

Symbol	Typ	Titel
B	Sektion	PERFORMING OPERATIONS; TRANSPORTING
B23	Klasse	MACHINE TOOLS; METAL-WORKING NOT OTHERWISE PROVIDED FOR
B23K	Unterkategorie	SOLDERING OR UNSOLDERING; WELDING; CLADDING OR PLATING BY SOLDERING OR WELDING; CUTTING BY APPLYING HEAT LOCALLY, e.g. FLAME CUTTING; WORKING BY LASER BEAM (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; covering metals or covering materials with metals, not otherwise provided for C23C; burners F23D)
		<u>Soldering, e.g. brazing, or unsoldering</u>
B23K 1/00	Hauptgruppe	Soldering, e.g. brazing, or unsoldering (B23K 3/00 takes precedence; 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) [1, 5, 2006.01]
B23K 1/002	1-Punkt Untergruppe	. Soldering by means of induction heating [5, 2006.01]
B23K 1/005	1-Punkt Untergruppe	. Soldering by means of radiant energy [5, 2006.01]
B23K 1/008	1-Punkt Untergruppe	. Soldering within a furnace (B23K 1/012 takes precedence) [5, 2006.01]
B23K 1/012	1-Punkt Untergruppe	. Soldering with the use of hot gas [5, 2006.01]
B23K 1/015	2-Punkt Untergruppe	.. Vapour-condensation soldering [5, 2006.01]
B23K 1/018	1-Punkt Untergruppe	. Unsoldering; Removal of melted solder or other residues [5, 2006.01]
B23K 1/06	1-Punkt Untergruppe	. making use of vibrations, e.g. supersonic vibrations [1, 2006.01]
B23K 1/08	1-Punkt Untergruppe	. Soldering by means of dipping in molten solder [1, 2006.01]
B23K 1/14	1-Punkt Untergruppe	. specially adapted for soldering seams (making tubes involving operations other than soldering B21C) [1, 5, 2006.01]
B23K 1/16	2-Punkt Untergruppe	.. longitudinal seams, e.g. of shells [1, 5, 2006.01]
B23K 1/18	2-Punkt Untergruppe	.. circumferential seams, e.g. of shells [1, 5, 2006.01]
B23K 1/19	1-Punkt Untergruppe	. taking account of the properties of the materials to be soldered [3, 2006.01]
B23K 1/20	1-Punkt Untergruppe	. Preliminary treatment of work or areas to be soldered, e.g. in respect of a galvanic coating (preparation of surfaces in particular ways, <u>see</u> the relevant classes for the treatments or the materials treated, e.g. C04B, C23C) [1, 2006.01]
B23K 3/00	Hauptgruppe	Tools, devices, or special appurtenances for soldering, e.g. brazing, or unsoldering, not specially adapted for particular methods (materials used for soldering B23K 35/00) [1, 5, 2006.01]
B23K 3/02	1-Punkt Untergruppe	. Soldering irons; Bits [1, 2006.01]
B23K 3/03	2-Punkt Untergruppe	.. electrically heated [5, 2006.01]
B23K 3/04	1-Punkt Untergruppe	. Heating appliances (soldering lamps or blow-pipes F23D; electric heating in general H05B) [1, 2006.01]
B23K 3/047	2-Punkt Untergruppe	.. electric [5, 2006.01]
B23K 3/053	3-Punkt Untergruppe	... using resistance wires [5, 2006.01]
B23K 3/06	1-Punkt Untergruppe	. Solder feeding devices; Solder melting pans [1, 2006.01]
B23K 3/08	1-Punkt Untergruppe	. Auxiliary devices therefor (cleaning pipes or tubes or systems of pipes or tubes, e.g. before soldering, B08B 9/02) [5, 2006.01]

Symbol	Typ	Titel
<u>Flame welding or cutting</u>		
B23K 5/00	Hauptgruppe	Gas flame welding [1, 2006.01]
B23K 5/02	1-Punkt Untergruppe	. Seam welding (making tubes involving operations other than welding B21C) [1, 2006.01]
B23K 5/04	2-Punkt Untergruppe	.. using additional profiled strips or like of welding metal along seam edges [1, 2006.01]
B23K 5/06	2-Punkt Untergruppe	.. Welding longitudinal seams [1, 2006.01]
B23K 5/08	2-Punkt Untergruppe	.. Welding circumferential seams [1, 2006.01]
B23K 5/10	1-Punkt Untergruppe	. Welding workpieces essentially comprising layers of different metals, e.g. plated workpieces [1, 2006.01]
