the fluid stream through the nozzle	B23K 26/1476

Selection of media, e.g. special atmospheres for surrounding the working area, for use in soldering, welding or cutting	B23K 35/38
Reactive-ion etching	H10P 50/20

B23K 26/126

References

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

Informative references

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

Chemical etching of glass, not in the form of fibres or filaments	C03C 15/00
Chemical etching of glass, in the form of fibres or filaments	C03C 25/68
Chemical etching of metallic material	C23F 1/00
Etching of crystallised non-metallic material with defined structure in gas atmosphere	C30B 33/12

B23K 26/16

References

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

Limiting references

This place does not cover:

Removal of by-products by a fluid stream in conjunction with the laser beam	B23K 26/142

B23K 26/18

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

References

Informative references

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

Observing devices provided with laser radiation protection devices	B23K 26/03
Shaping the laser beam by using masks disposed on the workpiece	B23K 26/0661
Interposition of special material for facilitating bonding	B23K 26/211
Reactive-ion etching	H10P 50/20
Laser anti-reflection devices, e.g. optical isolators	H01S 3/0064

B23K 26/20

Insert: The following new Relationships section.

Relationships with other classification places

Bonding of metallic materials by using laser beam is classified in group B23K 26/20.

Bonding of non-metallic materials by using laser beam, provided the methods applied are similar to those used in metal laser bonding and not provided for elsewhere, is classified in group B23K 26/20.

Joining of preformed plastic parts by heating using laser beam is classified in group B29C 65/16.

References

Delete: The following reference from the Limiting references table.

Limiting references

This place does not cover:

Joining of preformed plastics by heating using laser beam	B29C 65/16

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

Informative references

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

Coupling light guides with opto-electronic elements by welding	G02B 6/4237
Joining of semiconductor bodies for junction formation by direct bonding	H10P 10/12

B23K 26/211

References

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

Informative references

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

Soldering by means of beams, e.g. lasers, electron beams [EB]	B23K 1/0056
Adhesive processes involving heating of the applied adhesive	C09J 5/06

B23K 26/32

Insert: A period at the end of the Special rules section.

Special rules of classification

In this group, the involved material should be identified by allocating the appropriate indexing codes as foreseen in B23K 2103/00 and subgroups.

B23K 26/322

References

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

Limiting references

This place does not cover:

Working by laser beam using absorbing layers on the workpiece	B23K 26/18

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

Informative references

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

Coated articles, e.g. plated or painted made by soldering, welding or cutting; Surface treated articles made by soldering, welding or cutting	B23K 2101/34

B23K 26/324

References

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

Informative references

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

Surgical instruments, devices or methods for applying laser energy to the body	A61B 18/20
Dental lasers	A61C 1/0046
Eye surgery using laser	A61F 9/008
Uniting glass pieces by fusing without substantial reshaping	C03B 23/20
Joining glass to glass by processes other than by fusing	C03C 27/06
Joining burned ceramic articles by heating	C04B 37/00
Treatment of microorganisms or enzymes with electrical or wave energy	C12N 13/00

B23K 26/34

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

Definition statement

This place covers:

Laser cladding.

References

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

Informative references

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

Additive manufacturing of workpieces or articles from metallic powder by direct sintering or melting	B22F 10/20

Sintering of glass	C03B 19/06
Grate sintering of hydraulic cements	C04B 7/4461
Coating metallic material or coating material with metallic material by vacuum evaporation, by sputtering or by ion implantation of the coating forming material	C23C 14/00
Manufacturing by laser welding of machines or engines other than non-positive-displacement machines or engines, wind motors, non-positive displacement pumps	F05B 2230/234

Glossary of terms

Replace: The existing Glossary of terms table with the following updated table.

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

laser net shape manufacturing	laser net shape manufacturing refers to laser cladding or laser consolidation. In laser cladding as well as laser consolidation, a laser beam creates a molten pool on a substrate into which powder is deposited in a beam/powder interaction zone. Concurrently, the substrate on which the deposition is occurring is moving with respect to the beam/powder interaction zone to fabricate the desired cross-sectional geometry. Consecutive layers may be additively deposited, thereby producing a three-dimensional part. Laser cladding is applied to enhance the surface properties of machine parts locally with powder or wires melted via a laser beam. Laser consolidation involves the manufacturing of parts through depositing multiple layers of material.

