

80 Clay-ware, stoneware, lime, cement, plaster of Paris, asphalt, briquette presses

80a Machines, tools and appliances for the extraction and preparation of clay and the like, and for the shaping of objects from clay and the like, including surface treatment; briquette presses, conveying equipment for clay-ware

80b Mortar mixtures, ceramics, manufacture of artificial stones, when relating to materials, glazes

80c Kilns, methods of firing in kilns

80d Stone and brick working

80a Machines, tools and appliances for the extraction and preparation of clay and the like, and for the shaping of objects from clay and the like, including surface treatment; briquette presses, conveying equipment for clay-ware

Extraction and preparation of clay and the like, apparatus for slaking lime and for manufacturing sand-lime bricks

80a-1/01 Equipment for the extraction of clay and the like, e.g. excavators (84d), digging machines (10c-2), drift boring and coal cutting machines (5b-36/10; 5c-5)

80a-1/05 Apparatus of general type for the preparation of clay and the like, e.g. aging pits and storage cellars for clay (1a)

80a-2/01 Devices for comminuting clay and the like in pan grinders (1a-35; 31c-6/02; 50c-6; 53l-11/30; 55c-10/10)

80a-2/05 Devices for comminuting clay and the like in mills, disintegrators and the like (50c)

80a-3 Rolling mills for clay and the like (50c-4/01, 50c-4/05, 50c-4/10, 50c-13/10, 50c-13/20)

80a-4/01 Clay cleaners

80a-4/05 Screens (1a)

80a-5 Washing machines for clay and the like (1a)

80a-6/01 Feeding, separating and measuring devices of general type for clay and the like

80a-6/06 Box feeders for clay and the like

80a-6/07 Disk feeders for clay and the like

80a-6/08 Feeding devices for the simultaneous addition of several ingredients

80a-6/10 Special feeding devices for presses and tamping machines (80a-10 – 80a-20/10)

Mixing machines (12e-4/01; 12e-4/50; 50f; 31c-6/06)

80a-7/01 in which mixing is accomplished by hand, by gravity, by centrifuging, by air pressure or in vacuum

80a-7/10 with rotating containers, closed at one end

80a-7/20 with rotating containers, open at both ends

80a-7/30 with rotating stirrer in stationary drum

80a-7/35 with rotating stirrer and stationary trough

80a-7/40 with rotating stirrer and rotating container

80a-7/45 with special devices for metering water, additives and binders, and with special regulating devices

80a-7/50 mobile, mixing while travelling

80a-7/55 with special feeding devices, e.g. buckets, special drum structures, e.g. nested drum halves and the like

- 80a-8 Machines for the production of tar macadam and similar road-construction materials (12e-4/50; 19c-3/02; 19c-3/10; 19c-3/20; 19c-3/21; 19c-3/30; 19c-3/40; 19c-7/00; 22h-7; 80b-25/10)
- 80a-9/01 Apparatus for the slaking of lime and the like (80b-2/01 – 80b-2/03)
- 80a-9/05 Devices for the manufacture of sand-lime bricks (80b-10/05)
- 80a-10 Devices for the hardening of sand-lime bricks (80b-10/05)

Presses for the manufacture of articles from clay, general

- 80a-10 Simple lever presses for clay-ware and the like (58b-1)
- 80a-11 Toggle presses for clay-ware and the like (58b-1)
- 80a-12 Crank and eccentric presses for clay-ware and the like (58b-7)
- 80a-13/01 Spindle presses for clay-ware and the like (58b-2; 58b-3)
- 80a-13/04 Rack and pinion presses for clay-ware and the like (58b-4)
- 80a-14/01 Impact-plate presses
- 80a-14/10 Impact-plate presses with impact plate guided in a special manner
- 80a-14/15 Tamping machines (31b-5/20; 84c-4; 84c-3/04)
- 80a-14/20 Tamping machines with shaking devices (80a-49)
- 80a-14/25 Tamping machines in which the moulds can be secured in an elevated position to release the moulded articles
- 80a-15 Hydraulic presses for clay-ware (58a-1)
- 80a-16 Repressing of clay-ware and the like, chiefly by means of specially designed covers (58a; 58b)
- 80a-17 Presses with moulds movable under a hopper, positive mould chains for clay-ware and the like (58a; 58b)
- 80a-18/01 Rotary-table presses with continuously rotating table (58a; 58b)
- 80a-18/05 Rotary-table presses with intermittently revolving rotary table (58a; 58b)
- 80a-18/10 Special drives for rotary-table presses with intermittently revolving rotary table (58a; 58b)
- 80a-18/15 Special plunger holder in rotary-table presses (58a; 58b)
- 80a-19/01 Presses with continuously revolving mould drums for clay-ware and the like (58a; 58b)
- 80a-19/05 Presses with intermittently revolving mould drums for clay-ware and the like (58a; 58b)
- 80a-19/10 Presses with endless mould chains for clay-ware and the like (58a; 58b)
- 80a-20/01 Cylinder presses for clay-ware and the like, excluding briquette presses (58b-5)
- 80a-20/10 Presses with endless belts for clay-ware and the like (58a-5)

Presses for the manufacture of special articles from clay, e.g. roofing tiles, pipes, also briquette presses