B23K 5/12	1-Punkt Untergruppe	. taking account of the properties of the material to be welded [1, 2006.01]
B23K 5/14	2-Punkt Untergruppe	.. of non-ferrous metals (B23K 5/16 takes precedence) [1, 2006.01]
B23K 5/16	2-Punkt Untergruppe	.. of different metals [1, 2006.01]
B23K 5/18	1-Punkt Untergruppe	. for purposes other than joining parts, e.g. built-up welding [1, 2006.01]
B23K 5/20	1-Punkt Untergruppe	. making use of vibrations, e.g. supersonic vibrations [1, 2006.01]
B23K 5/213	1-Punkt Untergruppe	. Preliminary treatment [3, 2006.01]
B23K 5/22	1-Punkt Untergruppe	. Auxiliary equipment, e.g. backings, guides [1, 2006.01]
B23K 5/24	2-Punkt Untergruppe	.. Arrangements for supporting torches (not restricted to flame welding B23K 37/02) [1, 2006.01]
B23K 7/00	Hauptgruppe	Cutting, scarfing, or desurfacing by applying flames [1, 2006.01]
B23K 7/06	1-Punkt Untergruppe	. Machines, apparatus, or equipment specially designed for scarfing or desurfacing [1, 2006.01]
B23K 7/08	1-Punkt Untergruppe	. by applying additional compounds or means favouring the cutting, scarfing, or desurfacing procedure [1, 2006.01]
B23K 7/10	1-Punkt Untergruppe	. Auxiliary devices, e.g. for guiding or supporting the torch (guiding means applicable to other metal-working machines B23Q) [1, 2006.01]
<u>Electric welding or cutting</u>		
B23K 9/00	Hauptgruppe	Arc welding or cutting (electro-slag welding B23K 25/00; welding transformers H01F; welding generators H02K) [1, 2006.01]
B23K 9/007	1-Punkt Untergruppe	. Spot arc welding [5, 2006.01]
B23K 9/013	1-Punkt Untergruppe	. Arc cutting, gouging, scarfing or desurfacing [5, 2006.01]
B23K 9/02	1-Punkt Untergruppe	. Seam welding; Backing means; Inserts [1, 2006.01]
B23K 9/022	2-Punkt Untergruppe	.. Welding by making use of electrode vibrations [5, 2006.01]
B23K 9/025	2-Punkt Untergruppe	.. for rectilinear seams [5, 2006.01]
B23K 9/028	2-Punkt Untergruppe	.. for curved planar seams [5, 2006.01]
B23K 9/032	2-Punkt Untergruppe	.. for three-dimensional seams [5, 2006.01]
B23K 9/035	2-Punkt Untergruppe	.. with backing means disposed under the seam [5, 2006.01]
B23K 9/038	2-Punkt Untergruppe	.. using moulding means (not restricted to arc welding B23K 37/06) [5, 2006.01]
B23K 9/04	1-Punkt Untergruppe	. Welding for other purposes than joining, e.g. built-up welding [1, 2006.01]
B23K 9/06	1-Punkt Untergruppe	. Arrangements or circuits for starting the arc, e.g. by generating ignition voltage, or for stabilising the arc [1, 5, 2006.01]

Symbol	Typ	Titel
B23K 9/067	2-Punkt Untergruppe	... Starting the arc [5, 2006.01]
B23K 9/073	2-Punkt Untergruppe	... Stabilising the arc [5, 2006.01]
B23K 9/08	1-Punkt Untergruppe	. Arrangements or circuits for magnetic control of the arc [1, 2006.01]
B23K 9/09	1-Punkt Untergruppe	. Arrangements or circuits for arc welding with pulsed current or voltage [3, 2006.01]
B23K 9/095	1-Punkt Untergruppe	. Monitoring or automatic control of welding parameters [5, 2006.01]
B23K 9/10	1-Punkt Untergruppe	. Other electric circuits therefor; Protective circuits; Remote controls [1, 2006.01]
B23K 9/12	1-Punkt Untergruppe	. Automatic feeding or moving of electrodes or work for spot or seam welding or cutting [1, 2006.01]
B23K 9/127	2-Punkt Untergruppe	... Means for tracking lines during arc welding or cutting (copying in general B23Q 35/00) [5, 2006.01]
B23K 9/133	2-Punkt Untergruppe	... Means for feeding electrodes, e.g. drums, rolls, motors [5, 2006.01]
B23K 9/14	1-Punkt Untergruppe	. making use of insulated electrodes [1, 2006.01]
