

CPC**COOPERATIVE PATENT CLASSIFICATION****B23C**

MILLING (broaching [B23D](#); broach-milling in making gears [B23F](#); arrangement for copying or controlling [B23Q](#))

B23C 1/00**Milling machines not designed for particular work or special operations**

B23C 1/002

. {Gantry-type milling machines}

B23C 1/005

. {with a tool moving in a closed path around the workpiece}

B23C 1/007

. {movable milling machines, e.g. on rails}

B23C 1/02

. with one horizontal working-spindle

B23C 1/025

. . with working-spindle movable in a fixed position

B23C 1/027

. . with working-spindle movable in a vertical direction

B23C 1/04

. with a plurality of horizontal working-spindles

B23C 1/045

. . {Opposed - spindle machines}

B23C 1/06

. with one vertical working-spindle

B23C 1/08

. with a plurality of vertical working-spindles

B23C 1/10

. with both horizontal and vertical working-spindles

B23C 1/12

. with spindle adjustable to different angles, e.g. either horizontal or vertical

B23C 1/14

. with rotary work-carrying table ([work tables for machine tools in general B23Q 1/00](#))

B23C 1/16

. specially designed for control by copying devices {(not used; see [B23Q 35/00](#))}

B23C 1/18

. . for milling while revolving the work

B23C 1/20

. Portable devices or machines ([details or components, e.g. casings, bodies, of portable power-driven tools not particularly related to the operation performed B25F 5/00](#)); Hand-driven devices or machines**B23C 3/00****Milling particular work; Special milling operations; Machines therefor** ([milling gear-teeth B23F](#), [heat assisted machining B23P 25/00](#))

B23C 3/002

. {Milling elongated workpieces}

B23C 3/005

. . {Rails}

B23C 3/007

. {Milling end surfaces of nuts or tubes}

B23C 3/02

. Milling surfaces of revolution ([B23C 3/06](#), [B23C 3/08](#) take precedence)

B23C 3/023

. . {Milling spherical surfaces}

B23C 3/026

. . . {Milling balls}

B23C 3/04

. . while revolving the work

B23C 3/05

. . Finishing valves or valve seats {(machines for grinding seat surfaces, e.g. in valve housings, [B24B 15/00](#))}

B23C 3/051

. . . {Reconditioning of valve seats}

B23C 3/053

. . . . {having means for guiding the tool carrying spindle}

B23C 3/055

. {for engines}

B23C 3/056

. {for taps or valves}

B23C 3/058

. . . {Reconditioning of valves}

B23C 3/06

. Milling crankshafts

- B23C 3/08 . Milling cams, camshafts, or the like
- B23C 3/10 . Relief milling (lathes or turning devices for relieving [B23B5/42](#))
- B23C 3/12 . Trimming or finishing edges, e.g. deburring welded corners
- B23C 3/122 . . {of pipes or cylinders}
- B23C 3/124 . . . {internally}
- B23C 3/126 . . {Portable devices or machines for chamfering edges}
- B23C 3/128 . . {Trimming or finishing edges of doors and windows}
- B23C 3/13 . Surface milling of plates, sheets or strips
- B23C 3/14 . Scrubbing or peeling ingots or similar work-pieces
- B23C 3/16 . Working surfaces curved in two directions
- B23C 3/18 . . for shaping screw-propellers, turbine blades, or impellers
- B23C 3/20 . . for shaping dies
- B23C 3/22 . Forming overlapped joints, e.g. of the ends of piston-rings
- B23C 3/24 . Making square or polygonal ends on work-pieces, e.g. key studs on tools
- B23C 3/26 . Making square or polygonal holes in work-pieces, e.g. key holes in tools
- B23C 3/28 . Grooving workpieces (tread-cutting by milling [B23G 1/32](#))
- B23C 3/30 . . Milling straight grooves, e.g. keyways
- B23C 3/305 . . . {in which more than one milling tool is used simultaneously, e.g. for sheet material}
- B23C 3/32 . . Milling helical grooves, e.g. in making twist-drills
- B23C 3/34 . . Milling grooves of other forms, e.g. circumferential
- B23C 3/35 . . Milling grooves in keys
- B23C 3/355 . . . {Holders for the template keys}
- B23C 3/36 . Milling milling-cutters ([B23C 3/28](#) takes precedence)

