

CPC COOPERATIVE PATENT CLASSIFICATION

B PERFORMING OPERATIONS; TRANSPORTING

(NOTES omitted)

SHAPING

B24 GRINDING; POLISHING

(NOTE omitted)

B24D TOOLS FOR GRINDING, BUFFING, OR SHARPENING (tools for grinding or polishing optical surfaces on lenses or surfaces of similar shape [B24B 13/01](#); grinding heads [B24B 41/00](#); manufacture of abrasive or friction articles or shaped materials containing macromolecular substances [C08J5/14](#); polishing compositions [C09G 1/00](#); abrasives [C09K 3/14](#))

NOTES

1. This subclass covers grinding tools for working on any material
2. Tools for grinding, buffing or sharpening, specially designed for a particular purpose, which purpose is provided for in a single other place, are classified in that place, e.g. [B23F 21/02](#)

WARNING

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.

3/00	Physical features of abrasive bodies, or sheets, e.g. abrasive surfaces of special nature; Abrasive bodies or sheets characterised by their constituents (composition of friction linings F16D 69/02)	3/285	. . . . {Reaction products obtained from aldehydes or ketones}
3/001	. {the constituent being used as supporting member}	3/30	. . . . for close-grained structure
3/002	. . {Flexible supporting members, e.g. paper, woven, plastic materials}	3/32	. . . . for porous or cellular structure
3/004	. . . {with special coatings}	3/34	. characterised by additives enhancing special physical properties, e.g. wear resistance, electric conductivity, self-cleaning properties
3/005	. {the constituent being used during pre- or after-treatment (B24D 3/348 takes precedence)}	3/342	. . {incorporated in the bonding agent}
3/007	. {the constituent being used as bonding agent between different parts of an abrasive tool}	3/344	. . . {the bonding agent being organic}
3/008	. {Abrasive bodies without external bonding agent}	3/346	. . {utilised during polishing, or grinding operation}
3/02	. the constituent being used as bonding agent	3/348	. . {utilised as impregnating agent for porous abrasive bodies (after-treatments in general B24D 3/005)}
3/04	. . and being essentially inorganic	Bonded abrasive wheels	
3/06	. . . metallic {or mixture of metals with ceramic materials, e.g. hard metals, "cermets", cements}	5/00	Bonded abrasive wheels, or wheels with inserted abrasive blocks, designed for acting only by their periphery; Bushings or mountings therefor
3/08	. . . . for close-grained structure, e.g. using metal with low melting point	5/02	. Wheels in one piece
3/10	. . . . for porous or cellular structure, e.g. for use with diamonds as abrasives	5/04	. . with reinforcing means
3/12	. . . water-setting, e.g. concrete	5/06	. with inserted abrasive blocks, e.g. segmental (zonally graded B24D 5/14)
3/14	. . . ceramic, i.e. vitrified bondings {(mixture with metals B24D 3/06)}	5/063	. . {with segments embedded in a matrix which is rubbed away during the grinding process}
3/16	. . . . for close-grained structure, i.e. of high density	5/066	. . {with segments mounted axially one against the other}
3/18	. . . . for porous or cellular structure	5/08	. . with reinforcing means
3/20	. . and being essentially organic	5/10	. with cooling provisions, e.g. with radial slots
3/22	. . . Rubbers {synthetic or natural}	5/12	. Cut-off wheels
3/24	. . . . for close-grained structure {(B24D 3/002 takes precedence)}	5/123	. . {having different cutting segments}
3/26	. . . . for porous or cellular structure	5/126	. . {having an internal cutting edge}
3/28	. . . Resins {or natural or synthetic macromolecular compounds (B24D 3/22 takes precedence)}	5/14	. Zonally-graded wheels; Composite wheels comprising different abrasives
		5/16	. Bushings; Mountings