B23K 9/16	1-Punkt Untergruppe	. making use of shielding gas [1, 2006.01]
B23K 9/167	2-Punkt Untergruppe	... and of a non-consumable electrode [5, 2006.01]
B23K 9/173	2-Punkt Untergruppe	... and of consumable electrode [5, 2006.01]
B23K 9/18	1-Punkt Untergruppe	. Submerged-arc welding [1, 2006.01]
B23K 9/20	1-Punkt Untergruppe	. Stud welding [1, 2006.01]
B23K 9/22	1-Punkt Untergruppe	. Percussion welding [1, 2006.01]
B23K 9/23	1-Punkt Untergruppe	. taking account of the properties of the materials to be welded [3, 2006.01]
B23K 9/235	1-Punkt Untergruppe	. Preliminary treatment [3, 2006.01]
B23K 9/24	1-Punkt Untergruppe	. Features related to electrodes (form or composition of electrodes B23K 35/00) [1, 2006.01]
B23K 9/26	2-Punkt Untergruppe	... Accessories for electrodes, e.g. ignition tips [1, 2006.01]
B23K 9/28	2-Punkt Untergruppe	... Supporting devices for electrodes (not restricted to arc welding or cutting B23K 37/02) [1, 2006.01]
B23K 9/29	3-Punkt Untergruppe	... Supporting devices adapted for making use of shielding means [5, 2006.01]
B23K 9/30	3-Punkt Untergruppe	... Vibrating holders for electrodes (B23K 9/022 takes precedence) [1, 5, 2006.01]
B23K 9/32	1-Punkt Untergruppe	. Accessories (earthing connections H01R) [1, 2006.01]
B23K 10/00	Hauptgruppe	Welding or cutting by means of a plasma [5, 2006.01]
B23K 10/02	1-Punkt Untergruppe	. Plasma welding [5, 2006.01]
B23K 11/00	Hauptgruppe	Resistance welding; Severing by resistance heating [1, 2006.01]
B23K 11/02	1-Punkt Untergruppe	. Pressure butt welding [1, 2006.01]
B23K 11/04	1-Punkt Untergruppe	. Flash butt welding [1, 2006.01]
B23K 11/06	1-Punkt Untergruppe	. using roller electrodes [1, 2006.01]
B23K 11/08	1-Punkt Untergruppe	. Seam welding not restricted to one of the preceding subgroups [1, 2006.01]
B23K 11/087	2-Punkt Untergruppe	... for rectilinear seams [5, 2006.01]
B23K 11/093	2-Punkt Untergruppe	... for curved planar seams [5, 2006.01]

Symbol	Typ	Titel
B23K 11/10	1-Punkt Untergruppe	. Spot welding; Stitch welding [1, 2006.01]
B23K 11/11	2-Punkt Untergruppe	.. Spot welding [5, 2006.01]
B23K 11/12	2-Punkt Untergruppe	.. making use of vibrations [1, 2006.01]
B23K 11/14	1-Punkt Untergruppe	. Projection welding [1, 2006.01]
B23K 11/16	1-Punkt Untergruppe	. taking account of the properties of the material to be welded [1, 2006.01]
B23K 11/18	2-Punkt Untergruppe	.. of non-ferrous metals (B23K 11/20 takes precedence) [1, 2006.01]
B23K 11/20	2-Punkt Untergruppe	.. of different metals [1, 2006.01]
B23K 11/22	1-Punkt Untergruppe	. Severing by resistance heating [1, 2006.01]
B23K 11/24	1-Punkt Untergruppe	. Electric supply or control circuits therefor [1, 2006.01]
B23K 11/25	2-Punkt Untergruppe	.. Monitoring devices [5, 2006.01]
B23K 11/26	2-Punkt Untergruppe	.. Storage discharge welding [1, 2006.01]
B23K 11/28	1-Punkt Untergruppe	. Portable welding equipment [1, 2006.01]
B23K 11/30	1-Punkt Untergruppe	. Features relating to electrodes (form or composition of electrodes B23K 35/00) [1, 2006.01]
B23K 11/31	2-Punkt Untergruppe	.. Electrode holders (not restricted to resistance welding or severing by resistance heating B23K 37/02) [5, 2006.01]
B23K 11/34	1-Punkt Untergruppe	. Preliminary treatment [3, 2006.01]
B23K 11/36	1-Punkt Untergruppe	. Auxiliary equipment (B23K 11/31 takes precedence) [3, 5, 2006.01]
B23K 13/00	Hauptgruppe	Welding by high-frequency current heating [1, 5, 2006.01]
B23K 13/01	1-Punkt Untergruppe	. by induction heating [5, 2006.01]
B23K 13/02	2-Punkt Untergruppe	.. Seam welding [1, 2006.01]