B23K 26/352

References

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

Informative references

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

Modifying the physical structure of ferrous metals; General methods or devices for heat treatment, e.g. annealing, of ferrous or non-ferrous metals or alloys	C21D
Changing the physical structure of non-ferrous metals or non-ferrous alloys	C22F
Chemical coating of metallic materials or of materials with metallic materials	C23C 16/00 - C23C 20/00
Heat treatment of crystalline material	C30B 33/02
Laser treatment of semiconductor	H10P

Replace: The existing Glossary of terms table with the following updated table.

Glossary of terms

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

annealing	process that produces conditions by heating to above the recrystallization temperature, maintaining a suitable temperature and then cooling

B23K 26/354

References

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

Informative references

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

Surface treatment of glass; Joining glass to glass or other materials	C03C
Remelting metals with heating by wave energy or particle radiation	C22B 9/22
Laser melting for crystal growth	C30B

B23K 26/36

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

Definition statement

This place covers:

Removing material, e.g. ablating, without cutting or boring.

References

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

Limiting references

This place does not cover:

For creating voids inside the workpiece, e.g. for forming flow passages of flow patterns	B23K 26/55
With laser beam entering a face of the workpiece form which it is transmitted through the workpiece material to work on a different workpiece face	B23K 26/57
Laser assisted chemical etching	C23F 1/00

Replace: The existing Application-oriented references table with the following updated table.

Application-oriented references

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

Processing photosensitive materials by stripping	G03F 7/42
Ablation for laser recording	G11B 7/00
Laser wire stripping	H02G 1/128
Etching of printed circuit substrates by laser ablation	H05K 3/0026

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

Informative references

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

Cleaning by laser	B08B 7/0042
Laser removal of surface material for decorative purpose	B44C 1/228
Semiconductor body comprising fuses whose state changes from conductive to non-conductive as a result of the use of an external beam, e.g. laser beam	H10W 20/494

Replace: The existing Glossary of terms table with the following updated table.

Glossary of terms

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

engraving	incising a design on to a hard, usually flat, surface by cutting grooves into it
etching	cutting superficially or partially through the workpiece, e.g. engraving
scribing	cutting deep grooves by laser light on workpieces to separate them mechanically, e.g. perforating semiconductor wafers or ceramic substrates by laser processing, and subsequentially dividing them into separate elements to manufacture integrated circuits

B23K 26/402

References

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

Informative references

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

Surgical instruments, devices or methods for applying laser energy to the body	A61B 18/20

Dental lasers	A61C 1/0046
Eye surgery using laser	A61F 9/008
Working or preserving wood or similar material	B27B - B27M
Scoring cooled glass using a focussed radiation beam, e.g. laser	C03B 33/0222
Severing cooled glass by thermal shock using at least one focussed radiation beam, e.g. laser beam	C03B 33/091
Joining burned ceramic articles by heating	C04B 37/00
Treatment of microorganisms or enzymes with electrical or wave energy	C12N 13/00
Introduction of foreign genetic material into plant cells by physical or non-biological means	C12N 15/8206
Clicking, perforating or cutting leather	C14B 5/00

B23K 26/706

References

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

Informative references

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

Eye-protective goggles for protecting the eyes	A61F 9/02
Protective eye-masks	A61F 9/06

B23K 28/00

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

References

Informative references

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

Arc sustained laser working	B23K 26/1423
Joining workpieces by electrolysis	B23K 28/006
Cutting by means of an electrolyte	B23H
Electrolytic removal of materials	C25F

B23K 31/00

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

Definition statement

This place covers:

- Making of profiled bars;
- Connecting cutting edges or the like to tools;
- Attaching reinforcements to workpieces, e.g. wear-resisting zones to tableware;
- Making tubes by soldering or welding;
- Processes specially adapted for particular articles or purposes relating to cutting or desurfacing;
- Investigating the properties, e.g. the weldability, of materials.

B23K 33/00

References

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

Informative references

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

Projection resistance welding	B23K 11/14
Flanging or other edge treatment	B21D 19/00

B23K 35/00

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

Definition statement

This place covers:

Interlayers, electrodes, rods, wires, welding studs for metallurgical bonding of workpieces, for soldering, brazing, welding techniques, characterised by their mechanical features, composition or media.

Delete: The entire Relationships section.

References

Delete: The entire Limiting references section.