- B23C 5/00** **Milling-cutters** (for cutting gear-teeth [B23F 21/12](#))
- B23C 5/003 . {with vibration suppressing means}
- B23C 5/006 . {Details of the milling cutter body}
- B23C 5/02 . characterised by the shape of the cutter
- B23C 5/04 . . Plain cutters, i.e. having essentially a cylindrical or tapered cutting surface of substantial length ([B23C 5/10](#) takes precedence)
- B23C 5/06 . . Face-milling cutters, i.e. having only or primarily a substantially flat cutting surface
- B23C 5/08 . . Disc-type cutters
- B23C 5/10 . . Shank-type cutters, i.e. with an integral shaft
- B23C 5/1009 . . . {Ball nose end mills}
- B23C 5/1018 {with permanently fixed cutting inserts}
- B23C 5/1027 {with one or more removable cutting inserts}
- B23C 5/1036 {having a single cutting insert, the cutting edges of which subtend 180 degrees}
- B23C 5/1045 {having a cutting insert, the cutting edge of which subtends substantially 90 degrees}

B23C 5/1054	. . . {T slot cutters}
B23C 5/1063	. . . . {with permanently fixed cutting inserts}
B23C 5/1072	. . . . {with removable cutting inserts}
B23C 5/1081	. . . {with permanently fixed cutting inserts (B23C 5/1054 and B23C 5/1081 take precedence)}
B23C 5/109	. . . {with removable cutting inserts}
B23C 5/12	. . Cutters specially designed for producing particular profiles (B23C 5/10 takes precedence)
B23C 5/14	. . . essentially comprising curves {(B23C 5/1009 takes precedence)}
B23C 5/16	. characterised by physical features other than shape
B23C 5/165	. . {with chipbreaking or chipdividing equipment (for turning machines B23B 25/02 ; turning tools B23B 27/00 ; drilling machines B23B 47/34)}
B23C 5/18	. . with permanently-fixed cutter-bits or teeth
B23C 5/20	. . with removable cutter bits or teeth {or cutting inserts}
B23C 5/202	. . . {Special by shaped plate-like cutting inserts, i.e. length greater than or equal to width, width greater than or equal to thickness (with removable plate-like turning cutting inserts of special form B23B 27/141)}
B23C 5/205	. . . . {having chip-breakers}
B23C 5/207	. . . . {having a special shape}
B23C 5/22	. . . Securing arrangements for bits or teeth {or cutting inserts}
B23C 5/2204	. . . . {with cutting inserts clamped against the walls of the recess in the shank by a clamping member acting upon the wall of a hole in the insert}
B23C 5/2208	. . . . . {for plate-like cutting inserts (B23C 5/2226 , B23C 5/223 , B23C 5/2234 take precedence)}
B23C 5/2213	. . . . . {Special by shaped cutting inserts}
B23C 5/2217	. . . . . {having chip-breakers}
B23C 5/2221	. . . . . {having a special shape}
B23C 5/2226	. . . . . {for plate-like cutting inserts fitted on an intermediate carrier}
B23C 5/223	. . . . . {for plate-like cutting inserts fitted on a shank, fixed in the cutter body}
B23C 5/2234	. . . . . {for plate-like cutting inserts fitted on a ring or ring segment}
B23C 5/2239	. . . . {with cutting inserts clamped by a clamping member acting almost perpendicular on the cutting face}
B23C 5/2243	. . . . . {for plate-like cutting inserts (B23C 5/2252 , B23C 5/2256 , B23C 5/226 take precedence)}
B23C 5/2247	. . . . . {having a special shape}
B23C 5/2252	. . . . . {for plate-like cutting inserts fitted on an intermediate carrier}
B23C 5/2256	. . . . . {for plate-like cutting inserts fitted on a shank, fixed in the cutter body}
B23C 5/226	. . . . . {for plate-like cutting inserts fitted on a ring or ring segment}
B23C 5/2265	. . . . {by means of a wedge}
B23C 5/2269	. . . . . {for plate-like cutting inserts (B23C 5/2278 , B23C 5/2286 , B23C 5/2291 take precedence)}
B23C 5/2273	. . . . . {having a special shape}
B23C 5/2278	. . . . . {for plate-like cutting inserts fitted on an intermediate carrier}