B23K 13/04	1-Punkt Untergruppe	. by conduction heating [5, 2006.01]
B23K 13/06	1-Punkt Untergruppe	. characterised by the shielding of the welding zone against influence of the surrounding atmosphere (selection of media B23K 35/38) [5, 2006.01]
B23K 13/08	1-Punkt Untergruppe	. Electric supply or control circuits therefor [5, 2006.01]
		<u>Other welding or cutting; Working by laser beam [3]</u>
B23K 15/00	Hauptgruppe	Electron-beam welding or cutting (electron- or ion-beam tubes H01J 37/00) [1, 2006.01]
B23K 15/02	1-Punkt Untergruppe	. Control circuits therefor [5, 2006.01]
B23K 15/04	1-Punkt Untergruppe	. for welding annular seams [5, 2006.01]
B23K 15/06	1-Punkt Untergruppe	. within a vacuum chamber (B23K 15/04 takes precedence) [5, 2006.01]
B23K 15/08	1-Punkt Untergruppe	. Removing material, e.g. by cutting, by hole drilling [5, 2006.01]
B23K 15/10	1-Punkt Untergruppe	. Non-vacuum electron beam-welding or cutting [5, 2006.01]
B23K 17/00	Hauptgruppe	Use of the energy of nuclear particles in welding or related techniques [1, 2006.01]
B23K 20/00	Hauptgruppe	Non-electric welding by applying impact or other pressure, with or without the application of heat, e.g. cladding or plating [3, 2006.01]
B23K 20/02	1-Punkt Untergruppe	. by means of a press [3, 2006.01]

Symbol	Typ	Titel
B23K 20/04	1-Punkt Untergruppe	. by means of a rolling mill [3, 2006.01]
B23K 20/06	1-Punkt Untergruppe	. by means of high energy impulses, e.g. magnetic energy [3, 2006.01]
B23K 20/08	2-Punkt Untergruppe	... Explosive welding [3, 2006.01]
B23K 20/10	1-Punkt Untergruppe	. making use of vibrations, e.g. ultrasonic welding [3, 2006.01]
B23K 20/12	1-Punkt Untergruppe	. the heat being generated by friction; Friction welding [3, 2006.01]
B23K 20/14	1-Punkt Untergruppe	. Preventing or minimising gas access, or using protective gases or vacuum during welding (formed by material interposed between workpieces B23K 20/18) [3, 2006.01]
B23K 20/16	1-Punkt Untergruppe	. with interposition of special material to facilitate connection of the parts, e.g. material for absorbing or producing gas [3, 2006.01]
B23K 20/18	1-Punkt Untergruppe	. Zonal welding by interposing weld-preventing substances between zones not to be welded [3, 2006.01]
B23K 20/20	1-Punkt Untergruppe	. Special methods allowing subsequent separation, e.g. of metals of high quality from scrap material [3, 2006.01]
B23K 20/22	1-Punkt Untergruppe	. taking account of the properties of the materials to be welded [3, 2006.01]
B23K 20/227	2-Punkt Untergruppe	... with ferrous layer [5, 2006.01]
B23K 20/233	2-Punkt Untergruppe	... without ferrous layer [5, 2006.01]
B23K 20/24	1-Punkt Untergruppe	. Preliminary treatment [3, 2006.01]
B23K 20/26	1-Punkt Untergruppe	. Auxiliary equipment [3, 2006.01]
B23K 23/00	Hauptgruppe	Alumino-thermic welding [1, 2006.01]
B23K 25/00	Hauptgruppe	Slag welding, i.e. using a heated layer or mass of powder, slag, or the like in contact with the material to be joined (B23K 23/00 takes precedence; submerged-arc welding B23K 9/18) [1, 2006.01]
B23K 26/00	Hauptgruppe	Working by laser beam, e.g. welding, cutting or boring [2, 3, 2006.01, 2014.01]
B23K 26/02	1-Punkt Untergruppe	. Positioning or observing the workpiece, e.g. with respect to the point of impact; Aligning, aiming or focusing the laser beam [3, 2006.01, 2014.01]
B23K 26/03	2-Punkt Untergruppe	... Observing, e.g. monitoring, the workpiece [7, 2006.01]
B23K 26/035	2-Punkt Untergruppe	... Aligning the laser beam (automatically B23K 26/042) [2014.01]
B23K 26/04	2-Punkt Untergruppe	... Automatically aligning, aiming or focusing the laser beam, e.g. using the back-scattered light [3, 2006.01, 2014.01]