- 80a-21 Grooved-tile presses with vertically moving press plunger
- 80a-22 Revolving groove-tile presses
- 80a-23/01 Other apparatus for the grooving of grooved tiles
- 80a-23/02 Apparatus for undercutting tiles of all kinds (80a-62/20)
- 80a-24 Extrusion presses with intermittent pressing of the extruded material for clay-ware and the like (80a-25/10)
- 80a-25/10 Briquette presses, also for ore and metal chips, especially briquette extrusion presses
- 80a-25/20 Charging and feeding devices in briquette presses (80a-24)
- 80a-25/30 Shaping tools, gripper mounting, plungers and the like in briquette presses
- 80a-25/40 Suction, cooling, stuffing boxes in briquette presses
- 80a-25/50 Cylinder briquette presses (80a-20/01; 58b-5)
- 80a-25/60 Annular cylinder presses
- 80a-25/70 Die briquette presses
- 80a-25/80 Drives and gears in briquette presses (electric drives 21c-62/62)
- 80a-25/90 Comminuting devices in briquette presses
- 80a-26 Extrusion presses with constant pressing of the extruded material, especially screw presses for clay-ware and the like (58b-9)

- 80a-27 Orifices for extrusion presses for clay-ware and the like (extrusion press orifices for slip coating 80a-58)
- 80a-28 Orifices for hollow-brick and pipe extrusion presses
- 80a-29 Brick moulding machines
- 80a-30 Details of presses for manufacturing specially shaped articles from clay and the like
- 80a-31 Sand-spreading devices, devices for feeding oil and water to extrusion presses
- 80a-32 Tile and plate presses
- 80a-33 Presses for the manufacture of hollow bodies open at one end, e.g. retorts, saggars, crucibles, from clay and the like
- 80a-34/01 Manufacture of pipes from clay and the like, by pressing or tamping (in extrusion presses 80a-28; tamping machines 80a-14/15; 84c-4; 84c-3/04)
- 80a-34/05 Manufacture of pipes from clay and the like by spraying the moulding sand onto the mould or onto the wall of core of the mould
- 80a-34/10 Manufacture of pipes from clay and the like by winding the moulding mass on the core of the mould
- 80a-34/20 Pipe-cleaning devices

Conveyors for green clay-ware and the like

- 80a-35/01 Conveying racks and transfer apparatus for green clay-wares (81e-42; 81e-104)
- 80a-35/05 Brick carrier vehicles (81e; 82a-26; 82a-40/01 – 82a-40/30)
- 80a-35/10 Brick-carrying frames (82a-26; 82a-40/01 – 82a-40/30)

Brick-cutting devices

- 80a-36 Brick cutters in general, excluding those classified in 80a-37 – 80a-42
- 80a-37 Automatic brick cutters
- 80a-38 Devices for cutting tile nibs
- 80a-39 Devices for removing burrs from bricks
- 80a-40 Devices for cutting bricks without burrs
- 80a-41 Trimming cutters for bricks
- 80a-42 Details of brick cutters: cutting carriages, tables, wire tensioners and the like

Moulding and casting of clay, porcelain and the like

- 80a-43/01 Moulds for the manufacture of hollow blocks with through-perforations from clay and the like
- 80a-43/10 Moulds for the manufacture of hollow blocks with perforations closed on the face from clay and the like
- 80a-43/15 Assemblable cores for hollow-block moulds
- 80a-44 Moulding of flower pots and the like from clay, porcelain and the like
- 80a-45/01 Methods for the manufacture of clay and porcelain wares on the wheel
- 80a-45/05 Devices for the manufacture of clay and porcelain wares on the wheel
- 80a-46 Special moulding methods for the manufacture of articles from clay, cement and the like, when not classified in 80a-47/01 – 80a-56/20
- 80a-47/01 Methods for the manufacture of articles from asbestos cement and the like
- 80a-47/10 Devices for the preparation of the asbestos-cement materials
- 80a-47/20 Devices for the manufacture of pipes and hollow bodies from asbestos cement
- 80a-47/30 Devices for the manufacture of other articles from asbestos cement
- 80a-48/01 Moulding boxes for the production of castings of clay and the like, in general, excluding 80a-48/05 – 80a-48/30
- 80a-48/05 Moulding boxes for the production of several adjacent castings
- 80a-48/10 Moulding boxes for the production of several superposed castings
- 80a-48/15 Moulding boxes with adjustable walls
- 80a-48/20 Tilting moulds
- 80a-48/25 Moulding boxes for the manufacture of stair steps (37d-1)
- 80a-48/30 Moulding boxes for the manufacture of supports, poles and the like (37a-5)
- 80a-49 Shakers for clay, cement and the like materials (31b-5/30; 31b-10; 80a-14/20)

