

| Symbol           | Typ                 | Titel  |
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| <b>B</b>         | <b>Sektion</b>      | <b>SECTION B — PERFORMING OPERATIONS; TRANSPORTING</b>   |
| <b>B28</b>       | <b>Klasse</b>       | <b>WORKING CEMENT, CLAY, OR STONE</b>  |
| <b>B28B</b>      | <b>Unterklasse</b>  | <b>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)</b> |
| <b>B28B 1/00</b> | <b>Hauptgruppe</b>  | <b>Producing shaped articles from the material (using presses B28B 3/00; shaping on moving conveyers B28B 5/00; producing tubular articles B28B 21/00)</b>   |
| 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)  |
| <b>B28B 3/00</b> | <b>Hauptgruppe</b>  | <b>Producing shaped articles from the material by using presses (shaping on moving conveyers B28B 5/00); Presses specially adapted therefor (presses in general B30B)</b>   |
| 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  |
| <b>B28B 5/00</b> | <b>Hauptgruppe</b>  | <b>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)</b> |
| 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  |
| <b>B28B 7/00</b> | <b>Hauptgruppe</b>  | <b>Moulds; Cores; Mandrels (specially adapted for the production of tubular articles B28B 21/00)</b>  |
| 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]  |
| <b>B28B 11/00</b> | <b>Hauptgruppe</b>  | <b>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)</b> |
| 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]   |
| <b>B28B 13/00</b> | <b>Hauptgruppe</b>  | <b>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</b>  |

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|                   |                     | <b>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)</b>   |
| 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)   |
| <b>B28B 15/00</b> | <b>Hauptgruppe</b>  | <b>General arrangement or layout of plant</b>  |
| <b>B28B 17/00</b> | <b>Hauptgruppe</b>  | <b>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)</b> |
| B28B 17/02        | 1-Punkt Untergruppe | . Conditioning the material prior to shaping   |
| B28B 17/04        | 1-Punkt Untergruppe | . Exhausting or laying dust  |
| <b>B28B 19/00</b> | <b>Hauptgruppe</b>  | <b>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)</b>   |
|                   |                     | <b><u>Methods, apparatus, or machines, specially adapted for the production of tubular or reinforced articles</u></b>  |
| <b>B28B 21/00</b> | <b>Hauptgruppe</b>  | <b>Methods or machines specially adapted for the production of tubular articles</b>  |
| 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   |
| <b>B28B 23/00</b> | <b>Hauptgruppe</b>  | <b>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)</b> |
| 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]   |