

CPC COOPERATIVE PATENT CLASSIFICATION

E FIXED CONSTRUCTIONS

BUILDING

E01 CONSTRUCTION OF ROADS, RAILWAYS, OR BRIDGES

E01C CONSTRUCTION OF, OR SURFACES FOR, ROADS, SPORTS GROUNDS, OR THE LIKE; MACHINES OR AUXILIARY TOOLS FOR CONSTRUCTION OR REPAIR (forming roads or like surfaces by compacting or grading snow or ice [E01H](#))

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

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|---|--|-------|--|
| 1/00 | Design or layout of roads, e.g. for noise abatement, for gas absorption (design or layout of sports grounds A63C 19/00 ; design or layout of airfields B64F {, of helicopter landing stages E01F 3/00 }) | 3/06 | . Methods or arrangements for protecting foundations from destructive influences of moisture, frost or vibration {(heating devices E01C 11/26 ; draining the subbase of roads E01F 5/00)} |
| 1/002 | . {Design or lay-out of roads, e.g. street systems, cross-sections (E01C 1/005 , E01C 1/007 take precedence; of footpaths, sidewalks, berms, hard shoulders or cycle tracks E01C 15/00); Design for noise abatement, e.g. sunken road (reducing transmission of structure-born noise E01C 3/06 ; arrangements for absorbing or reflecting air transmitted road traffic noise, e.g. barriers E01F 8/00)} | 5/00 | Pavings made of prefabricated single units (specially adapted for playgrounds or sports grounds E01C 13/04 , for footpaths, sidewalks or cycle tracks E01C 15/00 ; making artificial stones C04B ; building stones E04C ; flooring E04F) |
| 1/005 | . {Means permanently installed along the road for removing or neutralising exhaust gases (collecting exhaust gases with central suction systems, e.g. in workshops or tunnels, B08B 15/002)} | 5/001 | . {on prefabricated supporting structures or prefabricated foundation elements except coverings made of layers of similar elements} |
| 1/007 | . {Design or auxiliary structures for compelling drivers to slow down or to proceed with caution, e.g. tortuous carriageway; Arrangements for discouraging high-speed or non-resident traffic (decelerating or arresting surfacings E01C 9/007 ; road surface configuring or surface arrangements for enforcing reduced speed or required caution, e.g. speed-control humps E01F 9/529)} | 5/003 | . {characterised by material or composition used for beds or joints; characterised by the way of laying} |
| 1/02 | . Crossings, junctions or interconnections between roads on the same level {(construction of traffic islands E01F 1/00)} | 5/005 | . {Individual couplings or spacer elements for joining the prefabricated units (E01C 5/10 takes precedence)} |
| 1/04 | . Road crossings on different levels; Interconnections between roads on different levels | 5/006 | . . {Individual spacer elements} |
| Structure of roads, playgrounds, sports grounds, airfields | | 5/008 | . {made of vegetable stems, e.g. straw, thatch (of wood E01C 5/14 ; made of textiles (of bituminous textile webs E01C 5/12 ; of linoleum E01C 5/20)} |
| | | 5/02 | . made of natural stones, e.g. sett stones {(as inserts in binders or bound thereby into greater unity E01C 5/22)} |
| 3/00 | Foundations for pavings (specially adapted for playgrounds or sports grounds E01C 13/02 ; foundations in general E02D) | 5/04 | . made of bricks {(of asphalt bricks E01C 5/12)} |
| 3/003 | . {characterised by material or composition used, e.g. waste or recycled material (E01C 3/006 , E01C 3/04 and E01C 3/06 take precedence)} | 5/06 | . made of units with cement or like binders |
| 3/006 | . {made of prefabricated single units (E01C 3/06 takes precedence)} | 5/065 | . . {characterised by their structure or component materials, e.g. concrete layers of different structure, special additives} |
| 3/02 | . Concrete base for bituminous paving | 5/08 | . . Reinforced units {with steel frames (with metal upper or under layers E01C 5/22)} |
| 3/04 | . Foundations produced by soil stabilisation {(soil stabilisation for road building in general E01C 7/36)} | 5/085 | . . . {on prefabricated supporting structures or prefabricated foundation elements except coverings made of layers of similar elements} |
| | | 5/10 | . . . Prestressed reinforced units {; Prestressed coverings from reinforced or non-reinforced units (prestressed concrete coverings E01C 7/16)} |
| | | 5/105 | {on prefabricated supporting structures or prefabricated foundation elements, except coverings made of layers of similar elements} |
| | | 5/12 | . made of units with bituminous binders {or from bituminous material, e.g. asphalt mats} |

