

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](#)

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](#))

- 3/001 . {the constituent being used as supporting member}
- 3/002 . . {Flexible supporting members, e.g. paper, woven, plastic materials}
- 3/004 . . . {with special coatings}
- 3/005 . {the constituent being used during pre- or after-treatment ([B24D 3/348](#) takes precedence)}
- 3/007 . {the constituent being used as bonding agent between different parts of an abrasive tool}
- 3/008 . {Abrasive bodies without external bonding agent}
- 3/02 . the constituent being used as bonding agent
- 3/04 . . and being essentially inorganic
- 3/06 . . . metallic {or mixture of metals with ceramic materials, e.g. hard metals, "cermets", cements}
- 3/08 for close-grained structure, e.g. using metal with low melting point
- 3/10 for porous or cellular structure, e.g. for use with diamonds as abrasives
- 3/12 . . . water-setting, e.g. concrete
- 3/14 . . . ceramic, i.e. vitrified bondings {(mixture with metals [B24D 3/06](#))}
- 3/16 for close-grained structure, i.e. of high density
- 3/18 for porous or cellular structure
- 3/20 . . and being essentially organic
- 3/22 . . . Rubbers {synthetic or natural}
- 3/24 for close-grained structure {([B24D 3/002](#) takes precedence)}
- 3/26 for porous or cellular structure
- 3/28 . . . Resins {or natural or synthetic macromolecular compounds ([B24D 3/22](#) takes precedence)}
- 3/285 {Reaction products obtained from aldehydes or ketones}
- 3/30 for close-grained structure
- 3/32 for porous or cellular structure

- 3/34 . characterised by additives enhancing special physical properties, e.g. wear resistance, electric conductivity, self-cleaning properties
- 3/342 . . {incorporated in the bonding agent}
- 3/344 . . . {the bonding agent being organic}
- 3/346 . . {utilised during polishing, or grinding operation}
- 3/348 . . {utilised as impregnating agent for porous abrasive bodies (after-treatments in general [B24D 3/005](#))}

Bonded abrasive wheels

- 5/00 Bonded abrasive wheels, or wheels with inserted abrasive blocks, designed for acting only by their periphery; Bushings or mountings therefor**
- 5/02 . Wheels in one piece
- 5/04 . . with reinforcing means
- 5/06 . with inserted abrasive blocks, e.g. segmental (zonally graded [B24D 5/14](#))
- 5/063 . . {with segments embedded in a matrix which is rubbed away during the grinding process}
- 5/066 . . {with segments mounted axially one against the other}
- 5/08 . . with reinforcing means
- 5/10 . with cooling provisions, e.g. with radial slots
- 5/12 . Cut-off wheels
- 5/123 . . {having different cutting segments}
- 5/126 . . {having an internal cutting edge}
- 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)	13/085	• . . . {comprising flaps with a circular sheet on each side}
7/063	• . {with segments embedded in a matrix which is rubbed away during the grinding process}	13/10	• . comprising assemblies of brushes
7/066	• . {Grinding blocks; their mountings or supports}	13/12	• . comprising assemblies of felted or spongy material, e.g. felt, steel wool, foamed latex
7/08	• . with reinforcing means	13/14	• acting by the front face
7/10	• with cooling provisions	13/142	• . {Wheels of special form}
7/12	• with apertures for inspecting the surface to be abraded	13/145	• . {having a brush-like working surface}
7/14	• Zonally-graded wheels; Composite wheels comprising different abrasives	13/147	• . {comprising assemblies of felted or spongy material; comprising pads surrounded by a flexible material}
7/16	• Bushings; Mountings	13/16	• . comprising pleated flaps or strips
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 })	13/18	• with cooling provisions
		13/20	• Mountings for the wheels
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)	15/00	Hand tools or other devices for non-rotary grinding, polishing, or stropping
9/003	• {Wheels having flaps of flexible abrasive material supported by a flexible material}	15/02	• rigid; with rigidly-supported operative surface
9/006	• {Tools consisting of a rolled strip of flexible material}	15/023	• . {using in exchangeable arrangement a layer of flexible material}
9/02	• Expansible drums for carrying flexible material in tubular form, e.g. expanded by centrifugal force	15/026	• . . . {able to be stripped-off from a built-in delivery spool}
9/04	• Rigid drums for carrying flexible material	15/04	• resilient; with resiliently-mounted operative surface
9/06	• . able to be stripped-off from a built-in delivery spool	15/045	• . {Glove-shaped abrasive devices}
9/08	• Circular back-plates for carrying flexible material	15/06	• specially designed for sharpening cutting edges
9/085	• . {Devices for mounting sheets on a backing plate}	15/061	• . {for electric shaving blades}
9/10	• . with suction means for securing the material	15/063	• . {for grinding shears, scissors}
11/00	Constructional features of flexible abrasive materials; Special features in the manufacture of such materials	15/065	• . {for sharpening both knives and scissors}
11/001	• {Manufacture of flexible abrasive materials}	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°}
11/003	• . {without embedded abrasive particles (B24D 11/005 takes precedence)}	15/068	• . {for sharpening ski edges, i.e. sharp edges defined by two surfaces intersecting at an angle of substantially 90°}
11/005	• . {Making abrasive webs}	15/08	• . of knives; of razors
11/006	• . . {without embedded abrasive particles}	15/081	• . . {with sharpening elements in interengaging or in mutual contact}
11/008	• {Finishing manufactured abrasive sheets, e.g. cutting, deforming}	15/082	• . . . {the elements being rotatable}
11/02	• Backings, e.g. foils, webs, mesh fabrics	15/084	• . . . {the sharpening elements being fitted to knife sheaths, holders or handles}
11/04	• Zonally-graded surfaces	15/085	• . . . {with reciprocating whetstones}
11/06	• Connecting the ends of materials, e.g. for making abrasive belts	15/087	• . . . {having a crank handle}
11/065	• . {Treatment of the ends of flexible abrasive materials before connecting them}	15/088	• . . . {with whetting leather}
11/08	• Equipment for after-treatment of the coated backings, e.g. for flexing the coating	15/10	• . of safety-razor blades (devices with mechanically-operated parts B24B 3/50)
13/00	Wheels having flexibly-acting working parts, e.g. buffing wheels; Mountings therefor	15/105	• . . . {Holders therefor}
13/02	• acting by their periphery	18/00	Manufacture of grinding tools {or other grinding devices}, e.g. wheels, not otherwise provided for
13/04	• . comprising a plurality of flaps or strips arranged around the axis	18/0009	• {using moulds or presses}
13/045	• . . . {comprising flaps not covering the entire periphery of the wheel}	18/0018	• {by electrolytic deposition}
13/06	• . the flaps or strips being individually attached	18/0027	• {by impregnation}
13/08	• . comprising annular or circular sheets packed side by side	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}

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