B23K 26/042	3-Punkt Untergruppe	... Automatically aligning the laser beam [2014.01]
B23K 26/044	4-Punkt Untergruppe	.... Seam tracking [2014.01]
B23K 26/046	3-Punkt Untergruppe	... Automatically focusing the laser beam [2014.01]
B23K 26/06	2-Punkt Untergruppe	... Shaping the laser beam, e.g. by masks or multi-focusing [3, 2006.01, 2014.01]
B23K 26/062	3-Punkt Untergruppe	... by direct control of the laser beam [2014.01]
B23K 26/0622	4-Punkt Untergruppe	.... by shaping pulses [2014.01]
B23K 26/064	3-Punkt Untergruppe	... by means of optical elements, e.g. lenses, mirrors or prisms [2014.01]
B23K 26/066	4-Punkt Untergruppe	.... by using masks [2014.01]
B23K 26/067	3-Punkt Untergruppe	... Dividing the beam into multiple beams, e.g. multi-focusing [7, 2006.01]

Symbol	Typ	Titel
B23K 26/073	3-Punkt Untergruppe	... Shaping the laser spot [7, 2006.01]
B23K 26/08	1-Punkt Untergruppe	. Devices involving relative movement between laser beam and workpiece [3, 2006.01, 2014.01]
B23K 26/082	2-Punkt Untergruppe	... Scanning systems, i.e. devices involving movement of the laser beam relative to the laser head [2014.01]
B23K 26/10	2-Punkt Untergruppe	... using a fixed support [3, 2006.01]
B23K 26/12	1-Punkt Untergruppe	. in a special environment or atmosphere, e.g. in an enclosure [3, 2006.01, 2014.01]
B23K 26/122	2-Punkt Untergruppe	... in a liquid, e.g. underwater [2014.01]
B23K 26/14	1-Punkt Untergruppe	. using a fluid stream, e.g. a jet of gas, in conjunction with the laser beam; Nozzles therefor (B23K 26/12 takes precedence) [3, 2006.01, 2014.01]
B23K 26/142	2-Punkt Untergruppe	... for the removal of by-products [2014.01]
B23K 26/144	2-Punkt Untergruppe	... the fluid stream containing particles, e.g. powder [2014.01]
B23K 26/146	2-Punkt Untergruppe	... the fluid stream containing a liquid [2014.01]
B23K 26/16	1-Punkt Untergruppe	. Removal of by-products, e.g. particles or vapours produced during treatment of a workpiece (by a fluid stream B23K 26/142) [3, 2006.01]
B23K 26/18	1-Punkt Untergruppe	. using absorbing layers on the workpiece, e.g. for marking or protecting purposes [3, 2006.01]
B23K 26/20	1-Punkt Untergruppe	. Bonding (soldering by means of radiant energy B23K 1/005; joining of preformed plastics parts by heating using laser beam B29C 65/16) [7, 2006.01, 2014.01]
B23K 26/21	2-Punkt Untergruppe	... by welding [2014.01]
B23K 26/211	3-Punkt Untergruppe	... with interposition of special material to facilitate connection of the parts [2014.01]
B23K 26/22	3-Punkt Untergruppe	... Spot welding [7, 2006.01]
B23K 26/24	3-Punkt Untergruppe	... Seam welding [7, 2006.01, 2014.01]
B23K 26/242	4-Punkt Untergruppe	.... Fillet welding, i.e. involving a weld of substantially triangular cross section joining two parts [2014.01]
B23K 26/244	4-Punkt Untergruppe	.... Overlap seam welding [2014.01]
B23K 26/26	4-Punkt Untergruppe	.... of rectilinear seams [7, 2006.01, 2014.01]
B23K 26/262	5-Punkt Untergruppe	..... of longitudinal seams of tubes [2014.01]
B23K 26/28	4-Punkt Untergruppe	..... of curved planar seams [7, 2006.01, 2014.01]
B23K 26/282	5-Punkt Untergruppe	..... of tube sections [2014.01]
B23K 26/30	4-Punkt Untergruppe	..... of three-dimensional seams [7, 2006.01, 2014.01]
B23K 26/302	5-Punkt Untergruppe	..... of helicoidal seams [2014.01]
B23K 26/32	2-Punkt Untergruppe	... taking account of the properties of the material involved [7, 2006.01, 2014.01]
B23K 26/322	3-Punkt Untergruppe	... involving coated metal parts (using absorbing layers on the workpiece B23K 26/18) [2014.01]
