

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, 2006.01]	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) [1, 2006.01]
1/02	• characterised by additives for special purposes, e.g. indicators, breakdown additives [1, 2006.01]	5/02	• Dressing by centrifuging essentially or additionally [1, 2006.01]
1/04	• • for protection of the casting, e.g. against decarbonisation [1, 2006.01]	5/04	• by grinding, blending, mixing, kneading, or stirring [1, 2006.01]
1/06	• • • for casting extremely oxidisable metals [1, 2006.01]	5/06	• by sieving or magnetic separating [1, 2006.01]
1/08	• • for decreasing shrinkage of the mould, e.g. for investment casting [1, 2006.01]	5/08	• by sprinkling, cooling, or drying [1, 2006.01]
1/10	• • for influencing the hardening tendency of the mould material (influencing the hardening tendency of the binding agent only B22C 1/16) [1, 2006.01]	5/10	• by dust separating [1, 2006.01]
1/12	• • for manufacturing permanent moulds or cores [1, 2006.01]	5/12	• for filling flasks (in combination with compacting B22C 15/20-B22C 15/28) [1, 2006.01]
1/14	• • for separating the pattern from the mould [1, 2006.01]	5/13	• • during vacuum-sealed moulding [6, 2006.01]
1/16	• characterised by the use of binding agents; Mixtures of binding agents [1, 2006.01]	5/14	• Equipment for storing or handling the dressed mould material, forming part of a plant for preparing such material [1, 2006.01]
1/18	• • of inorganic agents [1, 2006.01]	5/16	• • with conveyors or other equipment for feeding the material [1, 2006.01]
1/20	• • of organic agents [1, 2006.01]	5/18	• Plants for preparing mould materials [1, 2006.01]
1/22	• • • of resins or rosins [1, 2006.01]	7/00	Patterns; Manufacture thereof so far as not provided for in other classes [1, 2006.01]
1/24	• • • of oily or fatty substances; of distillation residues therefrom [1, 2006.01]	7/02	• Lost patterns [1, 2006.01]
1/26	• • • of carbohydrates; of distillation residues therefrom [1, 2006.01]	7/04	• Pattern plates [1, 2006.01]
3/00	Selection of compositions for coating the surfaces of moulds, cores, or patterns [1, 2006.01]	7/05	• • for vacuum-sealed moulding [6, 2006.01]
3/02	• specially adapted for vacuum-sealed moulding [6, 2006.01]	7/06	• Core boxes [1, 2006.01]
		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, 2006.01]
		9/02	• Sand moulds or like moulds for shaped castings [1, 2006.01]
		9/03	• • formed by vacuum-sealed moulding [6, 2006.01]

- 9/04 • • Use of lost patterns [1, 2006.01]
- 9/06 • Permanent moulds for shaped castings (moulds for ingots B22D 7/06) [1, 2006.01]
- 9/08 • Features with respect to supply of molten metal, e.g. ingates, circular gates, skim gates [1, 2006.01]
- 9/10 • Cores; Manufacture or installation of cores [1, 2006.01]
- 9/11 • • for vacuum-sealed moulding [6, 2006.01]
- 9/12 • Treating moulds or cores, e.g. drying, hardening [1, 2006.01]
- 9/14 • • Equipment or plant specially adapted for drying moulds or cores (B22C 13/08 takes precedence) [1, 2006.01]
- 9/16 • • • Movable drying equipment [1, 2006.01]
- 9/18 • Finishing [1, 2006.01]
- 9/20 • Stack moulds, i.e. arrangement of multiple moulds or flasks [1, 2006.01]
- 9/22 • Moulds for peculiarly-shaped castings [1, 2006.01]
- 9/24 • • for hollow articles [1, 2006.01]
- 9/26 • • • for ribbed tubes; for radiators [1, 2006.01]
- 9/28 • • for wheels, rolls, or rollers [1, 2006.01]
- 9/30 • • for chains [1, 2006.01]