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

Informative references

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

Catalysts	B01J
Manufacture of metal sheets, wire, rods, tubes, profiles or like semi-manufactured products otherwise than by rolling	B21C

Working metallic powder; Manufacture of articles from metallic powder; Making metallic powder; Apparatus or devices specially adapted for metallic powder	B22F
Layered products	B32B
Vehicle, vehicle fitting or vehicle parts, not otherwise provided for	B60R
Motor vehicles; Trailers	B62D
Ceramics; Refractories	C04B
Acyclic or carbocyclic compounds	C07C
Macromolecular compounds	C08F, C08G, C08K, C09D
Heat treatments of welded joints	C21D 9/50
Alloys	C22C
Making non-ferrous alloys by powder metallurgy	C22C 1/04
Details of heat exchangers, of general application	F28F
Electrical cables or conductors	H01B
Electrical contacts	H01H
Semiconductor devices	H10
Electrical connectors	H01R
Electronic components	H05K

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

Special rules of classification

Under B23K 35/00, the last place rule is followed (classification in the last appropriate place) combined with multiple classifications for classifying a 100% disclosed alloy composition. When classifying under B23K 35/00, all essential features disclosed

should be classified as invention information while all other special features disclosed in claims, description, examples and figures or diagrams should be classified as additional information.

Replace: The existing Glossary of terms table with the following updated table.

Glossary of terms

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

soldering	process in which two or more metal items are joined together by melting and flowing a filler metal (solder) into the joint, the filler metal having a lower melting point than the workpiece
brazing	metal-joining process whereby a filler metal is heated above and distributed between two or more close-fitting parts by capillary action. The filler metal is brought slightly above its melting (liquidus) temperature while protected by a suitable atmosphere, usually a flux. It then flows over the base metal (known as wetting) and is then cooled to join the workpieces together; similar to soldering except using higher temperatures to melt the filler.
welding	metal-joining process causing coalescence, usually by melting the workpieces and adding a filler material to form a pool of molten material (the weld pool) that cools to become a strong joint, with pressure sometimes used in conjunction with heat, or by itself, to produce the weld
flux	a chemical cleaning agent; fluxes facilitate soldering, brazing, and welding by removing oxidation from the metals to be joined
welding electrode	electrical conductor used to conduct current through a workpiece to fuse two pieces together
consumable electrodes	electrodes used in gas metal arc welding or shielded metal
non-consumable electrodes	electrodes used in gas tungsten arc welding

B23K 35/001

Insert: A period at the end of the Definition statement text.

Definition statement

This place covers:

Transition pieces for metallurgical bonding of workpieces.

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

Special rules of classification

If a composition is given, it should also be classified in subclass C22C. For example, a process for producing composite body consisting of soldering at least a part of a high-temperature-resistant, metallic or non-metallic component and at least a part of a high-temperature-resistant, non-metallic component, where prior to soldering, a metallic barrier layer, which is impervious to the solder melt, of one or more elements selected from the group consisting of V, Nb, Ta, Cr, Mo, W, Ti, Zr, Hf and alloys thereof, is deposited on that surface of each non-metallic component which is to be soldered will be classified in groups B23K 35/005, B23K 35/001. Documents should also be considered for classification in the following fields: soldering methods B23K 1/19; layered products B32B 7/04, B32B 18/00; ceramics C04B 37/003, C04B 37/026; alloys C22C 14/00, C22C 16/00.

B23K 35/02

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

Definition statement

This place covers:

Rods, electrodes or materials for use in soldering, welding or cutting characterized by mechanical features.

References

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

Informative references

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

Metallic powder metallurgy	B22F

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

Special rules of classification

If a composition is given, it should also be classified in subclass C22C. For example, a bonding wire for semiconductor, comprising a core and an outer peripheral part formed of a conductive metal and the alloy thereof formed mainly of the same type of elements, respectively, and a diffusion layer or an intermetallic compound layer formed of the elements forming the core and the outer peripheral part disposed between the core and the outer peripheral part or comprising a core formed of a first metal having a conductivity or an alloy formed mainly of the first metal, an outer peripheral part formed of a second metal having a conductivity different from that of the first metal of the core or an alloy formed mainly of the second metal, and a diffusion layer or an intermetallic compound layer disposed between the core and the outer peripheral part (metals, alloy disclosed) will be classified in group B23K 35/0272. Documents should also be considered for classification in the following fields: manufacture of wires otherwise than by rolling B21C 37/042; layered products B32B 15/018; semiconductors H10W 72/015 H10W 72/50; and the relevant groups for alloys in C22C.

B23K 35/22

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

Definition statement

This place covers:

Rods, electrodes, materials for use in soldering, welding or cutting characterised by the composition or nature of the material, composition of soldering, brazing or welding materials.

Delete: The entire Relationships section.