B23K 26/323	3-Punkt Untergruppe	... involving parts made of dissimilar metallic material [2014.01]
B23K 26/324	3-Punkt Untergruppe	... involving non-metallic parts [2014.01]
B23K 26/34	1-Punkt Untergruppe	. Laser welding for purposes other than joining [7, 2006.01, 2014.01]

Symbol	Typ	Titel
B23K 26/342	2-Punkt Untergruppe	... Build-up welding [2014.01]
B23K 26/346	1-Punkt Untergruppe	. in combination with welding or cutting covered by groups B23K 5/00-B23K 25/00, e.g. in combination with resistance welding [2014.01]
B23K 26/348	2-Punkt Untergruppe	... in combination with arc heating, e.g. TIG [tungsten inert gas], MIG [metal inert gas] or plasma welding (laser beam for starting a welding or cutting arc B23K 9/067) [2014.01]
B23K 26/351	1-Punkt Untergruppe	. for trimming or tuning of electrical components [2014.01]
B23K 26/352	1-Punkt Untergruppe	. for surface treatment [2014.01]
B23K 26/354	2-Punkt Untergruppe	... by melting [2014.01]
B23K 26/356	2-Punkt Untergruppe	... by shock processing [2014.01]
B23K 26/359	2-Punkt Untergruppe	... by providing a line or line pattern, e.g. a dotted break initiation line [2014.01]
B23K 26/36	1-Punkt Untergruppe	. Removing material (B23K 26/55, B23K 26/57 take precedence) [7, 2006.01, 2014.01]
B23K 26/361	2-Punkt Untergruppe	... for deburring or mechanical trimming (B23K 26/351 takes precedence) [2014.01]
B23K 26/362	2-Punkt Untergruppe	... Laser etching [2014.01]
B23K 26/364	3-Punkt Untergruppe	... for making a groove or trench, e.g. for scribing a break initiation groove [2014.01]
B23K 26/38	2-Punkt Untergruppe	... by boring or cutting [7, 2006.01, 2014.01]
B23K 26/382	3-Punkt Untergruppe	... by boring [2014.01]
B23K 26/384	4-Punkt Untergruppe	... of specially shaped holes [2014.01]
B23K 26/386	4-Punkt Untergruppe	... of blind holes [2014.01]
B23K 26/388	4-Punkt Untergruppe	... Trepanning, i.e. boring by moving the beam spot about an axis [2014.01]
B23K 26/40	2-Punkt Untergruppe	... taking account of the properties of the material involved [7, 2006.01, 2014.01]
B23K 26/402	3-Punkt Untergruppe	... involving non-metallic material, e.g. isolators [2014.01]
B23K 26/50	1-Punkt Untergruppe	. Working by transmitting the laser beam through or within the workpiece [2014.01]
B23K 26/53	2-Punkt Untergruppe	... for modifying or reforming the material inside the workpiece, e.g. for producing break initiation cracks [2014.01]
B23K 26/55	2-Punkt Untergruppe	... for creating voids inside the workpiece, e.g. for forming flow passages or flow patterns [2014.01]
B23K 26/57	2-Punkt Untergruppe	... the laser beam entering a face of the workpiece from which it is transmitted through the workpiece material to work on a different workpiece face, e.g. for effecting removal, fusion splicing, modifying or reforming [2014.01]
B23K 26/60	1-Punkt Untergruppe	. Preliminary treatment [2014.01]
B23K 26/70	1-Punkt Untergruppe	. Auxiliary operations or equipment [2014.01]
B23K 28/00	Hauptgruppe	Welding or cutting not covered by groups B23K 5/00-B23K 26/00 (joining workpieces by electrolysis C25D 2/00; electrolytic removal of materials C25F) [2, 2006.01]
B23K 28/02	1-Punkt Untergruppe	. Combined welding or cutting procedures or apparatus [2, 2006.01, 2014.01]
B23K 31/00	Hauptgruppe	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 (making tubes or profiled bars involving operations other than soldering or welding B21C 37/04, B21C 37/08) [1, 2006.01]

Symbol	Typ	Titel