- 5/14 . made of wooden units
- 5/16 . made of metallic units {with a filling or ground plate of other material [E01C 5/22](#); for temporary pavings [E01C 9/083](#); } steel gratings [E01C 9/10](#)}
- 5/18 . made of rubber units {(of units made from other material and having a rubber upper layer [E01C 5/226](#))}
- 5/20 . made of units of plastics, {e.g. concrete with plastics, linoleum}([E01C 5/18](#) takes precedence; {of textiles made of synthetic fibres [E01C 5/008](#)})
- 5/22 . made of units composed of a mixture of materials covered by two or more of groups {[E01C 5/008](#)}, [E01C 5/02](#) - [E01C 5/20](#) {except embedded reinforcing materials}
- 5/223 . . {on prefabricated supporting or prefabricated foundation units, except coverings made of layers of similar elements}
- 5/226 . . {having an upper layer of rubber, with or without inserts of other materials; with rubber inserts}
- 7/00 Coherent pavings made in situ** (specially adapted for playgrounds or sports grounds [E01C 13/06](#); for footpaths, sidewalks or cycle tracks [E01C 15/00](#))
- 7/02 . made of road-metal without binders
- 7/04 . . of broken stones, gravel, or like materials
- 7/06 . . by melting, burning, or vitrifying road-metal in situ
- 7/08 . made of road-metal and binders {([E01C 7/36](#) takes precedence)}
- 7/085 . . {Aggregate or filler materials therefor; Coloured reflecting or luminescent additives therefor (thin surface layers or surface dressings [E01C 7/35](#))}
- 7/10 . . of road-metal and cement or like binders (cement or like binders, composition of mortars [C04B](#))
- 7/12 . . . Mortar-bound paving
- 7/14 . . . Concrete paving {(from concrete prepared in situ [E01C 7/12](#); small individual units from concrete cast in situ [E01C 9/001](#); arrangement or construction of joints [E01C 11/04](#); reinforcements [E01C 11/18](#))}
- 7/142 {Mixtures or their components, e.g. aggregate ([E01C 7/147](#), [E01C 7/355](#) take precedence; different layers of different composition [E01C 7/14](#))}
- 7/145 {Sliding coverings, underlayers or intermediate layers (isolating underlayers [E01C 3/06](#); sliding layers between coverings of different materials [E01C 7/34](#)); Isolating or separating intermediate layers; Transmission of shearing force in horizontal intermediate planes, e.g. by protrusions, by inlays (anchoring new concrete wearing layers on old concrete paving [E01C 7/147](#))}
- 7/147 {Repairing concrete pavings, e.g. joining cracked road sections by dowels, applying a new concrete covering (applying thin surface layers with other binder [E01C 7/35](#); repairing pavings in general [E01C 11/005](#); roughening by means of tools [E01C 11/24](#))}
- 7/16 Prestressed concrete paving {(prestressed coverings from prefabricated concrete units [E01C 5/10](#); prestressed joint constructions [E01C 11/04](#); prestressed reinforcements [E01C 11/20](#))}
- 7/18 . . of road-metal and bituminous binders {(for surface treatments except for penetration coverings, or for thin surface layers [E01C 7/353](#); bituminous mixtures [C08L 95/00](#))}
- 7/182 . . . {Aggregate or filler materials, except those according to [E01C 7/26](#) ([E01C 7/187](#), [E01C 7/353](#) take precedence; different aggregates or fillers [E01C 7/18](#))}
- 7/185 . . . {Isolating, separating or connecting intermediate layers, e.g. adhesive layers; Transmission of shearing force in horizontal intermediate planes, e.g. by protrusions ([E01C 7/187](#) takes precedence; adhesive layers for materials [E01C 7/35](#))}
- 7/187 . . . {Repairing bituminous covers, e.g. regeneration of the covering material in situ, application of a new bituminous topping (application of thin surface layers with other binders [E01C 7/35](#); repairing pavings in general [E01C 11/005](#))}
- 7/20 . . . Binder incorporated in cold state, e.g. natural asphalt
- 7/22 . . . Binder incorporated in hot state, e.g. heated bitumen
- 7/24 . . . Binder incorporated as an emulsion or solution (making dispersions or emulsions for road building [C04B](#))
- 7/26 . . . mixed with other materials, e.g. cement, rubber, leather, fibre {(fibrous material reinforcements for bituminous paving [E01C 11/165](#))}
- 7/262 {with fibrous material, e.g. asbestos; with animal or vegetal admixtures, e.g. leather, cork ([E01C 7/265](#) takes precedence)}
- 7/265 {with rubber or synthetic resin, e.g. with rubber aggregate, with synthetic resin binder (for thin overlays or surface dressings [E01C 7/35](#))}
- 7/267 {with sulfur}
- 7/30 . . of road-metal and other binders, e.g. synthetic material {, i.e. resin}
- 7/32 . . of courses of different kind made in situ
- NOTE**
- This group is limited to coverings consisting of layers with different binders, except for thin intermediate or surface layers, which are classified in group [E01C 7/35](#)
- 7/325 . . . {Joining different layers, e.g. by adhesive layers; Intermediate layers, e.g. for the escape of water vapour, for spreading stresses (sliding layers [E01C 7/34](#))}
- 7/34 . . . made of several courses which are not bound to each other {; Separating means therefor, e.g. sliding layers (in or under concrete coverings [E01C 7/145](#))}
- 7/35 . . Toppings or surface dressings; Methods of mixing, impregnating, or spreading them {(devices therefor [E01C 19/00](#); mortar-macadam pavings [E01C 7/12](#); bituminous penetration coverings [E01C 7/18](#))}
- 7/351 . . . {with exclusively hydraulical binders; Aggregate, fillers or other additives for application on or in the surface of toppings with exclusively hydraulic binders}

- 7/353 . . . {with exclusively bituminous binders; Aggregate, fillers or other additives for application on or in the surface of toppings with exclusively bituminous binders, e.g. for roughening or clearing}
- 7/355 . . . {with exclusively rubber as binder; Aggregate, fillers or other additives for application on or in the surface of toppings having exclusively rubber as binder}
- 7/356 . . . {with exclusively synthetic resin as a binder; Aggregate, fillers or other additives for application on or in the surface of toppings having exclusively synthetic resin as binder}
- 7/358 . . . {with a combination of two or more binders according to groups [E01C 7/351](#) - [E01C 7/356](#)}
- 7/36 . by subjecting soil to stabilisation {(E01C 7/06 takes precedence; foundations [E01C 3/04](#); soil conditioning or soil stabilising materials [C09K 17/00](#); soil stabilisation devices for road construction [E01C 21/00](#))}
- 9/00 Special pavings** (specially adapted for playgrounds or sports grounds [E01C 13/00](#), for footpaths, sidewalks or cycle tracks [E01C 15/00](#)); **Pavings for special parts of roads or airfields** (pavement lights [E01C 17/00](#); manholes or like covers or frames [E02D 29/14](#))
- 9/001 . {Paving elements formed in situ; Permanent shutterings therefor (removable shutterings [E01C 19/502](#); moulding machines therefor [E01C 19/508](#)); Inlays or reinforcements which divide the cast material in a great number of individual units (reinforcement girders which do not break the cohesion of the covering material [E01C 11/16](#), [E01C 11/185](#))}
- 9/002 . {Coverings, the surface of which consists partly of prefabricated units and partly of sections made in situ}
- 9/004 . {Pavings specially adapted for allowing vegetation (individual spacer elements [E01C 5/006](#))}
- 9/005 . . {Coverings around trees forming part of the road (protecting plants in general [A01G 13/00](#))}
- 9/007 . {Vehicle decelerating or arresting surfacings or surface arrangements, e.g. arrester beds (road surface configuration or surface arrangements for enforcing reduced speed, e.g. speed-control humps [E01F 9/529](#)); Escape roads, e.g. for steep descents, for sharp bends}
- 9/008 . {Paving take-off areas for vertically starting aircraft (landing platforms for helicopters [E01F 3/00](#))}
- 9/02 . Wheel tracks (rail tracks for guiding vehicles [E01B 25/28](#))
- 9/04 . Pavings for railroad level-crossings
- 9/06 . Pavings adjacent tramways rails {; Pavings comprising railway tracks}
- 9/08 . Temporary pavings {(E01C 9/008 takes precedence } ; steel gratings [E01C 9/10](#))
- 9/083 . . {made of metal, e.g. plates, network}
- 9/086 . . {made of concrete, wood, bitumen, rubber or synthetic material or a combination thereof}
- 9/10 . Steel gratings {; Gratings made of material other than steel}{(E01C 9/001 - [E01C 9/02](#), [E01C 9/06](#) take precedence; metal gratings for bridge floorings [E01D 19/125](#); } gully gratings [E03F 5/06](#))}
- 11/00 Details of pavings** {(E01C 1/005, [E01C 5/003](#), [E01C 5/005](#), [E01C 7/145](#), [E01C 7/185](#), [E01C 7/325](#) take precedence)}
- 11/005 . {Methods or materials for repairing pavings ([E01C 7/35](#) takes precedence; for concrete coverings [E01C 7/147](#); for bituminous coverings [E01C 7/187](#); devices for repair works [E01C 23/06](#); repairing bridge floorings [E01D 22/00](#))}
- 11/02 . Arrangement or construction of joints {(for pavings consisting of prefabricated units [E01C 5/00](#))}; Methods of making joints {(machines therefor [E01C 23/02](#), [E01C 23/09](#); removable joint shutterings [E01C 23/021](#))}; Packing for joints (sealing joints not restricted to road or airfield paving [E04B 1/68](#))
- 11/04 . . for cement concrete paving {(E01C 9/001 takes precedence)}
- 11/045 . . . {specially adapted for prestressed paving}
- 11/06 . . . Methods of making joints
- 11/08 . . . Packing of metal {(E01C 11/045 takes precedence)}
- 11/10 . . . Packing of plastic or elastic materials {, e.g. wood, resin ([E01C 11/045](#) takes precedence)}
- 11/103 {Joints with packings prepared only in situ; Materials therefor}
- 11/106 {Joints with only prefabricated packing; Packings therefor}
- 11/12 . . . Packing of metal and plastic or elastic materials {(E01C 11/045 takes precedence)}
- 11/123 {Joints with only metal and in situ prepared packing or filling}
- 11/126 {Joints with only metal and prefabricated packing or filling}
- 11/14 . . . Dowel assembly {; Design or construction of reinforcements in the area of joints (coupling devices for prefabricated units [E01C 5/005](#); combined with characteristic packings [E01C 11/08](#) - [E01C 11/12](#); removable holders [E01C 23/045](#))}
- 11/16 . Reinforcements {(as anchoring elements between layers [E01C 7/145](#), [E01C 7/185](#), [E01C 7/325](#) } ; for building in general [E04C](#))}
- 11/165 . . {particularly for bituminous or rubber- or plastic-bound pavings (bituminated textile webs [E01C 5/12](#))}
- 11/18 . . for cement concrete pavings {(prefabricated reinforced units [E01C 5/08](#))}
- 11/185 . . . {the reinforcements extending up to the surface, e.g. anti-slip gratings (for dividing concrete in a great number of individual units [E01C 9/001](#))}
- 11/20 . . . for prestressed concrete pavings {(from prefabricated concrete units, similar prestressed units [E01C 5/10](#))}
- 11/22 . Gutters; Kerbs (kerbs specially adapted for alerting road users [E01F 9/535](#)){; Surface drainage of streets, roads or like traffic areas (for sports grounds [E01C 13/00](#))}
- 11/221 . . {Kerbs or like edging members, e.g. flush kerbs, shoulder retaining means (specially adapted for guiding or warning traffic or for display purposes [E01F 9/535](#)); Joint members, connecting or load-transfer means specially for kerbs}

