

Symbol	Typ	Titel
B	Sektion	SECTION B — PERFORMING OPERATIONS; TRANSPORTING
B28	Klasse	WORKING CEMENT, CLAY, OR STONE
B28B	Unterklasse	SHAPING CLAY OR OTHER CERAMIC COMPOSITIONS, SLAG OR MIXTURES CONTAINING CEMENTITIOUS MATERIAL, e.g. PLASTER (foundry moulding B22C; working stone or stone-like material B28D; shaping of substances in a plastic state, in general B29C; making layered products not composed wholly of these substances B32B; shaping <u>in situ</u>, <u>see</u> the relevant classes of section E)
B28B 1/00	Hauptgruppe	Producing shaped articles from the material (using presses B28B 3/00; shaping on moving conveyers B28B 5/00; producing tubular articles B28B 21/00)
B28B 1/02	1-Punkt Untergruppe	. by turning or jiggering
B28B 1/04	1-Punkt Untergruppe	. by tamping or ramming (followed by pressing B28B 3/02)
B28B 1/08	1-Punkt Untergruppe	. by vibrating or jolting
B28B 1/087	2-Punkt Untergruppe	. . by means acting on the mould [6]
B28B 1/093	2-Punkt Untergruppe	. . by means directly acting on the material, e.g. by cores wholly or partly immersed in the material (internal vibrators for compacting concrete <u>in situ</u> E04G 21/08) [6]
B28B 1/10	2-Punkt Untergruppe	. . and applying pressure otherwise than by the use of presses
B28B 1/14	1-Punkt Untergruppe	. by simple casting, the material being neither forcibly fed nor positively compacted (for molten material B28B 1/54)
B28B 1/16	2-Punkt Untergruppe	. . for producing layered articles (coating B28B 11/04)
B28B 1/20	1-Punkt Untergruppe	. by centrifugal or rotational casting (slip-casting involving rotation of the mould B28B 1/28; for molten material B28B 1/54)
B28B 1/24	1-Punkt Untergruppe	. by injection moulding
B28B 1/26	1-Punkt Untergruppe	. by slip-casting, i.e. by casting a suspension or dispersion of the material in a liquid-absorbent or porous mould, the liquid being allowed to soak into or pass through the walls of the mould; Moulds therefor (B28B 1/52 takes precedence)
B28B 1/28	2-Punkt Untergruppe	. . involving rotation of the mould
B28B 1/29	1-Punkt Untergruppe	. by profiling or strickling the material in open moulds or on moulding surfaces
B28B 1/30	1-Punkt Untergruppe	. by applying the material on to a core, or other moulding surface to form a layer thereon (to form a permanent layer B28B 19/00)
B28B 1/32	2-Punkt Untergruppe	. . by projecting, e.g. spraying (spraying in general B05B, B05D)
B28B 1/34	3-Punkt Untergruppe	. . . by centrifugal force
B28B 1/38	2-Punkt Untergruppe	. . by dipping (in general B05C, B05D)
B28B 1/40	2-Punkt Untergruppe	. . by wrapping, e.g. winding
B28B 1/42	3-Punkt Untergruppe	. . . using mixtures containing fibres, e.g. for making sheets by slitting the wound layer
B28B 1/44	1-Punkt Untergruppe	. by forcing cores into filled moulds for forming hollow articles
B28B 1/48	1-Punkt Untergruppe	. by removing material from solid section preforms for forming hollow articles, e.g. by punching or boring
B28B 1/50	1-Punkt Untergruppe	. specially adapted for producing articles of expanded material, e.g. cellular concrete (chemical aspects C04B)

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B28B 1/52	1-Punkt Untergruppe	. specially adapted for producing articles from mixtures containing fibres (by wrapping on to mandrels B28B 1/42)
B28B 1/54	1-Punkt Untergruppe	. specially adapted for producing articles from molten material, e.g. slag (chemical aspects C04B)
B28B 3/00	Hauptgruppe	Producing shaped articles from the material by using presses (shaping on moving conveyers B28B 5/00); Presses specially adapted therefor (presses in general B30B)
B28B 3/02	1-Punkt Untergruppe	. wherein a ram exerts pressure on the material in a moulding space; Ram heads of special form
B28B 3/04	2-Punkt Untergruppe	. . with one ram per mould (B28B 3/10 takes precedence)
B28B 3/06	3-Punkt Untergruppe	. . . with two or more ram and mould sets
B28B 3/08	2-Punkt Untergruppe	. . with two or more rams per mould
B28B 3/10	2-Punkt Untergruppe	. . each charge of material being compressed against previously formed body
B28B 3/12	1-Punkt Untergruppe	. wherein one or more rollers exert pressure on the material