- 80a-50/01 Methods for the manufacture of insulators and winding cores from porcelain, clay and the like (21c-14/01 – 21c-14/06; 49e-14)
- 80a-50/05 Devices for the manufacture of insulators and the production of threaded elements from porcelain, clay and the like (21c-14/01 – 21c-14/06; 49e-14)
- 80a-51 Moulding of articles from cement and the like with reinforcements (19a-6; 19a-3/28; 38a-2; 38a-5; 37b-1/01 – 37b-4/02; 84c-2; 84c-5/00)
- 80a-52 Methods and devices for the manufacture of porcelain filters
- 80a-53 Methods and devices for the manufacture of paving stones and the like from mortar, asphalt and the like
- 80a-54/01 Casting methods for ceramics
- 80a-54/10 Casting devices for ceramics
- 80a-55/01 Moulding methods for slag bricks (18a-8/02; 80b-5/02 – 80b-5/07)
- 80a-55/10 Moulding devices for slag bricks (18a-8/02; 80b-5/01 – 80b-5/07)
- 80a-56/01 Centrifugal methods for the manufacture of articles from cement and the like (31c-18/01; 31c-18/02)
- 80a-56/10 Centrifugal devices for the manufacture of pipes from cement and the like (31c-18/01; 31c-18/02)
- 80a-56/20 Centrifugal devices for the manufacture of other articles from cement and the like (31c-18/01; 31c-18/02)

Surface treatment of clay-ware: glazing, application of designs, and related operations

- 80a-57 Devices for the glazing of clay-ware and the like (80b-23/03; 80b-23/04)
- 80a-58 Devices for slip coating of bricks
- 80a-59 Other devices for the formation of coloured coatings, excluding those in 80a-58
- 80a-60 Devices and methods for the manufacture of clay-ware with raised, recessed or perforated designs (75a; 75b)
- 80a-61 Methods and devices for the manufacture of artificial mosaic-like stones
- 80a-62/01 Combined presses for the manufacture of clay articles (58b)
- 80a-62/10 Special pressing methods and devices for the manufacture of articles from clay and the like, when not classified in the above groups
- 80a-62/20 Details of presses and charging devices for presses classified in 80a-10/01 – 80a-20/02
- 80a-62/30 Safety devices for presses (7c-17; 47a-18; 58a-8; 58b-16)

80b Mortar mixtures, ceramics, manufacture of artificial stones, when relating to materials, glazes

Mortar mixtures (80b-2/01 – 80b-4/11; 80b-6/01 – 80b-6/09; 80b-21/01 – 80b-21/06)

- 80b-1/01 Mortars and mortar mixtures, general (80b-2/01 – 80b-6/09; 80b-10/01 – 80b-10/06; 80b-13/01 – 80b-13/03; 80b-15/01 – 80b-15/05; 80b-17/01 – 80b-17/10; 80b-24/01 – 80b-24/09)
- 80b-1/02 Lime mortars, plaster mortars (80b-1/14; 37a; 37d)
- 80b-1/03 Waterglass mortar, e.g. artificial slate (80b-4/02; 80b-9/09; 80b-17/04; 22i)
- 80b-1/04 Sulphur-containing casting materials and mortars (22g)
- 80b-1/05 Salt and similar additives for mortar, also to mortar-forming agents (80b-3/03; 80b-3/20; 80b-4/07; 80b-6/03 – 80b-6/05; 80b-19/02)
- 80b-1/06 Mechanical processes (80a-7/01 – 80a-7/55)
- 80b-1/07 Concrete, general processes of concrete technology (80b-1/11; 80b-3/20; 80b-3/21; 80b-21/01; 80b-21/02; 19a-5; 37a; 37b; 37d; 80a-7; 80a-34/01 – 80a-34/20; 80a-45/01 – 80a-45/05; 80a-48/01 – 80a-48/30; 80a-53; 80a-56/01 – 80a-56/20)
- 80b-1/08 Light concrete (80b-5/06; 80b-21/03; 80b-21/04)
- 80b-1/09 Cellular concrete, porous concrete (80b-18/02)
- 80b-1/10 Slag concrete (80b-5/05; 80b-5/06; 80b-20/01; 80b-20/02)
- 80b-1/11 Shotcrete, gunite (37d-32/02; 75c-3; 75c-22)