11/222	. . . {Raised kerbs, e.g. for sidewalks (E01C 11/223 , E01F 9/535 , E01F 9/547 take precedence; preformed sidewalk paving with integral kerb E01C 15/00 ; specially for traffic islands E01F 1/00); Integrated or portable means for facilitating ascent or descent}	13/02	. Foundations, e.g. with drainage or heating arrangements {(E01C 13/003 , E01C 13/083 , E01C 13/10 take precedence; drainage of soil E02B 11/00)}
11/223	. . . {Kerb-and-gutter structures; Kerbs with drainage openings channel or conduits, e.g. with out- or inlets, with integral gutter or with channel formed into the kerb (gutters, subsurface channels <i>per se</i> E01C 11/227 ; gullies adapted to be used with kerbs, gully gratings E03F 5/04 , E03F 5/06); Kerbs adapted to house cables or pipes, or to form conduits}	13/04	. Pavings made of prefabricated single units (E01C 13/003 , E01C 13/06), E01C 13/08 , E01C 13/10 take precedence)
11/224	. . {Surface drainage of streets (draining the subbase of roads, by trenches E01F 5/00 , by sewers E03F ; draining arrangements for bridges E01D 19/086)}	13/045	. . {the prefabricated single units consisting of or including bitumen, rubber or plastics}
11/225	. . . {Paving specially adapted for through-the-surfacing drainage, e.g. perforated, porous; Preformed paving elements comprising, or adapted to form, passageways for carrying off drainage (E01C 9/004 , E01C 9/008 , E01C 9/08 , E01C 9/10 , E01C 11/228 , E01C 13/00 take precedence)}	13/06	. Pavings made <i>in situ</i> , {e.g. for sand grounds, clay courts E01C 13/003 }, (E01C 13/08 , E01C 13/10 take precedence)
11/226	. . . . {Coherent pavings}	13/065	. . {at least one <i>in situ</i> layer consisting of or including bitumen, rubber or plastics}
11/227	. . . {Gutters; Channels (E01C 11/223 takes precedence; permanently installed flushing means E01H 3/04); Roof drainage discharge ducts set in sidewalks}	13/08	. Surfaces simulating grass {; Grass-grown sports grounds (grass-like surfaces for skiing E01C 13/12)}
11/228	. . . . {Gutters for porous pavings}	13/083	. . {Construction of grass-grown sports grounds; Drainage, irrigation or heating arrangements therefor}
11/229	. . . . {Shallow gutters, i.e. gutters forming a minor pothole}	2013/086	. . {Combination of synthetic and natural grass}
11/24	. Methods or arrangements for preventing slipperiness or protecting against influences of the weather {(measures taken in connection with the foundation E01C 3/06 ; paving elements with anti-slip inlays E01C 5/22 ; aggregates resisting to grinding E01C 7/085 , E01C 7/142 , E01C 7/182 ; specially for surface layers E01C 7/35 ; reinforcements extending up to the surface E01C 11/16 , E01C 11/18 , E01C 11/185 ; drainage E01C 11/22 ; windscreens E01F 7/02 ; snow fences E01F 7/02 ; combating fog E01H 13/00)}	13/10	. for artificial surfaces for outdoor or indoor practice of snow or ice sports (E01C 13/08 takes precedence; production of snow or ice for winter sports or similar recreational purposes F25C 3/00)
11/245	. . {for preventing ice formation or for loosening ice, e.g. special additives to the paving material, resilient coatings (E01C 11/26 takes precedence; built-in sanding or sprinkling devices E01H 10/00)}	13/102	. . {Civil engineering aspects of the construction of ice rinks or sledge runs made from frozen-liquid, semi-liquid or frozen-pasty substances, e.g. portable basins}
11/26	. . Permanently installed heating or blowing devices {(specially for combating fog E01H ; built-in melting devices for dislodged snow E01H 5/102); Mounting thereof}	13/105	. . . {of artificially refrigerated rinks or runs, e.g. cooled rink floors or swimming pools or tennis courts convertible into rinks}
11/265	. . . {Embedded electrical heating elements (in floors F24D 13/00); Mounting thereof}	13/107	. . {Non-frozen surfacings for ice, skating or curling rinks or for sledge runs; Rinks or runs with such surfacings}
13/00	Pavings or foundations specially adapted for playgrounds or sports grounds; {Drainage, irrigation or heating of sports grounds}(general layout A63C 19/00)	13/12	. . for snow sports {, e.g. skiing or ski tow track (mechanical ski trails A63C 19/10)}
13/003	. {Construction of, or surfacings for, rinks or tracks for roller skating, skate-boarding or the like (layout of roller-skating rinks A63C 19/10)}	15/00	Pavings specially adapted for footpaths, sidewalks or cycle tracks
2013/006	. {Transportable sport surfaces for multipurpose stadiums}	17/00	Pavement lights, i.e. translucent constructions forming part of the surface (blocks specially designed for marking roads E01F 9/524)
		<u>Machine, tools, or auxiliary devices for constructing or repairing the surfacing of roads or like structures (constructing the road bed E02D, E02F)</u>	
		19/00	Machines, tools or auxiliary devices for preparing or distributing paving materials, for working the placed materials, or for forming, consolidating, or finishing the paving (surface stabilisation E01C 21/00; apparatus specially adapted for reconditioning or repairing paving E01C 23/00)
		19/002	. {Apparatus for preparing and placing the materials and for consolidating or finishing the paving}
		19/004	. {Devices for guiding or controlling the machines along a predetermined path (for graders or bulldozers E02F 3/841 ; for other soil-shifting machines E02F 9/2045)}
		19/006	. . {by laser or ultrasound}
		19/008	. . {by reference lines placed along the road, e.g. wires co-operating with feeler elements (E01C 19/006 takes precedence)}