B23C 5/2282	. . . . .	{having a special shape}
B23C 5/2286	. . . . .	{for plate-like cutting inserts fitted on a shank, fixed in the cutter body}
B23C 5/2291	. . . . .	{for plate-like cutting inserts fitted on a ring or ring segment}
B23C 5/2295	. . . . .	{the cutting elements being clamped simultaneously}
B23C 5/24	. . . . .	adjustable
B23C 5/2403	. . . . .	{with cutting inserts clamped against the walls of the recess in the shank by a clamping member acting upon the wall of a hole in the insert}
B23C 5/2406	. . . . .	{for plate-like cutting inserts (B23C 5/241 , B23C 5/2413 , B23C 5/2417 take precedence)}
B23C 5/241	. . . . .	{for plate-like cutting inserts fitted on an intermediate carrier}
B23C 5/2413	. . . . .	{for plate-like cutting inserts fitted on a shank, fixed in the cutter body}
B23C 5/2417	. . . . .	{for plate-like cutting inserts fitted on a ring or ring segment}
B23C 5/242	. . . . .	{with cutting inserts clamped by a clamping member acting almost perpendicularly on the cutting face}
B23C 5/2424	. . . . .	{for plate-like cutting inserts (B23C 5/2427 , B23C 5/2431 , B23C 5/2434 take precedence)}
B23C 5/2427	. . . . .	{for plate-like cutting inserts fitted on an intermediate carrier}
B23C 5/2431	. . . . .	{for plate-like cutting inserts fitted on a shank, fixed in the cutter body}
B23C 5/2434	. . . . .	{for plate-like cutting inserts fitted on a ring or ring segment}
B23C 5/2437	. . . . .	{clamping by means of a wedge}
B23C 5/2441	. . . . .	{for plate-like cutting inserts (B23C 5/2444 , B23C 5/2448 , B23C 5/2451 take precedence)}
B23C 5/2444	. . . . .	{for plate-like cutting inserts fitted on an intermediate carrier}
B23C 5/2448	. . . . .	{for plate-like cutting inserts fitted on a shank, fixed in the cutter body}
B23C 5/2451	. . . . .	{for plate-like cutting inserts fitted on a ring or ring segment}
B23C 5/2455	. . . . .	{The adjusting means being serrated teeth on the cutter and the cutting insert}
B23C 5/2458	. . . . .	{the cutting elements being clamped or adjusted simultaneously}
B23C 5/2462	. . . . .	{the adjusting means being oblique surfaces}
B23C 5/2465	. . . . .	{the adjusting means being notches}
B23C 5/2468	. . . . .	{the adjusting means being serrations}
B23C 5/2472	. . . . .	{the adjusting means being screws}
B23C 5/2475	. . . . .	{the adjusting means being distance elements, e.g. shims or washers}
B23C 5/2479	. . . . .	{the adjusting means being eccentrics}
B23C 5/2482	. . . . .	{the adjusting means being hydraulic cylinders}
B23C 5/2486	. . . . .	{where the adjustment is made by balancing the toolholders}
B23C 5/2489	. . . . .	{where the adjustment is made by changing the inclination of the inserts}
B23C 5/2493	. . . . .	{where the adjustment is made by deforming the seating surfaces}
B23C 5/2496	. . . . .	{where the adjusting means are gears and racks}
B23C 5/26	. . . . .	Securing milling cutters to the driving spindle
B23C 5/265	. . . . .	{by fluid pressure means}
B23C 5/28	. . . . .	Features relating to lubricating or cooling