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

Special rules of classification

If a composition is given, it should also be classified in the relevant groups under subclass C22C. For example, a mixture for applying a polymer, non-corrosive, electroconductive coating which can be shaped in a low-abrasive manner, to a base, method for producing a non-corrosive, viscoplastic coating on a base, said coating containing polymer and inorganic particles, and to an electroconductive coating containing polymer and inorganic particles will be classified in group B23K 35/226. Documents should also be considered for classification in the following fields: inorganic and macromolecular substances as compounding ingredients in groups C08K 5/0008, C09D 5/082, C09D 5/084, C09D 5/10 and C09D 5/24; H01B 1/22 (use as a cable or conductor). For example, a flux cored wire for welding duplex stainless steel consisting of, by mass% with respect to the mass of the wire as a whole, C: 0.001 to 0.1%, Si: 0.01 to 1.0%, Mn: 2.0 to 6.0%, Cr: 17.0 to 27.0%, Ni: 1.0 to 10.0%, Mo: 0.1 to 3.0%, Al: 0.002 to 0.05%, Mg: 0.0005 to 0.01%, Ti: 0.001 to 0.5%, and N: 0.10 to 0.30%, further limiting P to 0.03% or less and S to 0.01% or less, satisfying 0.73 Cr equivalents – Ni equivalents 4.0 and Ti(mass%) N(mass%) 0.0004, and having a balance of iron and unavoidable impurities will be classified in groups B23K 35/0266, B23K 35/3086, B23K 35/3053 and B23K 35/308. Documents should be considered for classification in the following field: alloys in groups C22C 38/22, C22C 38/38 and C22C 38/40. Similarly, a process of assembling two silicon carbide pieces by non-reactive, moderate refractory welding, comprises contacting the pieces with a non-reactive welding composition respectively a binary alloy formed, as mass percentages, from 56% to 70% silicon and 44% to 30% yttrium, and heating an assembly formed by the pieces and the composition to a sufficient temperature for melting the composition and to form a moderate refractory joint will be classified in B23K 35/327, B23K 35/025 and B23K 35/24. Documents should be considered for classification purposes in the following fields: welding techniques B23K 1/19, B23K 1/20, B23K 1/0008, alloys C22C 28/00, ceramics C04B 37/006.

B23K 35/36

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

Definition statement

This place covers:

Coatings, fluxes compositions, as well as soldering, brazing or welding materials conjoint with non-metallic compositions.

Delete: The entire Relationships section.

References

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

Limiting references

This place does not cover:

Rods, electrodes, materials or media, for use in soldering, welding or cutting, characterised by the composition or nature of the material, comprising compounds which yield metals when heated	B23K 35/34

Insert: The following new Informative references section.

Informative references

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

Selection of soldering or welding materials proper	B23K 35/24

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

Special rules of classification

If a composition is given, it should also be classified in subclass C22C. For example, a cream solder comprising a nitrogen-containing base hydroborofluorate is included by 1x10-3 - 7x10-2 mol. to 100 gr. of flux for solder powder, the nitrogen-containing base being from e.g. propylamine, dipropylamine, allylamine, diallylamine, isobutyl-amine, sec-butylamine, tert-butylamine and the cream solder being for Ag/Pd, Ag/Pt or Ag/Pd/Pt fired body or electrode and also includes a hydrofluorate, hydrochlorate, hydrobrcmate or hydroiodate will be classified in groups B23K 35/3617, B23K 35/3612, B23K 35/025 and B23K 35/22 and will be circulated to organic chemistry field C08. Similarly, a stainless steel flux-cored welding wire for the welding of galvanized steel sheets where the sheath and the flux contain, as metal or alloying components and in a total amount based on the total mass of the wire, C: 0.01 to 0.05%, Si: 0.1 to 1.5%,

Mn: 0.5 to 3%, Ni: 7 to 10% and Cr: 26 to 30% with the F value falling within the range of 30 to 50, that the flux contains, as slag formers, TiO2: 3.8 to 6.8%, SiO2: 1.8 to 3.2%, ZrO2: 1.3% or below, and Al2O3: 0.5% or below, that the total amount of these slag formers and the other slag formers is 7.5 to 10.5%, that TiO2 accounts for 50 to 65% of the total amount of all the slag formers, and that the balance of the sheath and the flux consists of Fe and unavoidable impurities will be classified in groups B23K 35/0266, B23K35/308, B23K 35/362 and B23K 35/368. Documents should also be considered for classification in the following fields: Welding techniques B23K 9/00; Alloys C22C 38/02, C22C 38/04, C22C 38/40, C22C 18/04.