- 19/02 . . . for preparing the materials {[\(E01C 19/002, E01C 19/45, E01C 19/46, E01C 21/00, E01C 23/065 take precedence; producing hydraulic cement concrete in general B28C 5/00 - B28C 9/00\)](#)}
- 19/025 . . . {for preparing hydraulic-cement-bound mixtures of which at least one ingredient has previously been deposited on the surface, e.g. [in situ](#) mixing of concrete}
- 19/05 . . . Crushing, pulverising or disintegrating apparatus ({[preparing and placing involving breaking E01C 19/466](#)}; [in general B02C](#)); Aggregate screening, cleaning, {drying} or heating apparatus; {Dust-collecting arrangements specially adapted therefor}
- 19/08 . . . Apparatus for transporting and {heating or} melting asphalt, bitumen, tar, or the like ([stationarily-arranged melting boilers for tar, asphalt, or the like, in general C10C 3/12](#))
- 19/10 . . . Apparatus or plants for premixing or precoating aggregate or fillers with non-hydraulic binders, e.g. with bitumen, with resins, {i.e. producing mixtures or coating aggregates otherwise than by penetrating or surface dressing}; Apparatus for premixing non-hydraulic mixtures prior to placing or for reconditioning salvaged non-hydraulic compositions {[\(E01C 19/08, E01C 19/21, E01C 21/00, E01C 23/065 take precedence\)](#)}
- 19/1004 . . . {Reconditioning or reprocessing bituminous mixtures, e.g. salvaged paving, fresh patching mixtures grown unserviceable; Recycling salvaged bituminous mixtures; Apparatus for the in-plant recycling thereof [\(E01C 19/1036 takes precedence\)](#)}
- 19/1009 . . . {Plant wherein type or construction of the mixer are irrelevant [\(E01C 19/1004 takes precedence\)](#)}
- 19/1013 . . . {Plant characterised by the mode of operation or the construction of the mixing apparatus; Mixing apparatus; [\(E01C 19/1004, E01C 19/1054 take precedence\)](#)}
- 19/1018 {Coating the solid ingredients by immersion in a bath of binder}
- 19/1022 {Coating the solid ingredients by passing same through a shower or cloud of binder [\(E01C 19/21, E01C 19/4813 take precedence\)](#)}
- 19/1027 {Mixing in a rotary receptacle}
- 19/1031 {the mixture being discharged continuously [\(E01C 19/1036 takes precedence\)](#)}
- 19/1036 {for in-plant recycling or for reprocessing, e.g. adapted to receive and reprocess an addition of salvaged material, adapted to reheat and remix cooled-down batches}
- 19/104 {Mixing by means of movable members in a non-rotating mixing enclosure, e.g. stirrers [\(E01C 19/08 takes precedence\)](#)}
- 19/1045 {the mixture being discharged continuously}
- 19/105 {Mixing or coating by a combination of methods covered by [E01C 19/1018 - E01C 19/104, excluding E01C 19/1036](#)}
- 19/1054 {Preparing mixtures of which at least part of the solid ingredients has previously been deposited on the surface, excluding penetrating or surface dressing, e.g. [in situ](#) mixing, mixing involving lifting of spread or windrowed aggregate [\(preparing and placing such bituminous mixtures E01C 19/463; recycling in place or on the road E01C 23/065\)](#)}
- 19/1059 {Controlling the operations; Devices solely for supplying or proportioning the ingredients}
- 19/1063 {Controlling the operations [\(E01C 19/1068 takes precedence\)](#)}
- 19/1068 {Supplying or proportioning the ingredients}
- 19/1072 {the solid ingredients}
- 19/1077 {the liquid ingredients}
- 2019/1081 {Details not otherwise provided for}
- 2019/1086 {Mixing containers having concentric drums}
- 2019/109 {Mixing containers having a counter flow drum, i.e. the flow of material is opposite to the gas flow}
- 2019/1095 {Mixing containers having a parallel flow drum, i.e. the flow of material is parallel to the gas flow}
- 19/12 . . . for distributing granular or liquid materials ({[E01C 19/002, E01C 19/45, E01C 19/46, E01C 19/48, E01C 23/03, E01C 23/065](#)}, [E01C 23/07 take precedence; for filling joints or grooves E01C 23/02, E01C 23/09](#))}
- 19/15 . . . for laying-down uncoated stone or similar materials, or for striking-off or spreading same without compacting, e.g. for crushed rock base courses, sand cushions for paving ({[E01C 19/466](#)}, [E01C 19/52 take precedence; distributing E01C 19/20; laying down and rolling E01C 19/482](#))}
- 19/16 . . . for applying or spreading liquid materials, e.g. bitumen slurries ({[E01C 19/1054, E01C 19/21, E01C 19/45, E01C 19/4813, E01C 21/00, E01C 23/02, E01C 23/03, E01C 23/065, E01C 23/096, E01C 23/0973, E01C 23/0993](#)}, [E01C 23/16 take precedence; spreading-out or smoothing-down means as parts of spraying apparatus E01C 19/178](#))}
- 19/17 Application by spraying {or throwing}
- 19/172 {Apparatus with discharge by surpressure in tank}
- 19/174 {Apparatus with pump-discharge}
- 19/176 {Spraying or throwing elements, e.g. nozzles; Arrangement thereof or supporting structures therefor, e.g. spray-bars}
- 19/178 {Elements or attachments for spreading-out or smoothing-down the applied material, e.g. brushes}
- 19/18 . . . Devices for distributing road-metals mixed with binders, e.g. cement, bitumen, without consolidating or ironing effect ([E01C 19/20, E01C 19/21, E01C 19/46](#)}, [E01C 19/47, E01C 19/48, E01C 21/00, E01C 23/065, E01C 23/07](#)) take precedence; conveying installations for concrete or the like [B65G](#))}
- 19/182 {solely for depositing}