B23C 7/00	Milling devices able to be attached to a machine tool, whether or not replacing an operative portion of the machine tool
B23C 7/02	. to lathes
B23C 7/04	. to planing or slotting machines
B23C 9/00	Details or accessories so far as specially adapted to milling machines or cutter (drives, control devices, or accessories, in general B23Q)
B23C 9/005	. {milling heads}
B23C 2200/00	Details of milling cutting inserts
B23C 2200/04	. Overall shape
B23C 2200/0405	. . Hexagonal
B23C 2200/0411	. . . irregular
B23C 2200/0416	. . Irregular
B23C 2200/0422	. . Octagonal
B23C 2200/0427	. . . rounded
B23C 2200/0433	. . Parallelogram
B23C 2200/0438	. . . rounded
B23C 2200/0444	. . Pentagonal
B23C 2200/045	. . Round
B23C 2200/0455	. . Square
B23C 2200/0461	. . . rounded
B23C 2200/0466	. . Star form
B23C 2200/0472	. . Trapezium
B23C 2200/0477	. . Triangular
B23C 2200/0483	. . . rounded
B23C 2200/0488	. . Heptagonal
B23C 2200/0494	. . Rectangular
B23C 2200/08	. Rake or top surfaces
B23C 2200/081	. . with projections (chip breaking projections in general B23C 2200/323)
B23C 2200/082	. . with an elevated clamping surface
B23C 2200/083	. . curved
B23C 2200/085	. . discontinuous
B23C 2200/086	. . with one or more grooves
B23C 2200/087	. . . for chip-breaking (with chip-breaking grooves in general B23C 2200/326)
B23C 2200/088	. . spherical
B23C 2200/12	. Side or flank surfaces
B23C 2200/121	. . with projections
B23C 2200/123	. . curved
B23C 2200/125	. . discontinuous
B23C 2200/126	. . . stepped

B23C 2200/128	. . with one or more grooves
B23C 2200/16	. Supporting or bottom surfaces
B23C 2200/161	. . with projections
B23C 2200/162	. . curved
B23C 2200/164	. . discontinuous
B23C 2200/165	. . with one or more grooves
B23C 2200/167	. . star form
B23C 2200/168	. . with features related to indexing (with lines to permit indexing of round inserts B23C 2200/363)
B23C 2200/20	. Top or side views of the cutting edge
B23C 2200/201	. . Details of the nose radius and immediately surrounding areas
B23C 2200/203	. . Curved cutting edges
B23C 2200/205	. . Discontinuous cutting edges
B23C 2200/206	. . Cutting edges having a wave-form
B23C 2200/208	. . Wiper, i.e. an auxiliary cutting edge to improve surface finish
B23C 2200/24	. Cross section of the cutting edge
B23C 2200/243	. . bevelled or chamfered
B23C 2200/246	. . rounded
B23C 2200/28	. Angles
B23C 2200/283	. . Negative cutting angles
B23C 2200/286	. . Positive cutting angles
B23C 2200/32	. Chip breaking or chip evacuation
B23C 2200/323	. . by chip-breaking projections (with projection on top surface B23C 2200/081)
B23C 2200/326	. . by chip breaking grooves (with grooves on top surface for chip-breaking B23C 2200/087)
B23C 2200/36	. Other features of the milling insert not covered by B23C 2200/04 to B23C 2200/32
B23C 2200/361	. . Fixation holes
B23C 2200/362	. . . Having two fixation holes
B23C 2200/363	. . Lines to permit indexing of round insert (bottom surface with features relating to indexing B23C 2200/168)
B23C 2200/365	. . Lands, i.e. the outer peripheral section of rake faces
B23C 2200/366	. . . Variable
B23C 2200/367	. . Mounted tangentially, i.e. where the rake face is not the face with largest area
B23C 2200/368	. . Roughened surfaces
B23C 2210/00	Details of milling cutters
B23C 2210/02	. Connections between the shanks and detachable cutting heads
B23C 2210/03	. Cutting heads comprised of different material than the shank irrespective of whether the head is detachable from the shank
B23C 2210/04	. Angles
B23C 2210/0407	. . Cutting angles