Moulding machines for making moulds or cores

- 11/00 Moulding machines for making moulds or cores, characterised by the relative arrangement of their parts [1, 2006.01]**
- 11/02 • Machines in which the moulds are moved during a cycle of successive operations [1, 2006.01]
- 11/04 • • by a horizontal rotary table or carrier [1, 2006.01]
- 11/06 • • by a vertical rotary carrier [1, 2006.01]
- 11/08 • • by non-rotary conveying means, e.g. by travelling platforms [1, 2006.01]
- 11/10 • with one or more flasks forming part of the machine, from which only the sand moulds made by compacting are removed [1, 2006.01]
- 11/12 • Moulding machines able to travel [1, 2006.01]
- 13/00 Moulding machines for making moulds or cores of particular shapes [1, 2006.01]**
- 13/02 • equipped with templates, e.g. for sweeping operation [1, 2006.01]
- 13/04 • • with rotary templates, e.g. arranged on a pillar [1, 2006.01]
- 13/06 • • with non-rotary template and rotary flask [1, 2006.01]
- 13/08 • for shell moulds or shell cores [1, 2006.01]
- 13/10 • for pipes or elongated hollow articles [1, 2006.01]
- 13/12 • for cores [1, 2006.01]
- 13/14 • • by sweeping, turning, or coating [1, 2006.01]
- 13/16 • • by pressing through a die [1, 2006.01]
- 15/00 Moulding machines for making moulds or cores, characterised by the compacting mechanism; Accessories therefor [1, 2006.01]**
- 15/02 • Compacting by pressing devices only [1, 2006.01]
- 15/04 • • involving muscle power, e.g. hand-operated levers [1, 2006.01]
- 15/06 • • involving mechanical gearings, e.g. crank gears (B22C 15/04 takes precedence) [1, 2006.01]
- 15/08 • • involving pneumatic or hydraulic mechanisms [1, 2006.01]
- 15/10 • Compacting by jarring devices only [1, 2006.01]
- 15/12 • • involving mechanical gearings [1, 2006.01]

- 15/14 • • involving pneumatic or hydraulic mechanisms [1, 2006.01]
- 15/16 • • • the machine having special provision for reducing shock to its frame [1, 2006.01]
- 15/18 • • • • by means of separate shock-absorbers [1, 2006.01]
- 15/20 • Compacting by centrifugal forces only, e.g. in sand slingers [1, 2006.01]
- 15/23 • Compacting by gas pressure or vacuum [6, 2006.01]
- 15/24 • • involving blowing devices in which the mould material is supplied in the form of loose particles [1, 2006.01]
- 15/26 • • involving propulsion devices in which the mould material is supplied in the shape of a compacted column or the like [1, 2006.01]
- 15/264 • • Compacting after charge of the mould material [6, 2006.01]
- 15/268 • • • involving explosive combustion [6, 2006.01]
- 15/272 • • • involving the storage of gas under pressure [6, 2006.01]
- 15/276 • • • by vacuum, e.g. vacuum-sealed moulding processes [6, 2006.01]
- 15/28 • Compacting by different means acting simultaneously or successively, e.g. preliminary blowing and finally pressing [1, 2006.01]
- 15/30 • • by both pressing and jarring devices [1, 2006.01]
- 15/32 • • • involving mechanical gearing only [1, 2006.01]
- 15/34 • • • involving pneumatic or hydraulic mechanisms only [1, 2006.01]

- 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 [1, 2006.01]**
- 17/02 • Moulding machines with pin lifting arrangement [1, 2006.01]
- 17/04 • Drop-plate moulding machines [1, 2006.01]
- 17/06 • Moulding machines using stripping plates; Stripping plates [1, 2006.01]
- 17/08 • Moulding machines with mechanisms to turn over the pattern plate or the mould around a horizontal axis [1, 2006.01]
- 17/10 • • Turning-over pattern plate and flask only (B22C 17/14 takes precedence) [1, 2006.01]
- 17/12 • • Turning-over pattern plate, flask, and compacting device as a unit (B22C 17/14 takes precedence) [1, 2006.01]
- 17/14 • • arranged to one side of the mould table, so-called roll-over table moulding machines [1, 2006.01]

- 19/00 Components or accessories for moulding machines for making moulds or cores [1, 2006.01]**
- 19/01 • Devices for applying sealing coating [6, 2006.01]
- 19/02 • Mould tables [1, 2006.01]
- 19/04 • Controlling devices specially designed for moulding machines [1, 2006.01]
- 19/06 • Devices for rapping or loosening the pattern [1, 2006.01]
- 21/00 Flasks; Accessories therefor (stripping plates B22C 17/06) [1, 2006.01]**
- 21/01 • for vacuum-sealed moulding [6, 2006.01]
- 21/02 • Sectional flasks, i.e. with divided, articulated, or interchangeable side sections [1, 2006.01]
- 21/04 • Upset frames; Bottom boards or mould boards (pattern plates B22C 7/04) [1, 2006.01]
- 21/06 • • Bottom boards or mould boards [1, 2006.01]

21/08	• Clamping equipment [1, 2006.01]	23/00	Tools; Devices not mentioned before for moulding [1, 2006.01]
21/10	• Guiding equipment [1, 2006.01]	23/02	• Devices for coating moulds or cores [1, 2006.01]
21/12	• Accessories [1, 2006.01]	25/00	Foundry moulding plants (for preparing mould materials B22C 5/18; in combination with casting plants B22D 47/02) [1, 2006.01]
21/14	• • for reinforcing or securing moulding materials or cores, e.g. gaggers, chaplets, pins, bars [1, 2006.01]		