- 19/185 . . . {for both depositing and spreading-out or striking-off the deposited mixture ([laying-down the materials and consolidating them, or finishing the surface, E01C 19/48](#))}
- 19/187 . . . {solely for spreading-out or striking-off deposited mixtures, e.g. spread-out screws, strike-off boards}
- 19/20 . . Apparatus for distributing, e.g. spreading, granular or pulverulent materials, e.g. sand, gravel, salt, dry binders ([E01C 19/21, E01C 19/4813, E01C 19/482, E01C 23/098, E01C 23/166](#) take precedence;) fertiliser distributors [A01C 15/00](#) {; permanently-installed devices for applying gritting or thawing materials [E01H 10/005](#); mobile spreaders specially adapted for treating wintry roads [E01H 10/007](#))}
- 19/2005 . . . {without driven loosening, discharging or spreading ([E01C 19/205](#) takes precedence)}
- 19/201 . . . {with driven loosening, discharging or spreading parts, e.g. power-driven, drive derived from road-wheels ([E01C 19/205](#) takes precedence)}
- 19/2015 {solely reciprocating, swinging to-and-fro, jolting or vibrating, e.g. oscillating stirrers, shaking spreading shoots}
- 19/202 {solely rotating, e.g. discharging and spreading drums}
- 19/2025 {Throwers with substantially horizontal axis, e.g. drums or brushes rotated to fling the material at the surface}
- 19/203 {Centrifugal spreaders with substantially vertical axis}
- 19/2035 {both rotating parts and reciprocating, oscillating, jolting or vibrating parts}
- 19/204 {Throwers or centrifugal spreaders, e.g. spinner spreader with oscillating stirrer}
- 19/2045 {spreading by means of an endless belt or like conveyor}
- 19/205 . . . {the material being spread by means of a gaseous current}
- 2019/2055 . . . {Details not otherwise provided for}
- 2019/206 {Hand operated spreading devices}
- 2019/2065 {Sensing the quantity of the material actually being distributed}
- 2019/207 {Feeding the distribution means}
- 2019/2075 {with longitudinal conveyor belt}
- 2019/208 {with longitudinal auger}
- 2019/2085 {with transverse conveyor belt}
- 2019/209 {with transverse auger}
- 2019/2095 {by tipping}
- 19/21 . . for simultaneously but separately applying liquid material and granular or pulverulent material, e.g. bitumen and grit, with or without spreading ([with rolling E01C 19/4813](#); for filling grooves and gritting the filling)
- 19/22 . . for consolidating or finishing laid-down unset materials ([E01C 19/002, E01C 19/48, E01C 21/00](#) [E01C 23/02](#) [E01C 23/065](#) take precedence; apparatus for generating vibrations in general [B06B](#))
- 19/23 . . Rollers therefor; Such rollers usable also for compacting soil ([E01C 19/41, E01C 19/43, E01C 19/52, E01C 23/065](#) take precedence; specially adapted for agricultural purposes [A01B 29/00](#); garden rollers [A01G 20/35](#); making or maintaining surfaces of snow or ice [E01H 4/00](#); solely for soil compaction [E02D 3/026](#))
- 19/231 . . . {with both elastically-deformable and rigid rolling elements, e.g. pneumatic-tyred compactor with selectively operative or inoperative steel-faced roll (with auxiliary elastically-deformable rolling elements for working only restricted zones [E01C 19/27](#); rigid-roll rollers with conventional pneumatic-tyred tractors or traction-units [E01C 19/25, E01C 19/26, E01C 19/28](#))}
- 19/233 {the rigid rolling elements being vibrated or subjected to impacts ([with vibrated elastically-deformable rolling elements E01C 19/287](#))}
- 19/235 . . . {Rolling apparatus designed to roll following a path other than essentially linear, e.g. epicycloidal}
- 19/236 . . . {Construction of the rolling elements, e.g. surface configuration, rolling surface formed by endless track}
- 19/238 . . . {Wetting, cleaning or heating rolling elements, e.g. oiling, wiping, scraping}
- 19/24 . . . hand propelled ([E01C 19/235, E01C 19/27 - E01C 19/29, E01C 19/41](#) take precedence)
- 19/25 . . . propelled by animals or vehicles ([E01C 19/235, E01C 19/26 - E01C 19/29](#) take precedence)
- 19/255 {by vehicles placed on the rolling device; provided with means for facilitating rapid road transport, e.g. retractable transport wheels}
- 19/26 . . . self-propelled or fitted to road vehicles ([E01C 19/231, E01C 19/235, E01C 19/27 - E01C 19/29](#) take precedence)
- 19/262 {pedestrian-controlled, e.g. with safety arrangements for operator}
- 19/264 {with attachments for work other than rolling, e.g. grading, scarifying ([rollers fitted to road-construction or earth-moving machinery E01C 19/266](#))}
- 19/266 {fitted to vehicles, road-construction or earth-moving machinery, e.g. auxiliary roll readily movable to operative position ([E01C 19/268, E01C 19/4806, E01C 19/488, E01C 19/52, E01C 21/00, E01C 23/065](#) take precedence); provided with means for facilitating transport; Means for transporting rollers; Arrangements or attachments for converting vehicles into rollers, e.g. rolling sleeves for wheels}
- 19/268 {designed for rolling surfaces not situated in the plane of the riding surface of the apparatus, e.g. stepped-down surfaces, sloping edge of surfacing ([trench rollers E02D 3/032](#); slope rollers [E02D 3/039](#))}