B28B 3/14	2-Punkt Untergruppe	. . with co-operating pocketed rollers
B28B 3/16	2-Punkt Untergruppe	. . with co-operating profiled rollers
B28B 3/18	2-Punkt Untergruppe	. . Roller-and-ring machines, i.e. with roller disposed within a ring and co-operating with the inner surface of the ring
B28B 3/20	1-Punkt Untergruppe	. wherein the material is extruded
B28B 3/22	2-Punkt Untergruppe	. . by screw or worm
B28B 3/24	2-Punkt Untergruppe	. . by reciprocating plunger
B28B 3/26	2-Punkt Untergruppe	. . Extrusion dies
B28B 5/00	Hauptgruppe	Producing shaped articles from the material in moulds or on moulding surfaces, carried or formed by, in, or on conveyers irrespective of the manner of shaping (shaping aspects, <u>see</u> the relevant groups)
B28B 5/02	1-Punkt Untergruppe	. on conveyers of the endless-belt or chain type (in combination with pressing rollers B28B 3/12)
B28B 5/04	1-Punkt Untergruppe	. in moulds moved in succession past one or more shaping stations (on turntables B28B 5/06)
B28B 5/06	1-Punkt Untergruppe	. in moulds on a turntable
B28B 5/08	2-Punkt Untergruppe	. . intermittently rotated
B28B 5/10	1-Punkt Untergruppe	. in moulds carried on the circumference of a rotating drum
B28B 5/12	2-Punkt Untergruppe	. . intermittently rotated
B28B 7/00	Hauptgruppe	Moulds; Cores; Mandrels (specially adapted for the production of tubular articles B28B 21/00)
B28B 7/02	1-Punkt Untergruppe	. Moulds with adjustable parts
B28B 7/04	2-Punkt Untergruppe	. . one or more of the parts being pivotally mounted
B28B 7/06	1-Punkt Untergruppe	. Moulds with flexible parts
B28B 7/08	1-Punkt Untergruppe	. Moulds provided with means for tilting or inverting
B28B 7/10	1-Punkt Untergruppe	. Moulds with means incorporated therein, or carried thereby, for ejecting the moulded article (devices, not forming part of the mould, for ejecting the moulded article B28B 13/06)
B28B 7/12	2-Punkt Untergruppe	. . by fluid pressure

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B28B 7/14	1-Punkt Untergruppe	. Moulds with means incorporated therein, or carried thereby, for cutting the moulded article into parts (cutting means independent of the mould B28B 11/14)
B28B 7/16	1-Punkt Untergruppe	. Moulds for making shaped articles with cavities or holes open to the surface
B28B 7/18	2-Punkt Untergruppe	. . the holes passing completely through the article
B28B 7/20	1-Punkt Untergruppe	. Moulds for making shaped articles with undercut recesses, e.g. dovetails
B28B 7/22	1-Punkt Untergruppe	. Moulds for making units for prefabricated buildings; Moulds for making prefabricated stair units
B28B 7/24	1-Punkt Untergruppe	. Unitary mould structures with a plurality of moulding spaces
B28B 7/26	1-Punkt Untergruppe	. Assemblies of separate moulds
B28B 7/28	1-Punkt Untergruppe	. Cores; Mandrels
B28B 7/30	2-Punkt Untergruppe	. . adjustable, collapsible, or expanding
B28B 7/32	3-Punkt Untergruppe	. . . inflatable (connection of valves to inflatable elastic bodies B60C 29/00)
B28B 7/34	1-Punkt Untergruppe	. Moulds, cores, or mandrels of special material, e.g. destructible materials (for slip-casting B28B 1/26)
B28B 7/36	1-Punkt Untergruppe	. Linings or coatings (lubricating surfaces of moulds, cores, or mandrels B28B 7/38)
B28B 7/38	1-Punkt Untergruppe	. Treating surfaces of moulds, cores, or mandrels to prevent sticking
B28B 7/40	1-Punkt Untergruppe	. characterised by means for modifying the properties of the moulding material [5]
B28B 7/42	2-Punkt Untergruppe	. . for heating or cooling, e.g. steam jackets [5]
B28B 7/44	2-Punkt Untergruppe	. . for treating with gases or degassing, e.g. for de-aerating [5]
B28B 7/46	2-Punkt Untergruppe	. . for humidifying or dehumidifying [5]
B28B 11/00	Hauptgruppe	Apparatus or processes for treating or working the shaped articles (specially adapted for tubular articles B28B 21/92; decoration or surface treatment in general B05, B44; compacting concrete <u>in situ</u> in connection with building E04G 21/06; drying F26)
B28B 11/02	1-Punkt Untergruppe	. for attaching appendages, e.g. handles, spouts
B28B 11/04	1-Punkt Untergruppe	. for coating (glazing, engobing C04B)