- 80b-1/12 Mortar mixture containing silicic acid and possibly naturally moist components: trass, slag plus caustic lime, hydraulic additives, etc. (80b-3/03; 80b-5/03)
- 80b-1/13 Cement articles and their treatment (80a-45/01 – 80a-45/05; 80b-10/05; 80b-10/06; 80b-19/02; 80b-19/03; 80b-24/03)
- 80b-1/14 Compacting of cement, mortar, general, also by means of bituminous shale (80b-3/19; 80b-19/05; 80b-25/09; 80b-25/10)
- 80b-1/15 Compacting of mortar or cement by means of agents other than bituminous or fatty materials
- 80b-1/16 Compacting of mortar or cement, by preponderantly mechanical means (80b-1/06)
- 80b-1/17 Compacting of mortar against oil (37f-3)
- Methods for slaking lime (80a-9/01 – 80a-9/10) and burning limestone in relation to materials (80b-3/01 – 80b-3/23; 80c-11 – 80c-14/20)**
- 80b-2/01 Lime, general (12m-1; 80a-9; 80b-1/01)
- 80b-2/02 Lime burning (80b-3/12; 80c-11 – 80c-14/20)
- 80b-2/03 Lime slaking (80a-9; 80b-10/01)
- Cement and the like in general (80b-1/01 – 80b-2/03; 80b-4/01 – 80b-6/09; 80c-11 – 80c-14/20), Portland and Roman cement and the like**
- 80b-3/01 Cements in general, Portland cement (80b-1/01 – 80b-2/03; 80b-4/01 – 80b-6/09; 80c-11 – 80c-14/20)
- 80b-3/02 Pozzolan cement, excluding slag cements; hydraulic additives in general (80b-1/01 – 80b-1/17; 80b-5/01 – 80b-5/07)
- 80b-3/03 Additives of various kinds for cement production, e.g. reducing agents or salt additives for raw materials (80b-1/05)
- 80b-3/04 Roman cement, hydraulic limes and the like mixed cements, cement-like binders (80b-1/01 – 80b-2/03)
- 80b-3/05 Cements from oil shales, oil chalk and the like (80b-1/14; 80b-20/02)
- 80b-3/06 Ore cements
- 80b-3/07 Processing of residues, wastes and special raw materials into cements, general (80b-20/04)
- 80b-3/08 Processing of combustion residues into cement (80b-20/01)
- 80b-3/09 Cements and/or lime from gypsum and the like (80b, 601)
- 80b-3/10 Cements from alkali-containing raw materials (12i; 12l)
- 80b-3/11 Blast-furnace dust in cement technology (18a; 80b-9/10)
- 80b-3/12 Cement production: general operation; burning methods (80a-2/01 – 80a-2/05; 80a-5; 80a-7/01 – 81a-7/55; 80a-45/01 – 80a-45/05; 80c-11 – 80c-14/20)
- 80b-3/13 Chemical preparation of materials, as to composition (80a-2/01 – 80a-2/05; 80a-5; 80a-7/01 – 81a-7/55; preparation for burning 80c-17/60)
- 80b-3/15 Cement production: dehydration of raw materials (12d; 80a-5; 85c-6)
- 80b-3/16 Direct processes
- 80b-3/17 Aluminous cements and high-alumina cements, general (80b-3/18)
- 80b-3/18 Electric melting of cement raw materials (80b-3/17; 80b-5/04; 21h)
- 80b-3/19 Clinker treatment: grinding, general; grinding and mixing with water-repellent additives (80b-1/14; 50c-15)
- 80b-3/20 Clinker treatment: grinding and mixing with salts and the like (80b-1/05; 80b-3/03)
- 80b-3/21 Clinker treatment: hydration, aging, cooling, etc. for the shortening of the setting time (80b-1/01; 80b-1/07; 80b-1/13; 80b-3/22)
- 80b-3/22 Storage and transportation of cement (80b-1/07; 80b-3/21)
- 80b-3/23 Cement testing
- Magnesium-salt cement (12m-3; 80b-8/01; 80b-8/02), Sorel cement or other materials hardening like Sorel cement**
- 80b-4/01 Chloride-containing magnesium-salt cements, Sorel cement
- 80b-4/02 Sulphate, nitrate, fluoride cements or other Sorel-cement-like compounds

- 80b-4/03 Other mixtures hardening like the Sorel cement, e.g. zinc or lead-containing materials
- 80b-4/04 Special articles made of magnesium-salt cement (80b-15/01 – 80b-15/05; 80b-17/01 – 80b-17/10)
- 80b-4/05 Treatment of the magnesium-salt cement materials during or after moulding (80b-19/01 – 80b-19/07)
- 80b-4/06 Addition of hydraulic or similar substances to magnesium-salt cement materials
- 80b-4/07 Other additives to materials hardening like Sorel cement
- 80b-4/08 Inorganic fillers for materials hardening like Sorel cement
- 80b-4/09 Organic fillers for materials hardening like Sorel cement
- 80b-4/10 Mixing methods
- 80b-4/11 Dry or low-moisture materials hardening like Sorel cement

Cements from blast-furnace or other slag; grinding and granulating of blast-furnace or other slag; manufacture of slag wool (80a-55/01 – 80a-55/10; 80b-22/05)

- 80b-5/01 Cement from blast-furnace or other metallurgical slag and the like, general; also cements produced in blast furnaces (80b-3/05; 80b-3/08; 80b-22/01)
- 80b-5/02 Blast-furnace cements [iron Portland cement]; slag plus cement
- 80b-5/03 Slag cements proper: slag plus lime (80b-3/02)
- 80b-5/04 Additives to slag, liquid additives (80b-3/18; 80b-5/01)
- 80b-5/05 Granulation, dehydration, drying of slag (18a; 80a-52)
- 80b-5/06 Manufacture of porous granulated slag (80b-18/02)
- 80b-5/07 Manufacture of slag wool (80b-9/02; 80b-22/05)

Gypsum and gypsum mortar

- 80b-6/01 Burning or dehydration of gypsum (80b-3/09; 80c)
- 80b-6/02 Preparation of gypsum materials from anhydrite
- Gypsum materials
 - 80b-6/03 with hydraulic additives
 - 80b-6/04 with inorganic additives
 - 80b-6/05 with organic additives
 - 80b-6/06 with inorganic fillers
 - 80b-6/07 with organic fillers
 - 80b-6/08 Recovery of used plaster
 - 80b-6/09 Miscellaneous processes used in the gypsum industry
- 80b-7 Ceramic casting materials (80a-54/01 – 80a-54/10; ceramic electrical insulation materials 21c-2/01; lead-through devices made of ceramic material 21c-10)