- 19/27 . . . with elastically-deformable rolling elements, e.g. pneumatic tyres ([{E01C 19/231 takes precedence}](#)); vibrating or impacting [E01C 19/28](#))
- 19/28 . . . Vibrated rollers or rollers subjected to impacts, e.g. hammering blows ([{E01C 19/235, } E01C 19/29, {E01C 19/41}](#) take precedence; {combined with non-vibrated elastically-deformable rolling elements [E01C 19/233](#)})
- 19/281 {propelled by hand or by vehicles, e.g. towed ([E01C 19/285 - E01C 19/288 take precedence](#))}
- 19/282 {self-propelled, e.g. with an own traction-unit ([E01C 19/285 - E01C 19/288 take precedence](#))}
- 19/283 {pedestrian-controlled, e.g. with safety arrangements for operator}
- 19/285 {with attachments for work other than rolling, e.g. dozer blades, shoes for conversion into plate vibrator; fitted to vehicles, road-construction or earth-moving machinery ([E01C 19/29, E01C 19/4806, E01C 19/488, E01C 19/52, E01C 21/00, E01C 23/065 take precedence](#)); vibrated or the like auxiliary rolls, e.g. for rolling road edges; provided with means for facilitating transport}
- 19/286 {Vibration or impact-imparting means; Arrangement, mounting or adjustment thereof; Construction or mounting of the rolling elements, transmission or drive thereto, e.g. to vibrator mounted inside the roll ([E01C 19/287 and E01C 19/288 take precedence](#))}
- 19/287 {with vibrated elastically-deformable or elastomer-faced rolling elements or with such elements subjected to impacts, e.g. multi-roll vibratory apparatus with an endless elastomer belt passed around the rolls (rollers with both non-vibrated, elastically-deformable and vibrated rigid rolling elements [E01C 19/233](#))}
- 19/288 {adapted for monitoring characteristics of the material being compacted, e.g. indicating resonant frequency, measuring degree of compaction, by measuring values, detectable on the roller; using detected values to control operation of the roller, e.g. automatic adjustment of vibration responsive to such measurements}
- 19/29 . . . Rolling apparatus adapted to apply a rolling pressure less than its weight, e.g. roller finishers travelling on formrail {combined with spread-out, strike-off or smoothing means; Rolling elements with controlled penetration or a controlled path of movement in a vertical plane, e.g. controlled by the formrails, by guides ensuring a desired configuration of the rolled surface}
- 19/30 . . Tamping or vibrating apparatus other than rollers {; Devices for ramming individual paving elements}([{E01C 19/41, E01C 19/43, E01C 19/4833, E01C 19/488, E01C 19/4886, E01C 19/52, E01C 21/00, } E01C 23/02, E01C 23/04 take precedence](#); vibrated depositing devices [E01C 19/12](#); tamping or vibrating rollers [E01C 19/28](#); portable percussion tools [B25D](#); tamping or vibrating soil [E02D 3/046](#))
- 19/32 . . . Hand-held hand-actuated rammers or tampers
- 19/34 . . . Power-driven rammers or tampers {, e.g. air-hammer impacted shoes for ramming stone-sett paving; Hand-actuated ramming or tamping machines, e.g. tampers with manually hoisted dropping weight}
- 19/35 Hand-held or hand-guided tools ([E01C 19/36 - E01C 19/40 take precedence](#))
- 19/36 with direct-acting explosion chambers
- 19/38 with means specifically for generating vibrations {, e.g. vibrating plate compactors, immersion vibrators ([E01C 19/40, E01C 19/41 take precedence](#))}
- 19/40 adapted to impart a smooth finish to the paving, e.g. tamping or vibrating finishers
- NOTE**
- When classifying in group [E01C 19/402](#), classification is also made in groups [E01C 19/405](#) or [E01C 19/407](#) if of interest
- 19/402 {the tools being hand-guided}
- 19/405 {with spreading-out, levelling or smoothing means other than the tamping or vibrating means for compacting or smoothing, e.g. with screws for spreading-out the previously dumped material, with non-vibratory lengthwise reciprocated smoothing beam ([E01C 19/407 takes precedence](#))}
- 19/407 {with elements or parts partly or fully immersed in or penetrating into the material to act thereon, e.g. immersed vibrators or vibrating parts, kneading tampers, spaders}
- 19/41 . . Apparatus having both rolling tools and ramming, tamping, or vibrating tools
- 19/42 . . Machines for imparting a smooth finish to freshly-laid paving courses other than by rolling, tamping or vibrating ([for distributing only E01C 19/12; {hand-actuated smoothing tools E01C 19/44}](#))
- 19/43 . . Machines or arrangements for roughening or patterning freshly-laid paving courses, e.g. indenting rollers
- 19/44 . . Hand-actuated tools other than rollers, tampers, or vibrators, specially adapted for imparting a required finish to freshly-laid paving courses ([E01C 19/43, {E01C 23/02} take precedence](#))
- 19/45 . . Portable apparatus for preparing, or for preparing and applying to the road, compound liquid binders, e.g. emulsified bitumen, fluxed asphalt ([applying only E01C 19/16](#))
- 19/46 . . for preparing and placing the materials {, e.g. slurry seals}([{E01C 19/002, } E01C 19/45, {E01C 21/00, E01C 23/065} take precedence](#))