B23K 31/02	1-Punkt Untergruppe	. relating to soldering or welding (dip or wave soldering in the manufacture of printed circuits H05K 3/34) [1, 2006.01]
B23K 31/10	1-Punkt Untergruppe	. relating to cutting or desurfacing [1, 2006.01]
B23K 31/12	1-Punkt Untergruppe	. relating to investigating the properties, e.g. the weldability, of materials [5, 2006.01]
B23K 33/00	Hauptgruppe	Specially-profiled edge portions of workpieces for making soldering or welding connections; Filling the seams formed thereby [1, 2006.01]
B23K 35/00	Hauptgruppe	Rods, electrodes, materials, or media, for use in soldering, welding, or cutting [1, 2006.01]
B23K 35/02	1-Punkt Untergruppe	. characterised by mechanical features, e.g. shape [1, 2006.01]
B23K 35/04	2-Punkt Untergruppe	... specially designed for use as electrodes (ignition tips for arc welding or cutting B23K 9/26) [1, 2006.01]
B23K 35/06	3-Punkt Untergruppe	... of non-circular cross-section; with special arrangement, e.g. internal [1, 2006.01]
B23K 35/08	4-Punkt Untergruppe	.... multi-cored; multiple [1, 2006.01]
B23K 35/10	4-Punkt Untergruppe	.... with more than one layer of coating or sheathing material [1, 2006.01]
B23K 35/12	2-Punkt Untergruppe	... not specially designed for use as electrodes [1, 2006.01]
B23K 35/14	3-Punkt Untergruppe	... for soldering [1, 2006.01]
B23K 35/16	3-Punkt Untergruppe	... of non-circular cross-section; with special arrangement, e.g. internal (B23K 35/14 takes precedence) [1, 2006.01]
B23K 35/18	4-Punkt Untergruppe	.... multi-cored; multiple [1, 2006.01]
B23K 35/20	4-Punkt Untergruppe	.... with more than one layer of coating or sheathing material [1, 2006.01]
B23K 35/22	1-Punkt Untergruppe	. characterised by the composition or nature of the material [1, 2006.01]
B23K 35/24	2-Punkt Untergruppe	... Selection of soldering or welding materials proper (B23K 35/34 takes precedence) [1, 2006.01]
B23K 35/26	3-Punkt Untergruppe	... with the principal constituent melting at less than 400°C [1, 2006.01]
B23K 35/28	3-Punkt Untergruppe	... with the principal constituent melting at less than 950°C [1, 2006.01]
B23K 35/30	3-Punkt Untergruppe	... with the principal constituent melting at less than 1550°C [1, 2006.01]
B23K 35/32	3-Punkt Untergruppe	... with the principal constituent melting at more than 1550°C [1, 2006.01]
B23K 35/34	2-Punkt Untergruppe	... comprising compounds which yield metals when heated [1, 2006.01]
B23K 35/36	2-Punkt Untergruppe	.. Selection of non-metallic compositions, e.g. coatings, fluxes (B23K 35/34 takes precedence); Selection of soldering or welding materials, conjoint with selection of non-metallic compositions, both selections being of interest (selection of soldering or welding materials proper B23K 35/24) [1, 2, 2006.01]
B23K 35/362	3-Punkt Untergruppe	... Selection of compositions of fluxes (B23K 35/365, B23K 35/368 take precedence) [2, 2006.01]
B23K 35/363	4-Punkt Untergruppe	.... for soldering or brazing [4, 2006.01]
B23K 35/365	3-Punkt Untergruppe	... Selection of non-metallic compositions of coating materials either alone or conjoint with selection of soldering or welding materials [2, 2006.01]
B23K 35/368	3-Punkt Untergruppe	... Selection of non-metallic compositions of core materials either alone or conjoint with selection of soldering or welding materials [2, 2006.01]
B23K 35/38	2-Punkt Untergruppe	.. Selection of media, e.g. special atmospheres for surrounding the working area [1, 2006.01]

Symbol	Typ	Titel
B23K 35/40	1-Punkt Untergruppe	. Making wire or rods for soldering or welding (processes involving a single technical art, <u>see</u> the relevant subclasses, e.g. B05D, B21C) [1, 2006.01]