B23C 2210/0414	. . . different
B23C 2210/0421	. . . negative
B23C 2210/0428	. . . . axial rake angle
B23C 2210/0435	. . . . radial rake angle
B23C 2210/0442	. . . positive
B23C 2210/045	. . . . axial rake angle
B23C 2210/0457	. . . . radial rake angle
B23C 2210/0464	. . . neutral
B23C 2210/0471	. . . . axial rake angle
B23C 2210/0478	. . . . radial rake angle
B23C 2210/0485	. . Helix angles
B23C 2210/0492	. . . different
B23C 2210/08	. Side or top views of the cutting edge
B23C 2210/082	. . Details of the corner region between axial and radial cutting edges
B23C 2210/084	. . Curved cutting edges
B23C 2210/086	. . Discontinuous or interrupted cutting edges
B23C 2210/088	. . Cutting edges with a wave form
B23C 2210/12	. Cross section of the cutting edge
B23C 2210/123	. . Bevelled cutting edges
B23C 2210/126	. . Rounded cutting edges
B23C 2210/16	. Fixation of inserts or cutting bits in the tool (details of connections B23C 2240/00)
B23C 2210/161	. . Elastically deformable clamping members
B23C 2210/163	. . Indexing
B23C 2210/165	. . Fixation bolts
B23C 2210/166	. . Shims
B23C 2210/168	. . Seats for cutting inserts, supports for replaceable cutting bits
B23C 2210/20	. Number of cutting edges
B23C 2210/201	. . one
B23C 2210/202	. . three
B23C 2210/203	. . four
B23C 2210/204	. . five
B23C 2210/205	. . six
B23C 2210/206	. . seven
B23C 2210/207	. . eight
B23C 2210/208	. . ten
B23C 2210/209	. . twelve
B23C 2210/24	. Overall form of the milling cutter (angles B23C 2210/04 ; top or side views of cutting edges B23C 2210/08 ; cross sections of cutting edges B23C 2210/12)
B23C 2210/241	. . Cross sections of the whole milling cutter
B23C 2210/242	. . Form tools, i.e. cutting edges profiles to generate a particular form

B23C 2210/243	. . Cutting parts at both ends
B23C 2210/244	. . Milling cutters comprised of disc-shaped modules or multiple disc-like cutters
B23C 2210/245	. . Milling cutters comprising a disc having a wave form
B23C 2210/246	. . Milling cutters comprising a hole or hollow in the end face or between the cutting edges
B23C 2210/247	. . Stepped milling cutters
B23C 2210/248	. . . with enlarged cutting heads
B23C 2210/28	. Arrangement of teeth
B23C 2210/282	. . Unequal angles between the cutting edges, i.e. cutting edges unequally spaced in the circumferential direction
B23C 2210/285	. . Cutting edges arranged at different diameters
B23C 2210/287	. . Cutting edges arranged at different axial positions or having different lengths in the axial direction
B23C 2210/32	. Details of teeth
B23C 2210/321	. . Lands, i.e. the area on the rake face in the immediate vicinity of the cutting edge
B23C 2210/323	. . Separate teeth, i.e. discrete profiled teeth similar to those of a hob
B23C 2210/325	. . Different teeth, i.e. one tooth having a different configuration to a tooth on the opposite side of the flute
B23C 2210/326	. . File like cutting teeth, e.g. the teeth of cutting burrs
B23C 2210/328	. . Treated cutting edges
B23C 2210/40	. Flutes, i.e. chip conveying grooves
B23C 2210/402	. . of variable depth
B23C 2210/405	. . . having decreasing depth in the direction of the shank from the tip of the tool
B23C 2210/407	. . . having increasing depth in the direction of the shank from the tip of the tool
B23C 2210/44	. Margins, i.e. the part of the peripheral surface immediately adjacent the cutting edge
B23C 2210/445	. . variable
B23C 2210/48	. Chip breakers
B23C 2210/483	. . Chip breaking projections
B23C 2210/486	. . Chip breaking grooves or depressions
B23C 2210/50	. Cutting inserts
B23C 2210/503	. . mounted internally on the cutter
B23C 2210/506	. . mounted so as to be able to rotate freely
B23C 2210/52	. Bushings
B23C 2210/54	. Configuration of the cutting part
B23C 2210/56	. Supporting or guiding sections located on the periphery of the tool
B23C 2210/58	. Brushes
B23C 2210/60	. Axis of the cutter inclined with respect to the axis of rotation
B23C 2210/62	. Selectable cutting diameters
B23C 2210/64	. End milling cutters having a groove in the end cutting face, the groove not being present so as to provide a cutting edge
B23C 2210/66	. Markings, i.e. symbols or indicating marks

