SECTION B — PERFORMING OPERATIONS; TRANSPORTING

B22 CASTING; POWDER METALLURGY

B22C FOUNDRY MOULDING (moulding refractory materials in general B28B)

Note(s)

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.

Subclass index

PATTERNS, MANUFACTURE THEREOF.....7/00, 3/00
MOULDS, CORES, GENERAL MOULDING PROCESSES; COMPOSITIONS FOR MOULDS AND CORES.....9/00, 1/00, 3/00
MOULDING MACHINES, PROCESSES INVOLVING THESE MACHINES.....11/00-19/00
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**

1/02 • characterised by additives for special purposes, e.g. indicators, breakdown additives
1/04 • • for protection of the casting, e.g. against decarbonisation
1/06 • • • for casting extremely oxidisable metals
1/08 • • for decreasing shrinkage of the mould, e.g. for investment casting
1/10 • • for influencing the hardening tendency of the mould material (influencing the hardening tendency of the binding agent only B22C 1/16)
1/12 • • for manufacturing permanent moulds or cores
1/14 • • for separating the pattern from the mould
1/16 • characterised by the use of binding agents; Mixtures of binding agents
1/18 • • of inorganic agents
1/20 • • of organic agents
1/22 • • • of resins or rosins
1/24 • • • of oily or fatty substances; of distillation residues therefrom
1/26 • • • of carbohydrates; of distillation residues therefrom

3/00 Selection of compositions for coating the surfaces of moulds, cores, or patterns

3/02 • specially adapted for vacuum-sealed moulding **[6]**

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, see the relevant places, e.g. for material with water-setting properties B28C)

5/02 • Dressing by centrifuging essentially or additionally
5/04 • by grinding, blending, mixing, kneading, or stirring
5/06 • by sieving or magnetic separating
5/08 • by sprinkling, cooling, or drying
5/10 • by dust separating
5/12 • for filling flasks (in combination with compacting B22C 15/20-B22C 15/28)
5/13 • • during vacuum-sealed moulding **[6]**
5/14 • Equipment for storing or handling the dressed mould material, forming part of a plant for preparing such material
5/16 • • with conveyors or other equipment for feeding the material
5/18 • Plants for preparing mould materials

7/00 Patterns; Manufacture thereof so far as not provided for in other classes

7/02 • Lost patterns
7/04 • Pattern plates
7/05 • • for vacuum-sealed moulding **[6]**
7/06 • Core boxes

9/00 Moulds or cores (uniquely adapted to particular casting processes B22D)**; Moulding processes** (processes involving the use of particular moulding machines, see the relevant groups for these machines)

9/02 • Sand moulds or like moulds for shaped castings
9/03 • • formed by vacuum-sealed moulding **[6]**
9/04 • • Use of lost patterns
9/06 • Permanent moulds for shaped castings (moulds for ingots B22D 7/06)
9/08 • Features with respect to supply of molten metal, e.g. ingates, circular gates, skim gates
9/10 • Cores; Manufacture or installation of cores
9/11 • • for vacuum-sealed moulding **[6]**
9/12 • Treating moulds or cores, e.g. drying, hardening

9/14 • • Equipment or plant specially adapted for drying moulds or cores (B22C 13/08 takes precedence)
9/16 • • • Movable drying equipment
9/18 • Finishing
9/20 • Stack moulds, i.e. arrangement of multiple moulds or flasks
9/22 • Moulds for peculiarly-shaped castings
9/24 • • for hollow articles
9/26 • • • for ribbed tubes; for radiators
9/28 • • for wheels, rolls, or rollers
9/30 • • for chains

Moulding machines for making moulds or cores

11/00 Moulding machines for making moulds or cores, characterised by the relative arrangement of their parts
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 for making moulds or cores, 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 for making moulds or cores, 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 for making moulds or cores
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)