B23K 35/38

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

Definition statement

This place covers:

Selection of media in soldering or welding.

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

Special rules of classification

If a composition is given, it should also be classified in the relevant groups under C22C. For example, a perfluoro-heptaglyme, improved vapour-phase soldering fluid prepared by perfluorination of heptaglyme and method of vapor-phase soldering employing perfluoroheptaglyme as vapor phase soldering fluid is classified in groups B23K 35/386, B23K 35/38.

B23K 35/40

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

Definition statement

This place covers:

Processes of making wire, rods or electrodes for soldering or welding.

References

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

Informative references

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

Processes involving a single technical art, see the relevant subclasses, e.g.	B05D, B21C
Processes for applying liquids or other materials to surfaces, in general	B05D
Manufacture of metal sheets, wire, rods, tubes, profiles or like semi-manufactured products otherwise than by rolling	B21C
Powder metallurgy	B22F

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

Special rules of classification

If a composition is given, it should also be classified in the relevant groups under subclass C22C. For example, a tungsten electrode (alloy composition disclosed) and its method of manufacture will be classified in groups B23K 35/402, C22C 1/04, C22C 27/04 and B23K 9/24. Similarly, a seamless-tube compound welding electrode made by filling of a pre-formed tube closed at the bottom with a mixture consisting of several granulated materials such as flux, de-oxidisers or carbides, which are periodically compacted by means of a punch introduced from the top, following which the tube is size-reduced by rolling or drawing, which also further compacts the filling will be classified in groups B23K 35/406, B23K 35/327, B23K 35/0272 and B23K 35/302.

B23K 37/00

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

Definition statement

This place covers:

- Cooling means for welding or cutting.
- Safety devices for welding or cutting.
- Carriages supporting the welding or cutting element.
- Devices or processes for holding or positioning work.
- Devices or processes for aligning cylindrical work; Clamping devices therefor.
- Devices or processes for positioning molten material, e.g. confining it to a desired area.
- Devices or processes for flash removal.

References

Insert: The following new Informative references section.

Informative references

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

Laser protective screens	B23K 26/706
Eye-shields for welders worn on the operator's body or carried in the hand	A61F 9/00
Details, components or accessories for machine tools, e.g. arrangements for copying or controlling; Machine tools in general, characterised by the construction of particular details or components; Combinations or associations of metal-working machines, not directed to a particular result	B23Q
Other protective shields	F16P 1/06

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

CPC	**IPC**	**Action***
B23K 26/043	B23K 26/042	UPDATED
B23K 26/048	B23K 26/046	UPDATED
B23K 26/0626	B23K 26/062	UPDATED
B23K 26/0643	B23K 26/064	UPDATED
B23K 26/0648	B23K 26/064	UPDATED
B23K 26/0652	B23K 26/064	UPDATED
B23K 26/0661	B23K 26/066	UPDATED

*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.
- 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 <u>not</u> 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 desired.

5. CROSS-REFERENCE LIST (CRL)

Definitions references impacted by this revision project

Location of reference to be changed	**Referenced subclass or group to be changed**	**Section of definition**	**Action; New reference symbol; New text**
C04B 2237/122	B23K 35/32	Informative references	Replace existing text with the following: Selection of soldering or welding materials proper with the principal constituent melting at more than 1550°C
C23F	B23K 7/00	Limiting references	Replace existing text with the following: Desurfacing by applying flames
C23F 4/00	B23K 7/00	Limiting references	Replace existing text with the following: Cutting, scarfing or desurfacing by applying flames, e.g. laser flame cutting
H01J 5/00	B23K, B23K 26/00	Informative references	Replace existing text with the following: Soldering; Welding; Working by laser beam, e.g. welding, cutting or boring
H01J 9/00	B23K, B23K 26/00	Informative references	Replace existing text with the following: Soldering; Welding; Working by laser beam, e.g. welding, cutting or boring
H01J 29/00	B23K, B23K 26/00	Informative references	Replace existing text with the following: Soldering; Welding; Working by laser beam, e.g. welding, cutting or boring

NOTES:

- The CRL tables above are used for changes to locations **outside** of the project scope. Changes to references in scheme titles or definitions inside the project scope will be reflected in the "scheme change" template or one of the "definition" templates.
- In addition to other changes proposed in the tables above, in the column titled "Referenced subclass or group to be changed," **referenced** D symbols should indicate an action of "delete" or should indicate a replacement symbol and **referenced** F symbols should indicate a replacement symbol.
- When a reference is deleted, text related to that reference will also be deleted unless other references or a range of references associated with the same text remain.