Fired ceramics with the exception of clay-ware (32a-35; 80b-12/01 – 80b-12/18; 80e; ceramic electrical insulators 21c-2/01; lead-through devices 21c-10)

- 80b-8/01 Magnesia materials (80b-4/01 – 80b-4/11)
- 80b-8/02 Dolomite materials (80b-4/01 – 80b-4/11)
- 80b-8/03 Aluminium oxide materials (12m-5; 12m-6; 80b-11/10 – 80b-11/40)
- 80b-8/04 Materials containing chromic oxide
- 80b-8/05 Other basic refractory materials
- 80b-8/06 Acid refractory materials (80b-10/01 – 80b-10/06)
- 80b-8/07 Aluminium-oxide-rich silicate materials
- 80b-8/08 Magnesium-silicate materials
- 80b-8/09 Spinel materials
- 80b-8/091 Spinel materials
- 80b-8/092 Ferromagnetic materials with spinel structure
- 80b-8/093 Ferromagnetic materials with magnetoplumbite structure
- 80b-8/094 Ferromagnetic materials of compounds with iron garnet structure

- 80b-8/095 Ferromagnetic materials of other compounds
- 80b-8/10 Graphite materials (31a-3)
- 80b-8/11 Carbide materials (12i-37; 80b-11/10 – 80b-11/40)
- 80b-8/12 Other carbon materials
- 80b-8/13 Rare earth containing materials (12m-9)

- Materials characterised by their dielectric properties
- 80b 8/131 Ferromagnetic materials of compounds with Perowskite structure
- 80b 8/132 Ferromagnetic materials of other compounds
- 80b 8/133 Dielectric materials based on titanium dioxide
- 80b 8/134 Materials for insulating dielectrics and the like, particularly of oxides with different or changeable valence

- Materials characterised otherwise than by their dielectric properties
- 80b 8/135 Materials for semiconductors
- 80b 8/136 Materials for resistors with positive or negative temperature coefficients
- 80b 8/137 Materials containing Zirkonium oxide
- 80b 8/138 Materials containing oxides of actinides and transuranans
- 80b 8/1391 Materials containing oxides of rare earths
- 80b 8/1392 Materials containing other oxides, e.g. BeO, ZnO, Li₂O, CaO, etc.
- 80b-8/14 Refractory tamping and mortar materials
- 80b-8/15 Refractory linings, coatings, furnace linings, multilayer refractory bricks (80b-13/01)
- 80b-8/16 Sintered refractory materials (80b-12/05 – 80b-12/07)
- 80b-8/17 Refractory materials produced by melting (32a-35)
- 80b-8/18 Other refractory materials
- 80b-8/181 Materials containing silicides
- 80b-8/182 Materials containing borides
- 80b-8/183 Materials containing nitrides
- 80b-8/184 Metal-containing oxide materials
- 80b-8/19 Sintered non-refractory materials (80b-12/05 – 80b-12/07)
- 80b-8/20 Non-refractory materials produced by melting (80b-22/04; 32a-35)
- 80b-8/21 Other fired materials
- 80b-8/22 Colloidal aggregation (12g)

- Inorganic insulating and thermal-insulating materials** (insulating materials for ice cellars and ice boxes 17c-4; electrically insulating materials 21c-2; insulation of construction elements 37a-7; insulating coverings and other construction elements for the prevention of moisture and heat transfer 37b-6; organic insulating materials 39b-16 – 39b-26; heat-retaining bodies as elements for general utilisation 47a-16/20; heat-insulating means and materials for pipes 47f-27)
- 80b-9/01 with asbestos (80b-17/05)
- 80b-9/02 with slag wool (80b-22/05)
- 80b-9/03 with glass fibre
- 80b-9/04 with peat: peat bricks
- 80b-9/05 with diatomaceous earth or kieselgur (80b-1/08; 80b-18/04)
- 80b-9/06 with pumice (80b-18/01)
- 80b-9/07 with mica (21c-2)
- 80b-9/08 with magnesium oxide or carbonates (80b-4/01 – 80b-4/11; 80b-8/01; 80b-8/02)
- 80b-9/09 with water glass (80b-17/04; 80b-18/02)
- 80b-9/10 Fired insulating materials (80b-18/02 – 80b-18/05)
- 80b-9/20 Other inorganic insulating materials

Sand-lime brick materials and methods for the manufacture of sand-lime bricks (80a-9)

- 80b-10/01 General
- 80b-10/02 with clay (80b-12/17; 80b-12/18)
- 80b-10/03 with bitumen (80b-25/11; 80b-25/12)
- 80b-10/04 with special fillers
- 80b-10/05 Hardening methods for sand-lime brick materials (80a-9/01 – 80a-9/10)
- 80b-10/06 Hardening by means of carbon dioxide (80a-9/01 – 80a-9/10)

Inorganic grindstone and millstone materials, inorganic materials for planing tools and inorganic granular grinding materials (organic binders 39b; 50b-3; 67a; 67c)