- B23C 2210/68 . Reground to nominal diameter by removal of material from both the front of the insert and the back of insert carrier
- B23C 2210/70 . Pilots
- B23C 2210/72 . Rotatable in both directions
- B23C 2210/74 . Slits

B23C 2215/00**Details of workpieces**

- B23C 2215/04 . Aircraft components
- B23C 2215/045 . . Propellers
- B23C 2215/08 . Automotive parts ([B23C 2215/16](#), [B23C 2215/20](#) and [B23C 2215/24](#) take precedence)
- B23C 2215/085 . . Wheels
- B23C 2215/12 . Propellers for boats
- B23C 2215/16 . Camshafts
- B23C 2215/20 . Crankshafts
- B23C 2215/24 . Components of internal combustion engines
- B23C 2215/242 . . Combustion chambers
- B23C 2215/245 . . Connecting rods
- B23C 2215/247 . . Components of diesel engines
- B23C 2215/28 . Nipples
- B23C 2215/32 . Railway tracks
- B23C 2215/36 . Railway wheels
- B23C 2215/40 . Spectacles
- B23C 2215/44 . Turbine blades
- B23C 2215/48 . Kaplan turbines
- B23C 2215/52 . Axial turbine wheels
- B23C 2215/56 . Radial turbine wheels
- B23C 2215/60 . Valve guides in combination with the neighbouring valve seat
- B23C 2215/64 . Well pipe windows, i.e. windows in tubings or casings for wells

B23C 2220/00**Details of milling processes**

- B23C 2220/04 . Milling with the axis of the cutter inclined to the surface being machined
- B23C 2220/08 . Milling with the axis of the tool perpendicular to the workpiece axis
- B23C 2220/12 . Cutting off, i.e. producing multiple discrete components from a single piece of material
- B23C 2220/16 . Chamferring
- B23C 2220/20 . Deburring
- B23C 2220/24 . Production of elliptical holes
- B23C 2220/28 . Finishing ([roughing and finishing B23C 2220/605](#))
- B23C 2220/32 . Five-axis
- B23C 2220/36 . Production of grooves
- B23C 2220/363 . . Spiral grooves
- B23C 2220/366 . . Turbine blade grooves

- B23C 2220/40 . Using guiding means
- B23C 2220/44 . High speed milling
- B23C 2220/48 . Methods of milling not otherwise provided for
- B23C 2220/52 . Orbital drilling, i.e. use of a milling cutter moved in a spiral path to produce a hole
- B23C 2220/56 . Plunge milling
- B23C 2220/60 . Roughing
- B23C 2220/605 . . Roughing and finishing
- B23C 2220/64 . Using an endmill, i.e. a shaft milling cutter, to generate profile of a crankshaft or camshaft
- B23C 2220/68 . Whirling

B23C 2222/00 Materials of tools or workpieces composed of metals, alloys or metal matrices

