

B22 CASTING; POWDER METALLURGY**B22C FOUNDRY MOULDING** (moulding refractory materials in general B28B)

This subclass covers:

- the making of moulds for casting metals or of other refractory moulds;
- selection or preparation of materials therefor;
- the necessary patterns, processes, machines, accessory devices or tools.

PATTERNS, MANUFACTURE THEREOF	7/00, 3/00	MOULDING MACHINES, PROCESSES INVOLVING THESE MACHINES.....	11/00 19/00
MOULDS, CORES, GENERAL MOULDING PROCESSES; COMPOSITIONS FOR MOULDS AND CORES	9/00; 1/00, 3/00	MOULDING PLANTS	25/00
		TOOLS OR OTHER DEVICES	5/00, 21/00, 23/00

1/00	Compositions of refractory mould or core materials; Grain structures thereof (refractory materials in general C04B 35/00); Chemical or physical features in the formation or manufacture of moulds	5/16	. . with conveyers or other equipment for feeding the material
1/02	. characterised by additives for special purposes, e.g. indicators, breakdown additives	5/18	. Plants for preparing mould materials
1/04	. . for protection of the casting, e.g. against decarbonisation	7/00	Patterns; Manufacture thereof so far as not provided for in other classes
1/06	. . . for casting extremely oxidisable metals	7/02	. Lost patterns
1/08	. . for decreasing shrinkage of the mould, e.g. for investment casting	7/04	. Pattern plates
1/10	. . for influencing the hardening tendency of the mould material (influencing the hardening tendency of the binding agent only B22C 1/16)	7/05	. . for vacuum-sealed moulding [6]
1/12	. . for manufacturing permanent moulds or cores	7/06	. Core boxes
1/14	. . for separating the pattern from the mould	9/00	Moulds or cores (uniquely adapted to particular casting processes B22D); Moulding processes (processes involving the use of particular moulding machines, <u>see</u> the relevant groups for these machines)
1/16	. characterised by the use of binding agents; Mixtures of binding agents	9/02	. Sand moulds or like moulds for shaped castings
1/18	. . of inorganic agents	9/03	. . formed by vacuum-sealed moulding [6]
1/20	. . of organic agents	9/04	. . Use of lost patterns
1/22	. . . of resins or rosins	9/06	. Permanent moulds for shaped castings (moulds for ingots B22D 7/06)
1/24	. . . of oily or fatty substances; of distillation residues therefrom	9/08	. Features with respect to supply of molten metal, e.g. ingates, circular gates, skim gates
1/26	. . . of carbohydrates; of distillation residues therefrom	9/10	. Cores; Manufacture or installation of cores
3/00	Selection of compositions for coating the surfaces of moulds, cores, or patterns	9/11	. . for vacuum-sealed moulding [6]
3/02	. specially adapted for vacuum-sealed moulding [6]	9/12	. Treating moulds or cores, e.g. drying, hardening
5/00	Machines or devices specially designed for dressing or handling the mould material so far as specially adapted for that purpose (of general applicability, <u>see</u> the relevant places, e.g. for material with water-setting properties B28C)	9/14	. . Equipment or plant specially adapted for drying moulds or cores (B22C 13/08 takes precedence)
5/02	. Dressing by centrifuging essentially or additionally	9/16	. . . Movable drying equipment
5/04	. by grinding, blending, mixing, kneading, or stirring	9/18	. Finishing
5/06	. by sieving or magnetic separating	9/20	. Stack moulds, i.e. arrangement of multiple moulds or flasks
5/08	. by sprinkling, cooling, or drying	9/22	. Moulds for peculiarly-shaped castings
5/10	. by dust separating	9/24	. . for hollow articles
5/12	. for filling flasks (in combination with compacting B22C 15/20 B22C 15/28)	9/26	. . . for ribbed tubes; for radiators
5/13	. . during vacuum-sealed moulding [6]	9/28	. . for wheels, rolls, or rollers
5/14	. Equipment for storing or handling the dressed mould material, forming part of a plant for preparing such material	9/30	. . for chains
		Moulding machines for making moulds or cores	
		11/00	Moulding machines characterised by the relative arrangement of the parts of same
		11/02	. Machines in which the moulds are moved during a cycle of successive operations
		11/04	. . by a horizontal rotary table or carrier
		11/06	. . by a vertical rotary carrier