- 19/463 . . {Bituminous mixtures of which at least part of the solid ingredients has previously been deposited on the surface, e.g. with lifting of spread or windrowed aggregate}
- 19/466 . . {Solid materials, e.g. crushing same}
- 19/47 . . Hydraulic cement concrete mixers combined with distributing means specially adapted for road building ([E01C 19/025 takes precedence](#) ; [concrete mixers per se B28C](#))
- 19/475 . . . {Distributing means therefor, e.g. boom-and-bucket arrangements}
- 19/48 . for laying-down the materials and consolidating them, or finishing the surface {, e.g. slip forms therefor, forming kerbs or gutters in a continuous operation [in situ](#) ([E01C 19/002](#), [E01C 23/065 take precedence](#); devices for guiding or controlling the machines along a predetermined path [E01C 19/004](#))}
- 19/4806 . . {with solely rollers for consolidating or finishing ([E01C 19/4886 takes precedence](#); combined with other consolidating or finishing means [E01C 19/488](#))}
- 19/4813 . . . {the materials being simultaneously but separately applied binders and granular or pulverulent material (such application [per se](#) [E01C 19/21](#))}
- 19/482 . . . {the materials being uncoated stone or similar granular materials, e.g. sand (laying-down uncoated stone or similar materials [per se](#) [E01C 19/15](#); distributing granular or pulverung materials [per se](#) [E01C 19/20](#))}
- 19/4826 . . . {the materials being aggregate mixed with binders ([distributing per se](#) [E01C 19/18](#))}
- 19/4833 . . {with tamping or vibrating means for consolidating or finishing, e.g. immersed vibrators, with or without non-vibratory or non-percussive pressing or smoothing means ([E01C 19/4806](#), [E01C 19/4886 take precedence](#); combined with rollers [E01C 19/488](#))}
- 19/484 . . . {Rail- or like-borne apparatus, e.g. sliding on side forms, rolling on form rails, kerbs or like trackways}
- 19/4846 {with non-vibratory or non-percussive pressing or smoothing means, e.g. trailing smoothing pans, plates pressing the materials processed by immersed vibrators; with supplemental elements penetrating the paving to work the material thereof, e.g. rodding means}
- 19/4853 . . . {Apparatus designed for railless operation, e.g. crawler-mounted, provided with portable trackway arrangements}
- 19/486 {with non-vibratory or non-percussive pressing or smoothing means; with supplemental elements penetrating the paving to work the material thereof}
- 19/4866 . . {with solely non-vibratory or non-percussive pressing or smoothing means for consolidating or finishing ([E01C 19/4886 takes precedence](#); combined with rollers [E01C 19/488](#))}
- 19/4873 . . . {Apparatus designed for railless operation}
- 19/488 . . {with rollers for consolidating or finishing combined with tamping, vibrating, pressing or smoothing consolidation or finishing means ([E01C 19/4886 takes precedence](#))}
- 19/4886 . . {for forming in a continuous operation kerbs, gutters, berms, safety kerbs, median barriers or like structures [in situ](#), e.g. by slip-forming, by extrusion (removable forms for kerbs, gutters or similar structures [E01C 19/506](#); making conduits [in situ](#) [E02D 29/10](#))}
- 19/4893 . . . {Apparatus designed for railless operation}
- 19/50 . Removable forms or shutterings for road-building purposes ([E01C 23/02](#), [E01C 23/04 take precedence](#); permanent forms [E01C 3/00 - E01C 7/00](#), [E01C 9/00 - E01C 17/00](#) ; slip forms [E01C 19/48](#)); Devices or arrangements for forming individual paving elements, e.g. kerbs, [in situ](#)
- 19/502 . . {Removable forms or shutterings, e.g. side forms; Removable supporting or anchoring means therefor, e.g. stakes (for forming individual elements [E01C 19/508](#); for grooves or like channels [E01C 23/021](#))}
- 19/504 . . . {adapted to, or provided with, means to maintain reinforcing or load transfer elements in a required position (removable supports for positioning reinforcing or load transfer elements in general [E01C 23/045](#))}
- 19/506 . . . {for kerbs, gutters or similar structures, e.g. raised portions, median barriers}
- 19/508 . . {Devices or arrangements for forming individual paving elements [in situ](#), e.g. by sectioning a freshly-laid slab (permanent forms therefor [E01C 9/001](#); imprinting freshly-laid paving to simulate stones [E01C 19/43](#); cutting sett paving [E01C 23/0906](#))}
- 19/52 . Apparatus for laying individual preformed surfacing elements, e.g. kerbstones
- 19/522 . . {Apparatus for laying the elements by rolling or unfolding, e.g. for temporary pavings}
- 19/524 . . {using suction devices}
- 19/526 . . {hand operated ([E01C 19/524 takes precedence](#))}
- 19/528 . . . {with wheels}
- 21/00 Apparatus or processes for surface {soil} stabilisation for road building or like purposes, e.g. mixing local aggregate with binder ([recycling in place or on the road involving soil stabilisation](#) [E01C 23/065](#)) ; stabilising soil under existing surfacing [E01C 23/10](#); soil-conditioning or soil-stabilising materials [C09K 17/00](#); soil consolidation in general [E02D 3/12](#))**
- 21/02 . Fusing, calcining, or burning soil [in situ](#) {(improving soil by thermal means in general [E02D 3/11](#); devices for heating foundation or paving [E01C 23/14](#))}
- 23/00 Auxiliary devices or arrangements for constructing, repairing, reconditioning, or taking-up road or like surfaces (apparatus for reconditioning of salvaged non-hydraulic compositions {for- in plant recycling of salvaged bituminous mixtures} [E01C 19/10](#))**