- 80b-11/10 Inorganic materials for grindstones, millstones and the like, with ceramic binding
- 80b-11/20 Inorganic materials for grindstones, millstones and the like
- 80b-11/30 Inorganic materials for grindstones, millstones materials and the like with diamond granular material
- 80b-11/40 Inorganic granular grinding materials and their manufacture

Clay materials and ceramic processes (80b-7/01 – 80b-8/22; 80b-18/01 – 80b-18/07; 80b-23/01 – 80b-24/09; 80c; ceramic electrical insulation materials 21c-2/01; ceramic-material lead-through devices 21c-10)

- 80b-12/01 Preparation and chemical treatment of clay, kaolin; preparation of materials (1a; 80a-1/01 – 80a-7/55)
- 80b-12/02 Removal of iron from ceramic materials
- 80b-12/03 Chemical and mechanical purification of the raw materials used for ceramics, excluding clay and kaolin dressing (12d; 80a-1/01 – 80a-7/55)
- 80b-12/04 Fire-clay materials
- 80b-12/05 Porcelain and stoneware materials
- 80b-12/06 Electrical engineering porcelain materials and cement materials for insulators (21c-2)
- 80b-12/07 Materials for clinker ware (80b-8/16; 80b-8/19)
- 80b-12/08 Lager materials
- 80b-12/09 Cooking ware materials
- 80b-12/10 Other material mixtures
- 80b-12/11 Prevention of blisters on clay-ware (80b-19/02)
- 80b-12/12 Neutralisation of lime contained in clay (80b-19/02)
- 80b-12/13 Mass colouring of clay (80b-19/03)
- 80b-12/14 Lean-making substances
- 80b-12/15 Dry-moulding materials and processes
- 80b-12/16 Firing processes in relation to material (80c)
- 80b-12/17 Unfired clay bricks (80b-10/02; 80b-20/02)
- 80b-12/18 Unfired fire-clay bricks (80b-10/02; 80b-20/02)

Multilayer bricks in relation to material coatings for bricks (22g-8; 22g-9; 37b-1; 36b-2)

- 80b-13/01 Multilayer bricks and coatings for bricks (80b-19/05)
- 80b-13/02 Compound plates made of bituminous and cement layers
- 80b-13/03 Metalizing of artificial stones (80b-23/01; 75c)
- 80b-13/04 Bonding of layers by means of adhesives

Facing bricks made of clay, cement, gypsum or the like

- 80b-14/01 Facing materials
- 80b-14/02 Bonding of glass plates to brick bodies (75d)

Artificial marble, mosaic-like artificial stones

- 80b-15/01 Artificial-marble materials (80b-1/01 – 80b-1/17; 80b-4/01 – 80b-4/11; 80b-6/01 – 80b-6/09; 80b-17/01 – 80b-17/10; 80b-19/04; 80b-23/04)
- 80b-15/02 Artificial-marble inlays
- 80b-15/03 Working out of the grain, sgraffito, ornamental inlays (80b-23/04; 80b-23/05)
- 80b-15/04 Patterning and decorating methods (75c; 75d)
- 80b-15/05 Mosaic (75a-4; 75b-13; 75b-21; 80a-61)

Artificial-stone materials with inlays (80b-21/01 – 80b-21/06; 37a-5; 37b-4)

- 80b-16/01 Artificial stones with inlays (37a-5; 37b-4)
- 80b-16/02 Ceramic [fired] artificial stone materials with inlays; embedding materials for heating wires (21h)

Miscellaneous artificial-stone materials

Artificial stone materials

- 80b-17/01 with glue, casein, glycerine, oil and the like (39b; 80b-1/14; 80b-4/09; 80b-6/05)
- 80b-17/02 with acids or acid salts (80b-1/05; 80b-19/02)
- 80b-17/03 with sulphite-cellulose liquor as binder (39b)
- 80b-17/04 with water glass (80b-1/03; 80b- 9/09)
- 80b-17/05 Asbestos-cement compounds (80b-9/01; 80a-47/01 – 80a-47/30)
- 80b-17/10 Miscellaneous

Pore formation in stone material

- 80b-18/01 Pumice bricks (80b-1/08; 80b-5/06; 80b-9/06)
- 80b-18/02 Forming pores by gas generation in material; purification, separation of additives by dissolution (80b-1/09; 80b-5/06)
- 80b-18/03 Porous clay-ware
- 80b-18/04 Porous firing of kieselgur and clayed kieselgur (80b-9/05)
- 80b-18/05 Porous sintered ware
- 80b-18/06 Filter stones and plates (12d)
- 80b-18/07 Other porous stone materials

Impregnation and aftertreatment of stone materials

- 80b-19/01 Impregnation of artificial stones, general (80b-1/01 – 80b-1/17; 80b-25/01 – 80b-25/16)
- 80b-19/02 Aftertreatment with salt solutions
- 80b-19/03 Colouring of cement articles, stones (80b-12/13; 80b-24/06)
- 80b-19/04 Hardening of plaster castings (80b-6/04 – 80b-6/07)
- 80b-19/05 Waterproof paints (22g-8; 22h; 80b-1/14; 80b-25/11)
- 80b-19/06 Grinding and polishing of artificial stones (22g-14; 67c-3)
- 80b-19/07 Treatment of artificial stones with fluorosilicates