- 11/08 . . by non-rotary conveying means, e.g. by travelling platforms
- 11/10 . with one or more flasks forming part of the machine, from which only the sand moulds made by compacting are removed
- 11/12 . Moulding machines able to travel

13/00 Moulding machines for making moulds or cores of particular shapes

- 13/02 . equipped with templates, e.g. for sweeping operation
- 13/04 . . with rotary templates, e.g. arranged on a pillar
- 13/06 . . with non-rotary template and rotary flask
- 13/08 . for shell moulds or shell cores
- 13/10 . for pipes or elongated hollow articles
- 13/12 . for cores
- 13/14 . . by sweeping, turning, or coating
- 13/16 . . by pressing through a die

15/00 Moulding machines characterised by the compacting mechanism; Accessories therefor

- 15/02 . Compacting by pressing devices only
- 15/04 . . involving muscle power, e.g. hand-operated levers
- 15/06 . . involving mechanical gearings, e.g. crank gears (B22C 15/04 takes precedence)
- 15/08 . . involving pneumatic or hydraulic mechanisms
- 15/10 . Compacting by jarring devices only
- 15/12 . . involving mechanical gearings
- 15/14 . . involving pneumatic or hydraulic mechanisms
- 15/16 . . . the machine having special provision for reducing shock to its frame
- 15/18 by means of separate shock-absorbers
- 15/20 . Compacting by centrifugal forces only, e.g. in sand slingers
- 15/23 . Compacting by gas pressure or vacuum [6]
- 15/24 . . involving blowing devices in which the mould material is supplied in the form of loose particles
- 15/26 . . involving propulsion devices in which the mould material is supplied in the shape of a compacted column or the like
- 15/264 . . Compacting after charge of the mould material [6]
- 15/268 . . . involving explosive combustion [6]
- 15/272 . . . involving the storage of gas under pressure [6]
- 15/276 . . . by vacuum, e.g. vacuum-sealed moulding processes [6]
- 15/28 . Compacting by different means acting simultaneously or successively, e.g. preliminary blowing and finally pressing

- 15/30 . . by both pressing and jarring devices
- 15/32 . . . involving mechanical gearing only
- 15/34 . . . involving pneumatic or hydraulic mechanisms only

17/00 Moulding machines characterised by the mechanism for separating the pattern from the mould or for turning over the flask or the pattern plate

- 17/02 . Moulding machines with pin lifting arrangement
- 17/04 . Drop-plate moulding machines
- 17/06 . Moulding machines using stripping plates; Stripping plates
- 17/08 . Moulding machines with mechanisms to turn over the pattern plate or the mould around a horizontal axis
- 17/10 . . Turning-over pattern plate and flask only (B22C 17/14 takes precedence)
- 17/12 . . Turning-over pattern plate, flask, and compacting device as a unit (B22C 17/14 takes precedence)
- 17/14 . . arranged to one side of the mould table, so-called roll-over table moulding machines

19/00 Components or accessories for moulding machines

- 19/01 . Devices for applying sealing coating [6]
- 19/02 . Mould tables
- 19/04 . Controlling devices specially designed for moulding machines
- 19/06 . Devices for rapping or loosening the pattern

21/00 Flasks; Accessories therefor (stripping plates B22C 17/06)

- 21/01 . for vacuum-sealed moulding [6]
- 21/02 . Sectional flasks, i.e. with divided, articulated, or interchangeable side sections
- 21/04 . Upset frames; Bottom boards or mould boards (pattern plates B22C 7/04)
- 21/06 . . Bottom boards or mould boards
- 21/08 . Clamping equipment
- 21/10 . Guiding equipment
- 21/12 . Accessories
- 21/14 . . for reinforcing or securing moulding materials or cores, e.g. gaggers, chaplets, pins, bars

23/00 Tools; Devices not mentioned before for moulding

- 23/02 . Devices for coating moulds or cores

25/00 Foundry moulding plants (for preparing mould materials B22C 5/18; in combination with casting plants B22D 47/02)