B28B 11/06	2-Punkt Untergruppe	. . with powdered or granular material
B28B 11/08	1-Punkt Untergruppe	. for reshaping the surface, e.g. smoothing, roughening, corrugating, making screw-threads
B28B 11/10	2-Punkt Untergruppe	. . by using presses
B28B 11/12	1-Punkt Untergruppe	. for removing parts of the articles by cutting
B28B 11/14	1-Punkt Untergruppe	. for dividing shaped articles by cutting
B28B 11/16	2-Punkt Untergruppe	. . for extrusion
B28B 11/18	1-Punkt Untergruppe	. for removing burr
B28B 11/22	1-Punkt Untergruppe	. for cleaning
B28B 11/24	1-Punkt Untergruppe	. for curing, setting or hardening (processes for influencing or modifying the setting or hardening ability of mortars, concrete or artificial stone compositions, in general C04B 40/00) [6]
B28B 13/00	Hauptgruppe	Feeding the unshaped material to moulds or apparatus for producing shaped articles; Discharging shaped articles from such moulds or apparatus (feeding or discharging devices incorporated in, or

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		operatively associated with, a particular type of shaping apparatus, or specially designed to supply materials to a particular type of shaping apparatus, <u>see</u> the relevant groups for the apparatus)
B28B 13/02	1-Punkt Untergruppe	. Feeding the unshaped material to moulds or apparatus for producing shaped articles
B28B 13/04	1-Punkt Untergruppe	. Discharging the shaped articles (conveying systems for ceramic mouldings B65G 49/08)
B28B 13/06	2-Punkt Untergruppe	. . Removing the shaped articles from moulds (by means incorporated in, or carried by, the moulds B28B 7/10)
B28B 15/00	Hauptgruppe	General arrangement or layout of plant
B28B 17/00	Hauptgruppe	Details of, or accessories for, apparatus for shaping the material; Auxiliary measures taken in connection with such shaping (moulds B28B 7/00; after-treatment B28B 11/00; feeding or discharging B28B 13/00; arrangements for embedding elements in the material B28B 23/00; details, accessories, or auxiliary measures special to any one type of shaping, machine or method of shaping, <u>see</u> the relevant groups for such machines or methods)
B28B 17/02	1-Punkt Untergruppe	. Conditioning the material prior to shaping
B28B 17/04	1-Punkt Untergruppe	. Exhausting or laying dust
B28B 19/00	Hauptgruppe	Machines or methods for applying the material to surfaces to form a permanent layer thereon (making shaped articles on mandrels B28B 1/30; applying liquids or other fluent materials to surfaces in general B05C; glazing or engobing C04B; applying the material to walls or other fixed structures, <u>see</u> the relevant classes of section E)
		<u>Methods, apparatus, or machines, specially adapted for the production of tubular or reinforced articles</u>
B28B 21/00	Hauptgruppe	Methods or machines specially adapted for the production of tubular articles
B28B 21/02	1-Punkt Untergruppe	. by casting into moulds
B28B 21/04	2-Punkt Untergruppe	. . by simple casting, the material being neither positively compacted nor forcibly fed
B28B 21/06	2-Punkt Untergruppe	. . into moulds having sliding parts (B28B 21/26 takes precedence; forms, shutterings, or falsework for making rooms as a whole, whole stories, or whole buildings <u>in situ</u> E04G 11/02)
B28B 21/08	2-Punkt Untergruppe	. . by slip-casting; Moulds therefor
B28B 21/10	2-Punkt Untergruppe	. . using compacting means
B28B 21/12	3-Punkt Untergruppe	. . . tamping or ramming the material or the mould elements
B28B 21/14	3-Punkt Untergruppe	. . . vibrating, e.g. the surface of the material
B28B 21/16	4-Punkt Untergruppe	 one or more mould elements
B28B 21/18	3-Punkt Untergruppe	. . . using expansible or retractable mould or core elements
B28B 21/20	4-Punkt Untergruppe	 using inflatable cores, e.g. having a frame inside the inflatable part of the core (connection of valves to inflatable elastic bodies B60C 29/00) [2]
B28B 21/22	3-Punkt Untergruppe	. . . using rotatable mould or core parts
B28B 21/24	4-Punkt Untergruppe	 using compacting heads, rollers, or the like