- 5/165 . . {Balancing means}
- 7/00 Bonded abrasive wheels, or wheels with inserted abrasive blocks, designed for acting otherwise than only by their periphery, e.g. by the front face; Bushings or mountings therefor**
 - 7/005 . {for cutting spherical surfaces}
 - 7/02 . Wheels in one piece
 - 7/04 . . with reinforcing means
 - 7/06 . with inserted abrasive blocks, e.g. segmental (zonally-graded B24D 7/14)
 - 7/063 . . {with segments embedded in a matrix which is rubbed away during the grinding process}
 - 7/066 . . {Grinding blocks; their mountings or supports}
 - 7/08 . . with reinforcing means
 - 7/10 . with cooling provisions
 - 7/12 . with apertures for inspecting the surface to be abraded
 - 7/14 . Zonally-graded wheels; Composite wheels comprising different abrasives
 - 7/16 . Bushings; Mountings
 - 7/18 . Wheels of special form (if specially designed for a particular purpose provided for in a single other class, that class takes precedence; {saw cylinders having their cutting rim equipped with abrasive particles for working stone or glass B28D 1/041})
- 9/00 Wheels or drums supporting in exchangeable arrangement a layer of flexible abrasive material, e.g. sandpaper (wheels or drums as machine elements F16)**
 - 9/003 . {Wheels having flaps of flexible abrasive material supported by a flexible material}
 - 9/006 . {Tools consisting of a rolled strip of flexible material}
 - 9/02 . Expansible drums for carrying flexible material in tubular form, e.g. expanded by centrifugal force
 - 9/04 . Rigid drums for carrying flexible material
 - 9/06 . . able to be stripped-off from a built-in delivery spool
 - 9/08 . Circular back-plates for carrying flexible material
 - 9/085 . . {Devices for mounting sheets on a backing plate}
 - 9/10 . . with suction means for securing the material
- 11/00 Constructional features of flexible abrasive materials; Special features in the manufacture of such materials**
 - 11/001 . {Manufacture of flexible abrasive materials}
 - 11/003 . . {without embedded abrasive particles (B24D 11/005 takes precedence)}
 - 11/005 . . {Making abrasive webs}
 - 11/006 . . . {without embedded abrasive particles}
 - 11/008 . {Finishing manufactured abrasive sheets, e.g. cutting, deforming}
 - 11/02 . Backings, e.g. foils, webs, mesh fabrics
 - 11/04 . Zonally-graded surfaces
 - 11/06 . Connecting the ends of materials, e.g. for making abrasive belts
 - 11/065 . . {Treatment of the ends of flexible abrasive materials before connecting them}
 - 11/08 . Equipment for after-treatment of the coated backings, e.g. for flexing the coating
- 13/00 Wheels having flexibly-acting working parts, e.g. buffing wheels; Mountings therefor**
 - 13/02 . acting by their periphery
 - 13/04 . . comprising a plurality of flaps or strips arranged around the axis
 - 13/045 . . . {comprising flaps not covering the entire periphery of the wheel}
 - 13/06 . . the flaps or strips being individually attached
 - 13/08 . . comprising annular or circular sheets packed side by side
 - 13/085 . . . {comprising flaps with a circular sheet on each side}
 - 13/10 . . comprising assemblies of brushes
 - 13/12 . . comprising assemblies of felted or spongy material, e.g. felt, steel wool, foamed latex
 - 13/14 . acting by the front face
 - 13/142 . . {Wheels of special form}
 - 13/145 . . {having a brush-like working surface}
 - 13/147 . . {comprising assemblies of felted or spongy material; comprising pads surrounded by a flexible material}
 - 13/16 . . comprising pleated flaps or strips
 - 13/18 . with cooling provisions
 - 13/20 . Mountings for the wheels
- 15/00 Hand tools or other devices for non-rotary grinding, polishing, or stropping**
 - 15/02 . rigid; with rigidly-supported operative surface
 - 15/023 . . {using in exchangeable arrangement a layer of flexible material}
 - 15/026 . . . {able to be stripped-off from a built-in delivery spool}
 - 15/04 . resilient; with resiliently-mounted operative surface
 - 15/045 . . {Glove-shaped abrasive devices}
 - 15/06 . specially designed for sharpening cutting edges
 - 15/061 . . {for electric shaving blades}
 - 15/063 . . {for grinding shears, scissors}
 - 15/065 . . {for sharpening both knives and scissors}
 - 15/066 . . {for sharpening skate blades, i.e. blades having two sharp edges defined by three surfaces intersecting in pairs at an angle of substantially 90°}
 - 15/068 . . {for sharpening ski edges, i.e. sharp edges defined by two surfaces intersecting at an angle of substantially 90°}
 - 15/08 . . of knives; of razors
 - 15/081 . . . {with sharpening elements in interengaging or in mutual contact}
 - 15/082 {the elements being rotatable}
 - 15/084 . . . {the sharpening elements being fitted to knife sheaths, holders or handles}
 - 15/085 . . . {with reciprocating whetstones}
 - 15/087 {having a crank handle}
 - 15/088 . . . {with whetting leather}
 - 15/10 . . of safety-razor blades (devices with mechanically-operated parts B24B 3/50)
 - 15/105 . . . {Holders therefor}
- 18/00 Manufacture of grinding tools {or other grinding devices}, e.g. wheels, not otherwise provided for**
 - 18/0009 . {using moulds or presses}
 - 18/0018 . {by electrolytic deposition}
 - 18/0027 . {by impregnation}
 - 18/0036 . {by winding up abrasive bands}
 - 18/0045 . {by stacking sheets of abrasive material}
 - 18/0054 . {by impressing abrasive powder in a matrix}

- 18/0063 . {by extrusion}
 - 18/0072 . {using adhesives for bonding abrasive particles or grinding elements to a support, e.g. by gluing}
 - 18/0081 . {of wire-reinforced grinding tools}
 - 18/009 . {Tools not otherwise provided for}
 - 99/00** **Subject matter not provided for in other groups of this subclass {(B28D 1/124 takes precedence)}**
 - 99/005 . {Segments of abrasive wheels}
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2201/00 Bushings or mountings integral with the grinding wheel

2203/00 Tool surfaces formed with a pattern

2205/00 Grinding tools with incorporated marking device