Processing of residues and waste, e.g. furnace waste, slate, slaked lime from chemical plants, into artificial stone (1a-40; 24d-7; 80b-5/01 – 80b-5/07; 80b-22/01 – 80b-22/05)

- 80b-20/01 Processing of furnace waste, refuse, into artificial stones (80b-3/07)
- 80b-20/02 Processing of slate and slate waste into artificial stones (80b-3/05)
- 80b-20/03 Artificial stone materials containing paper pulp mud (80b-17/05)
- 80b-20/04 Processing of other wastes into artificial stone and the like

Fillers for concrete, artificial bricks and the like (80b-1/01 – 80b-1/17; 80b-4/01 – 80b-4/11; 80b-6/01 – 80b-6/09; 80b-16/01 – 80b-16/02; 80b-25/01 – 80b-25/16)

- 80b-21/01 Fillers for concrete, artificial stone, general (80b-1/07 – 80b-1/13; 80b-4/01 – 80b-4/11; 80b-6/01 – 80b-6/09; 80b-16/01; 80b-25/10; 80b-25/13; 80b-25/16)
- 80b-21/02 Clay-cement with fillers of all kinds

- 80b-21/03 Inorganic fillers for concrete, lightweight stone (80b-1/08; 80b-1/10; 80b-9/01; 80b-9/07; 80b-9/08; 80b-9/10; 80b-10/01; 80b-17/05; 80b-18/01)
- 80b-21/04 Organic fillers for concrete, lightweight stones (80b-1/08; 80b-6/07; 80b-9/04; 80b-17/01 – 80b-17/03)
- 80b-21/05 Hard grain as filler (80b-8/03; 80b-8/11; 80b-22/04)
- 80b-21/06 Iron chip fillers and the like (80b-22/01 – 80b-22/05; 37b-3/03; 37b-4/01)
- Slag bricks** (80a-55/01 – 80a-55/10; 80b-6/01 – 80b-6/09)
- 80b-22/01 Metallurgical slag bricks, general
- 80b-22/02 Bound metallurgical slag bricks, general (80b-1/10; 80b-21/03; 80b-21/05)
- 80b-22/03 Metallurgical slag bricks from slag and lime (80b-1/10; 80b-10/01; 80b-10/04)
- 80b-22/04 Formed cast ware from metallurgical slag
- 80b-22/05 Materials containing slag wool, with the exception of insulating materials (80b-9/02)
- Glazing, decorating and colouring of clay-ware, artificial stones and the like, bonding of ceramic articles to articles made of metals, glass and ceramic materials** (21c-2; 21c-10; 21c-13; 21c-14; 21f-39; 21f-82/04; 21g-13; 21g-14; 32b-5 – 32b-11; 32b-5/00 – 32b-9/00; 32b-15/00 – 32b-23/00; 48e; 76b-24; 76d; 80a-57)
- 80b-23/01 Metal decorations and coatings for clay-ware (80b-13/03)
- 80b-23/02 Transfer methods for clay-ware (15k-8; 15k-9; 75b-6)
- 80b-23/03 Glazing of clay-wares; glaze and slip materials; ceramic colours
- 80b-23/04 Glazing and decorating of artificial and natural stones; cold glazes
- 80b-23/05 Surface inlays (80b-15/03; 75b, 75c; 75d)
- 80b-23/06 Relief decoration of clay-ware or the like, application of pearls, fibres and the like (75b; 75d)
- 80b-23/07 Other decorations for clay-ware and the like
- 80b-23/10 Thermal bonding of ceramic articles to metal articles
- 80b-23/20 Thermal bonding of ceramic articles to glass articles
- 80b-23/30 Thermal bonding of ceramic articles to articles made of ceramic materials
- Miscellaneous methods utilised in the clay-ware, stone and artificial stone industry, in relation to material**
- 80b-24/01 Miscellaneous methods of clay and artificial-stone industry
- 80b-24/02 Methods for the manufacture of clay slabs and tiles; excrescences to be chipped off; beneficiation before firing
- 80b-24/03 Methods for the manufacture of hollow bricks (80a)
- 80b-24/04 Methods connected with moulding; materials for moulds
- 80b-24/05 Mould oils, stamping oils, mould lubricants
- 80b-24/06 Cement colouring of sand (80b, 1903; 22f)
- 80b-24/07 Translucent materials
- 80b-24/08 Processes for burning formed objects, except when concerned with special types of ovens
- 80b-24/09 Processes for burning non-formed materials, except when concerned with special types of ovens, also physical pretreatment before burning the materials
- Preparation of asphalt and bituminous material for construction, especially road construction** (10b-7; 12r-1; 19c-3; 19c-5/00; 19c-7/00; 22g-6 – 22g-9; 22h-3; 23b-1; 23e-2; 30i-7; 39b-24)
- 80b-25/01 Bitumen mixtures for road construction (19c-3)
- 80b-25/02 Compressed asphalt materials
- 80b-25/03 Artificial asphalt; distillation and oxidation processes (22h)
- 80b-25/04 Artificial asphalt: sulphurisation processes (12 o)
- 80b-25/05 Processing of acid tar into asphalt
- 80b-25/06 Bitumen emulsions (19c-3; 19c-5/00; 19c-7/00; 23c-2)