- B23C 2222/04 . Aluminium
- B23C 2222/06 . Babbitt metal
- B23C 2222/12 . Brass
- B23C 2222/14 . Cast iron
- B23C 2222/16 . Cermet
- B23C 2222/28 . Details of hard metal, i.e. cemented carbide
- B23C 2222/32 . Details of high speed steel ([steel B23C 2222/84](#))
- B23C 2222/52 . Magnesium
- B23C 2222/61 . Metal matrices with metallic or non-metallic particles or fibres
- B23C 2222/64 . Nickel
- B23C 2222/76 . Silver
- B23C 2222/78 . Sodium
- B23C 2222/84 . Steel ([details of high speed steel B23C 2222/32](#))
- B23C 2222/88 . Titanium
- B23C 2222/98 . Zinc

B23C 2224/00 Materials of tools or workpieces composed of a compound including a metal

- B23C 2224/04 . Aluminium oxide
- B23C 2224/13 . Chromium nitride
- B23C 2224/14 . Chromium aluminium nitride (CrAlN)
- B23C 2224/20 . Tantalum carbide
- B23C 2224/22 . Titanium aluminium carbide nitride (TiAlCN)
- B23C 2224/24 . Titanium aluminium nitride (TiAlN)
- B23C 2224/28 . Titanium carbide
- B23C 2224/32 . Titanium carbide nitride (TiCN)
- B23C 2224/36 . Titanium nitride
- B23C 2224/56 . Vanadium aluminium nitride (VAlN)

B23C 2226/00 Materials of tools or workpieces not comprising a metal

B23C 2226/12	. Boron nitride
B23C 2226/125	. . cubic [CBN]
B23C 2226/18	. Ceramic
B23C 2226/27	. Composites, e.g. fibre reinforced composites
B23C 2226/31	. Diamond
B23C 2226/315	. . polycrystalline [PCD]
B23C 2226/33	. Elastomers, e.g. rubber
B23C 2226/37	. Fibreglass
B23C 2226/41	. Gypsum
B23C 2226/42	. Gem, i.e. precious stone
B23C 2226/45	. Glass (milling glass B28D 1/18)
B23C 2226/54	. Paper
B23C 2226/61	. Plastics not otherwise provided for, e.g. nylon
B23C 2226/62	. Polystyrene foam
B23C 2226/72	. Silicon carbide
B23C 2226/73	. Silicon nitride
B23C 2226/75	. Stone, rock or concrete (milling stone or like materials B28D 1/18)
B23C 2228/00	Properties of materials of tools or workpieces, materials of tools or workpieces applied in a specific manner
B23C 2228/04	. applied by chemical vapour deposition [CVD]
B23C 2228/08	. applied by physical vapour deposition [PVD]
B23C 2228/10	. Coating
B23C 2228/12	. Cast, i.e. in the form of a casting
B23C 2228/14	. Flexible
B23C 2228/24	. Hard, i.e. after being hardened
B23C 2228/25	. Honeycomb
B23C 2228/26	. Hot
B23C 2228/49	. Sintered
B23C 2228/50	. Soft metal
B23C 2230/00	Details of chip evacuation (chip evacuation in cutting inserts B23C 2200/32)
B23C 2230/04	. Transport of chips
B23C 2230/045	. . to the middle of the cutter or in the middle of a hollow cutter
B23C 2230/08	. Using suction
B23C 2235/00	Details of milling keys
B23C 2235/04	. Keys with blind holes
B23C 2235/08	. Brushes
B23C 2235/12	. Using a database to store details of the key, the information in the database being used for the generation of the profile of the key
B23C 2235/16	. Dial indicators