B28B 21/26	5-Punkt Untergruppe	 with a packer head serving as a sliding mould or provided with guiding means for feeding the material
B28B 21/28	5-Punkt Untergruppe	 combined with vibration means
B28B 21/30	4-Punkt Untergruppe	 Centrifugal moulding

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B28B 21/32	5-Punkt Untergruppe	 Feeding the material into the moulds
B28B 21/34	5-Punkt Untergruppe	 combined with vibrating or other additional compacting means
B28B 21/36	3-Punkt Untergruppe	. . . applying fluid pressure or vacuum to the material (combined with slip-casting B28B 21/08)
B28B 21/38	4-Punkt Untergruppe	 introducing the material wholly or partly under pressure
B28B 21/40	4-Punkt Untergruppe	 by evacuating one or more of the mould parts
B28B 21/42	1-Punkt Untergruppe	. by shaping on or against mandrels or like moulding surfaces
B28B 21/44	2-Punkt Untergruppe	. . by projecting, e.g. spraying
B28B 21/46	2-Punkt Untergruppe	. . by dipping
B28B 21/48	2-Punkt Untergruppe	. . by wrapping, e.g. winding
B28B 21/50	2-Punkt Untergruppe	. . Details of compression or compacting means
B28B 21/52	1-Punkt Untergruppe	. by extruding
B28B 21/54	2-Punkt Untergruppe	. . Mouthpieces for shaping sockets, bends, or like peculiarly-shaped tubular articles
B28B 21/56	1-Punkt Untergruppe	. incorporating reinforcements
B28B 21/58	2-Punkt Untergruppe	. . Steel tubes
B28B 21/60	2-Punkt Untergruppe	. . prestressed reinforcements
B28B 21/62	3-Punkt Untergruppe	. . . circumferential
B28B 21/64	4-Punkt Untergruppe	 Winding arrangements
B28B 21/66	3-Punkt Untergruppe	. . . Reinforcing mats
B28B 21/68	2-Punkt Untergruppe	. . and applying centrifugal forces
B28B 21/70	1-Punkt Untergruppe	. by building-up from preformed elements
B28B 21/72	2-Punkt Untergruppe	. . Producing multilayer tubes
B28B 21/74	2-Punkt Untergruppe	. . Producing pipe bends, sockets, sleeves; Moulds therefor (combined with extrusion presses B28B 21/54)
B28B 21/76	1-Punkt Untergruppe	. Moulds
B28B 21/78	2-Punkt Untergruppe	. . with heating or cooling means, e.g. steam jackets
B28B 21/80	2-Punkt Untergruppe	. . adapted to centrifugal or rotational moulding
B28B 21/82	2-Punkt Untergruppe	. . built-up from several parts; Multiple moulds; Moulds with adjustable parts
B28B 21/84	3-Punkt Untergruppe	. . . Moulds with one or more pivotable parts
B28B 21/86	1-Punkt Untergruppe	. Cores (in general B28B 7/00)
B28B 21/88	2-Punkt Untergruppe	. . adjustable, collapsible or expansible (using inflatable cores B28B 21/20)
B28B 21/90	1-Punkt Untergruppe	. Methods or apparatus for discharging after shaping
B28B 21/92	1-Punkt Untergruppe	. Methods or apparatus for treating or reshaping
B28B 21/94	2-Punkt Untergruppe	. . for impregnating or coating by applying liquids or semi-liquids

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B28B 21/96	2-Punkt Untergruppe	. . for smoothing, roughening, corrugating or for removing burr
B28B 21/98	2-Punkt Untergruppe	. . for reshaping, e.g. by means of reshape moulds
B28B 23/00	Hauptgruppe	Arrangements specially adapted for the production of shaped articles with elements wholly or partly embedded in the moulding material (B28B 21/00 takes precedence; in units for prefabricated buildings B28B 7/22)
B28B 23/02	1-Punkt Untergruppe	. wherein the elements are reinforcing members
B28B 23/04	2-Punkt Untergruppe	. . the elements being stressed
B28B 23/06	3-Punkt Untergruppe	. . . for the production of elongated articles
B28B 23/08	4-Punkt Untergruppe	 the articles being of tubular form
B28B 23/10	3-Punkt Untergruppe	. . . the shaping being effected by centrifugal or rotational moulding [2]
B28B 23/12	3-Punkt Untergruppe	. . . to form prestressed circumferential reinforcements [2]
B28B 23/14	4-Punkt Untergruppe	 by wrapping, e.g. winding apparatus [2]
B28B 23/16	4-Punkt Untergruppe	 Prestressed reinforcing nets [2]
B28B 23/18	2-Punkt Untergruppe	. . for the production of elongated articles (B28B 23/06 takes precedence) [2]
B28B 23/20	2-Punkt Untergruppe	. . the shaping being effected by centrifugal or rotational moulding (B28B 23/10 takes precedence) [2]
B28B 23/22	2-Punkt Untergruppe	. . assembled from preformed parts [2]