- 80b-25/07 Bitumen solutions (22g-6 – 22g-9; 22h-3)
- 80b-25/08 Bitumen-rubber mixtures
- 80b-25/09 Bitumen mixtures with cement, lime, water glass and other salts (80b-1/14)
- 80b-25/10 Methods for mixing bitumen and fillers (80a-8)
- 80b-25/11 Bitumen-containing artificial bricks (39b)
- 80b-25/12 Bitumen-containing paving bricks
- 80b-25/13 Bitumen in mixture with fillers
- 80b-25/14 Asphalt coating materials, asphalt floors (37d-7)
- 80b-25/15 Bituminous roofing materials (37b-6; 37c-6)
- 80b-25/16 Miscellaneous methods of bitumen processing

80c Kilns, methods of firing in kilns (independent brick-drying apparatus 82a)

Kilns for firing, glazing, annealing and bluing by vaporisation of moulded ceramic articles: clay-ware, bricks, pottery, porcelain and the like; drying kilns, if connected with firing kilns

- 80c-1 Round kilns and annular chamber kilns, gas, liquid fuel, coal dust or electricity heated (21h-14 – 21h-19)
- 80c-2 Round kilns fired with solid fuel
- 80c-3 Chamber kilns and annular chamber kilns, except 80c-1, 80c-8, 80c-9
- 80c-4 Muffle and annealing kilns
- 80c-5 Tunnel kilns with direct firing (18a; 18c; 40a; 48c; 82a)
- 80c-6 Tunnel-muffle kilns (18c; 48c)
- 80c-8 Glazing and blueing kilns
- 80c-9 Multi-stage chamber kilns
- 80c-10 Firing kilns for small plants, field firing ovens, laboratory furnaces
- 80c-15 Drying apparatus for moulded articles, if connected with firing kilns (82a)

Kilns for the firing, etc. of unmolded materials

- 80c-7 Melting kilns
- 80c-11 Kilns for roasting and burning of gypsum (82a)
- 80c-12 Shaft kilns heated with gas, liquid fuels, coal dust and electricity (10a; 18a; 21h-14 – 21h-19; 40a)
- 80c-13 Shaft kilns fired with solid fuel (18a; 40a; 10a; 24e)
- 80c-14/01 Rotary tubular kilns (10a; 18a; 40a; 82a)
- 80c-14/10 Combined kilns (40a)
- 80c-14/20 Cooling devices for kilns for the firing of unmolded materials (10a; 18a; 40a; 17f)

Firing methods, devices and accessories, except 80c-1 – 80c-15

- 80c-16/01 Charging and discharging apparatus for kilns for firing moulded articles (24f; 24h)
- 80c-16/10 Charging apparatus for kilns for firing unmolded materials (18a; 24e; 24f; 24h; 40a; 81e; 82a)
- 80c-16/20 Discharging apparatus for kilns for firing unmolded materials (18a; 24e; 24f; 24h; 40a; 81e; 82a)
- 80c-17/01 Apparatus and accessories for kilns for firing moulded articles, insofar as intended for firing kilns of various kinds, exclusive of 80c-15, 80c-16/01
- 80c-17/10 Apparatus and accessories for kilns for firing unmolded materials, insofar as intended for kilns of various kinds, exclusive of 80c-14/20, 80c-16/10, 80c-16/20
- 80c-17/50 Firing methods for moulded articles, insofar as not connected to special kinds of kilns;
- 80c-17/60 Firing methods for unmolded materials, insofar as not connected to special kinds of kilns, also physical preparation for the firing of the materials

- 80d** **Stone and brick working** (stone-grinding machines 67a-14; surface decoration, etc. for stones 75a, 75b; manufacture of artificial stones, insofar as related to material 80b-7 – 80b-22/05)
- 80d-1 Tools, tool holders and work tables for stone working (5b-7)
- 80d-2 Working of precious stones: cutting and sawing (stone grinding 67a-14; precious-stone grinding 67a-21; drilling and finishing of drawing 80d-9)
- 80d-3 Working of slate and mica, machines for the manufacture of slate pencils
- 80d-4 Devices for the splitting or cutting of stones (of precious stones 80d-2; stone saws 80d-5; stone breakers 50c-4)
- 80d-5 Devices for sawing stones: circular saws, cable saws, saw frames
- 80d-6 Jig-saw devices for stones
- 80d-7 Feeding and preparation of abrasives (67a-27)
- 80d-8 Saw blades for stone working (80d-5)
- 80d-9 Drilling machines for stone working and for optical glasses, and details of these devices, also reaming machines for drawing dies (5a; 5b-1 – 5b-8; 5b-13 – 5b-17; 32a-33; 32a-33/00; 42h; 67a-19; 67a-31)
- 80d-10 Turning devices for stone working
- 80d-11 Machines and devices for trimming stones
- 80d-12 Planers for stone working
- 80d-13 Machines with rolling cutters for stone working, plate-cutting devices
- 80d-14 Milling machines for stone working; devices and machines for the refinishing of used building bricks