B23C 2235/21	<ul style="list-style-type: none"> Calibration by electronic detection of position of probes and cutting wheels
B23C 2235/24	<ul style="list-style-type: none"> Electronic sensors
B23C 2235/28	<ul style="list-style-type: none"> Key blanks
B23C 2235/32	<ul style="list-style-type: none"> Measurement systems
B23C 2235/36	<ul style="list-style-type: none"> Ring keys
B23C 2235/41	<ul style="list-style-type: none"> Scanning systems
B23C 2235/44	<ul style="list-style-type: none"> Templates for the simulation of keys
B23C 2235/48	<ul style="list-style-type: none"> Tracers, probes or styli
B23C 2240/00	Details of connections of tools or workpieces (fixation of the cutting insert or bit in the tool B23C 2210/16)
B23C 2240/04	<ul style="list-style-type: none"> Bayonet connections
B23C 2240/08	<ul style="list-style-type: none"> Brazed connections
B23C 2240/12	<ul style="list-style-type: none"> Connections using captive nuts
B23C 2240/16	<ul style="list-style-type: none"> Welded connections
B23C 2240/21	<ul style="list-style-type: none"> Glued connections
B23C 2240/24	<ul style="list-style-type: none"> Connections using screws
B23C 2240/245	<ul style="list-style-type: none"> <ul style="list-style-type: none"> hollow screws, e.g. for the transmission of coolant
B23C 2240/32	<ul style="list-style-type: none"> Connections using screw threads
B23C 2245/00	Details of adjusting inserts or bits in the milling cutter
B23C 2245/04	<ul style="list-style-type: none"> Adjustable wedge surfaces
B23C 2245/08	<ul style="list-style-type: none"> Setting gauges
B23C 2245/12	<ul style="list-style-type: none"> Spiral discs
B23C 2250/00	Compensating adverse effects during milling
B23C 2250/04	<ul style="list-style-type: none"> Balancing the cutter (vibration damping B23C 2250/16)
B23C 2250/08	<ul style="list-style-type: none"> compensating centrifugal force
B23C 2250/12	<ul style="list-style-type: none"> Cooling and lubrication
B23C 2250/16	<ul style="list-style-type: none"> Damping vibrations (balancing B23C 2250/04)
B23C 2250/21	<ul style="list-style-type: none"> compensating wear of parts not designed to be exchanged as wear parts
B23C 2255/00	Regulation of depth of cut
B23C 2255/04	<ul style="list-style-type: none"> Depth indicators
B23C 2255/08	<ul style="list-style-type: none"> Limitation of depth of cut
B23C 2255/12	<ul style="list-style-type: none"> Depth stops
B23C 2260/00	Details of constructional elements
B23C 2260/04	<ul style="list-style-type: none"> Adjustable elements
B23C 2260/08	<ul style="list-style-type: none"> Bearings
B23C 2260/12	<ul style="list-style-type: none"> Cams
B23C 2260/28	<ul style="list-style-type: none"> Differential screw threads

B23C 2260/40	. Harmonic gearboxes, i.e. reduction gearing including a wave generator, a flex spline or a circular spline
B23C 2260/48	. Indication scales
B23C 2260/52	. Keys, e.g. spanners or Allen keys, especially for assembling or disassembling tooling
B23C 2260/56	. Lasers (improving machinability with laser whilst milling B23P 25/003)
B23C 2260/68	. Rings
B23C 2260/72	. Seals
B23C 2260/76	. Sensors
B23C 2260/80	. Serrations
B23C 2260/84	. Springs
B23C 2260/88	. Steadies
B23C 2265/00	Details of general geometric configurations
B23C 2265/08	. Conical
B23C 2265/12	. Eccentric
B23C 2265/16	. Elliptical
B23C 2265/32	. Polygonal
B23C 2265/36	. Spherical
B23C 2265/40	. Spiral
B23C 2270/00	Details of milling machines, milling processes or milling tools not otherwise provided for
B23C 2270/02	. Use of a particular power source
B23C 2270/022	. . Electricity
B23C 2270/025	. . Hydraulics
B23C 2270/027	. . Pneumatics
B23C 2270/04	. Use of centrifugal force (compensation of effect of centrifugal force B23C 2250/08)
B23C 2270/06	. Use of elastic or plastic deformation (B23C 2210/161 takes precedence)
B23C 2270/08	. Clamping mechanisms or provision for clamping (B23C 2210/16 takes precedence)
B23C 2270/10	. Use of ultrasound
B23C 2270/12	. Centering of two elements relative to one another
B23C 2270/14	. Constructions comprising exactly two similar components
B23C 2270/16	. Constructions comprising three or more similar components
B23C 2270/18	. Milling internal areas of components
B23C 2270/20	. Milling external areas of components