B23K 37/00	Hauptgruppe	Auxiliary devices or processes, not specially adapted to a procedure covered by only one of the other main groups of this subclass (eye-shields for welders worn on the operator's body or carried in the hand A61F 9/00; applicable to metal-working machines other than soldering, welding, or flame-cutting machines B23Q; other protective shields F16P 1/06) [1, 2006.01]
B23K 37/02	1-Punkt Untergruppe	. Carriages for supporting the welding or cutting element [1, 2006.01]
B23K 37/04	1-Punkt Untergruppe	. for holding or positioning work [1, 2006.01]
B23K 37/047	2-Punkt Untergruppe	.. moving work to adjust its position between soldering, welding or cutting steps (B23K 37/053 takes precedence) [5, 2006.01]
B23K 37/053	2-Punkt Untergruppe	.. aligning cylindrical work; Clamping devices therefor [5, 2006.01]
B23K 37/06	1-Punkt Untergruppe	. for positioning the molten material, e.g. confining it to a desired area [1, 2006.01]
B23K 37/08	1-Punkt Untergruppe	. for flash removal [5, 2006.01]
<u>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. [5]</u>		
B23K 101/00	Hauptgruppe	Articles made by soldering, welding or cutting [5, 2006.01]
B23K 101/02	1-Punkt Untergruppe	. Honeycomb structures [5, 2006.01]
B23K 101/04	1-Punkt Untergruppe	. Tubular or hollow articles [5, 2006.01]
B23K 101/06	2-Punkt Untergruppe	.. Tubes [5, 2006.01]
B23K 101/08	3-Punkt Untergruppe	... finned or ribbed [5, 2006.01]
B23K 101/10	2-Punkt Untergruppe	.. Pipe-lines [5, 2006.01]
B23K 101/12	2-Punkt Untergruppe	.. Vessels [5, 2006.01]
B23K 101/14	2-Punkt Untergruppe	.. Heat exchangers [5, 2006.01]
B23K 101/16	1-Punkt Untergruppe	. Bands or sheets of indefinite length [5, 2006.01]
B23K 101/18	1-Punkt Untergruppe	. Sheet panels [5, 2006.01]
B23K 101/20	1-Punkt Untergruppe	. Tools [5, 2006.01]
B23K 101/22	1-Punkt Untergruppe	. Nets, wire fabrics or the like [5, 2006.01]
B23K 101/24	1-Punkt Untergruppe	. Frameworks [5, 2006.01]
B23K 101/26	1-Punkt Untergruppe	. Railway- or like rails [5, 2006.01]
B23K 101/28	1-Punkt Untergruppe	. Beams [5, 2006.01]
B23K 101/30	1-Punkt Untergruppe	. Chains, hoops or rings [5, 2006.01]
B23K 101/32	1-Punkt Untergruppe	. Wires [5, 2006.01]
B23K 101/34	1-Punkt Untergruppe	. Coated articles [5, 2006.01]
B23K 101/36	1-Punkt Untergruppe	. Electric or electronic devices [5, 2006.01]
B23K 101/38	2-Punkt Untergruppe	.. Conductors [5, 2006.01]
B23K 101/40	2-Punkt Untergruppe	.. Semiconductor devices [5, 2006.01]

Symbol	Typ	Titel
B23K 101/42	2-Punkt Untergruppe	... Printed circuits [5, 2006.01]
B23K 103/00	Hauptgruppe	Materials to be soldered, welded or cut [5, 2006.01]
B23K 103/02	1-Punkt Untergruppe	. Iron or ferrous alloys [5, 2006.01]
B23K 103/04	2-Punkt Untergruppe	... Steel alloys [5, 2006.01]
B23K 103/06	2-Punkt Untergruppe	... Cast-iron alloys [5, 2006.01]
B23K 103/08	1-Punkt Untergruppe	. Non-ferrous metals or alloys [5, 2006.01]
B23K 103/10	2-Punkt Untergruppe	... Aluminium or alloys thereof [5, 2006.01]
B23K 103/12	2-Punkt Untergruppe	... Copper or alloys thereof [5, 2006.01]
B23K 103/14	2-Punkt Untergruppe	... Titanium or alloys thereof [5, 2006.01]
B23K 103/16	1-Punkt Untergruppe	. Composite materials [5, 2006.01]
B23K 103/18	1-Punkt Untergruppe	. Dissimilar materials [5, 2006.01]
B23K 103/20	2-Punkt Untergruppe	... Ferrous alloys and aluminium or alloys thereof [5, 2006.01]
B23K 103/22	2-Punkt Untergruppe	... Ferrous alloys and copper or alloys thereof [5, 2006.01]
B23K 103/24	2-Punkt Untergruppe	... Ferrous alloys and titanium or alloys thereof [5, 2006.01]