- 23/01 . . Devices or auxiliary means for setting-out or checking the configuration of new surfacing, e.g. templates, screed {or reference line} supports (form rails [E01C 19/50](#)); Applications of apparatus for measuring, indicating, or recording the surface configuration of existing surfacing, e.g. profilographs ([E01C 23/07 takes precedence](#); measuring roughness or irregularity in general [G01B](#))
- 23/02 . . Devices for making, treating or filling grooves or like channels in not-yet-hardened paving, e.g. for joints or markings (surface patterning [E01C 19/43](#)); Removable forms therefor (non-removable forms [E01C 11/02](#)); Devices for introducing inserts or removable insert-supports in not-yet-hardened paving ([E01C 23/04 takes precedence](#); non-removable {joint} insert supports [E01C 11/02](#))
- 23/021 . . {Removable, e.g. reusable, forms for grooves or like channels ([E01C 23/028 takes precedence](#); groove-forming members of groove-making apparatus [E01C 23/025](#), [E01C 23/026](#)); Installing same prior to placing the paving (into laid paving [E01C 23/026](#))}
- 23/023 . . {Removable joint-body supports ([E01C 23/045 take precedence](#)); Installing joint or like bodies, e.g. waterstops, prior to placing the paving (into laid paving [E01C 23/026 takes precedence](#))}
- 23/025 . . {Making or working grooves or like channels in laid paving, e.g. smoothing groove edges ([E01C 23/026](#), [E01C 23/028 take precedence](#))}
- 23/026 . . {Introducing preformed inserts into or filling grooves or like channels in laid paving, with or without concurrent making or working of groove or channel, e.g. filling groove with semi-plastic material ([E01C 23/028 takes precedence](#))}
- 23/028 . . {Positioning or producing markings, e.g. by forcing marking materials into the surface, by scoring}
- 23/03 . . Arrangements for curing paving; Devices for applying curing means; Devices for laying prefabricated underlay, e.g. sheets, membranes (reinforcing elements [E01C 23/04](#)); Protecting paving under construction or while curing, e.g. use of tents (road barriers [E01F 13/00](#))
- 23/04 . . Devices for laying {inserting or positioning} reinforcing elements or dowel bars {with or without joint bodies (installing or inserting joint bodies per se [E01C 23/023](#), [E01C 23/026](#))}; Removable supports for reinforcing {or load transfer} elements (non-removable supports therefor {[E01C 11/02](#)} [E01C 11/16](#); side forms adapted to supporting reinforcement [E01C 19/50](#)); Devices, e.g. removable forms, for making essentially horizontal ducts in paving, e.g. for prestressed reinforcements
- 23/045 . . {Removable, e.g. reusable supports for positioning reinforcing or load transfer elements, adapted or not to also hold joint bodies}
- 23/05 . . Devices for installing or removing forms
- 23/06 . . Devices or arrangements for working the finished surface (working freshly laid paving [E01C 19/42](#) - [E01C 19/44](#), [E01C 23/02](#); mining picks [E21C 35/18](#)); Devices for repairing {or reconditioning} the surface of damaged paving; {Recycling in place or on the road}
- 23/065 . . {Recycling in place or on the road, i.e. hot or cold reprocessing of paving in situ or on the traffic surface, with or without adding virgin material or lifting of salvaged material; Repairs or resurfacing involving at least partial reprocessing of the existing paving (in situ mixing of hydraulic cement concrete [E01C 19/025](#); apparatus for in-plant recycling [E01C 19/1004](#), [E01C 19/1036](#))}
- 23/07 . . Apparatus combining measurement of the surface configuration of paving with application of material in proportion to the measured irregularities (measuring means only [E01C 23/01](#) ([G01B](#)))
- 23/08 . . for roughening or patterning; for removing {the surface down to a predetermined depth} high spots or material bonded to the surface, e.g. markings; {for maintaining earth roads, clay courts or like surfaces by means of surface working tools, e.g. scarifiers, levelling blades} (removing matter not bonded to the surface [E01H 1/00](#); roughening or detaching ice [E01H 5/12](#))
- 23/081 . . . {by thermal or cryogenic treatment, excluding heating to facilitate mechanical working}
- 23/082 . . . using non-powered tools
- 23/0825 {rotary, e.g. gang discs}
- 23/085 . . . using power-driven tools, e.g. vibratory tools
- 23/0855 {moved rectilinearly, e.g. scabblers}
- 23/088 Rotary tools, e.g. milling drums {(for forming recesses to receive marking materials [E01C 23/0946](#))}
- 23/0885 {with vertical or steeply inclined rotary axis}
- 23/09 . . for forming cuts, grooves, or recesses, e.g. for making joints or channels for markings, for cutting-out sections to be removed; for cleaning, treating, or filling cuts, grooves, recesses, or fissures; for trimming paving edges
- 23/0906 . . . {for forming, opening-out, cleaning, drying or heating cuts, grooves, recesses or, excluding forming, cracks, e.g. cleaning by sand-blasting or air-jet ([E01C 23/096](#), [E01C 23/0993 take precedence](#), save for [E01C 23/0946](#)); for trimming paving edges}
- 23/0913 {with non-powered tools, e.g. trailed router blade}
- 23/092 {rotary, e.g. edge trimmer disc}
- 23/0926 {with power-driven tools, e.g. vibrated, percussive cutters}
- 23/0933 {rotary, e.g. circular-saw joint cutters}
- 23/094 {about vertical or inclined axes, e.g. for core sampling ([E01C 23/0946 takes precedence](#))}
- 23/0946 {specially for forming recesses to receive marking materials or markers, e.g. cutters for milling traffic line channels, core drills for button-setting (other tools [E01C 23/0993](#))}
- 23/0953 {by thermal effect, e.g. cutting by melting, cleaning drying or heating with hot jets}
- 23/096 . . . {for forming, opening-out, cleaning, drying or heating and filling ([E01C 23/0993 takes precedence](#))}

23/0966	. . . {for filling or priming, with or without working the surface of the filling or applying particulate material thereto, e.g. for filling the joints of stone-sett paving (E01C 23/096 , E01C 23/0993 take precedence)}	23/20	. . . for forming markings <u>in situ</u>
23/0973	. . . . {with liquid or semi-liquid materials, e.g. crack sealants}	23/203	. . . {the marking material being applied to the surface by contact with an application tool, e.g. paint roller}
23/098	. . . . {and working the surface of the filling or applying particulate material thereto, e.g. smoothing, gritting}	23/206	. . . {by applying fusible particulate material to the surface, e.g. by means of a gaseous stream}
23/0986	. . . . {with preformed elements, e.g. joint strips}	23/22	. . . by spraying (E01C 23/206 takes precedence)}
23/0993	. . . {for forming or installing surface markings or signals in the paving, e.g. grooving for striping or for producing rumble strips, forming marker-receiving recesses (E01C 23/0946 takes precedence)}	23/222	. . . . {specially adapted for automatic spraying of interrupted, individual or variable markings}
23/10	. . for raising or levelling sunken paving; for filling voids under paving; for introducing material into substructure (consolidating soil in general E02D 3/12)	23/225	. . . . {comprising means for mechanically working the applied material, e.g. smoothing brushes}
23/12	. . for taking-up, tearing-up, or {full-depth} breaking-up paving, {e.g. sett extractor}(adapted to both placing and removing {preformed} paving {elements} E01C 19/52)	23/227	. . . . {the marking material being supplied in aerosol containers}
23/121	. . . {with non-powered tools, e.g. rippers (rollers with ripping attachments E01C 19/264 , E01C 19/27 , E01C 19/285 ; roughening or patterning using non powered tools E01C 23/082)}	23/24	. . . by pouring
23/122	. . . {with power-driven tools, e.g. oscillated hammer apparatus (hand-held breakers: percussion tools B25D)}	23/243	. . . . {specially adapted for automatic pouring of interrupted, individual or variable markings}
23/124	. . . . {moved rectilinearly, e.g. road-breaker apparatus with reciprocating tools, with drop-hammers}	23/246	. . . . {comprising means for mechanically working the applied material, e.g. smoothing brushes}
23/125	. . . . {with direct-acting explosion chambers, i.e. Diesel breakers}		
23/127	. . . . {rotary, e.g. rotary hammers}		
23/128	. . . {with hydrojets (hydraulic cleaning E01H 1/101)}		
23/14	. for heating or drying foundation, paving, or materials thereon, e.g. paint (E01C 23/03 takes precedence; heating or drying devices incorporated in the paving E01C 11/26 ; surface {soil} stabilisation by fusing, calcining or burning soil <u>in situ</u> E01C 21/02 ; for street cleaning E01H 1/08 ; melting snow or ice on surfacing E01H 5/10)		
23/16	. Devices for marking-out, applying, or forming traffic or like markings on finished paving (E01C 23/14 takes precedence; inserting or forming in not-yet hardened paving E01C 23/02 , in recesses formed in fully-set paving E01C 23/09 ; marking-out playing courts or playgrounds A63C 19/06 ; applying liquids or other fluent materials to surfaces in general B05 ; road surface markings <u>per se</u> E01F 9/50); Protecting fresh markings		
23/163	. . {for marking-out the location of the markings; Guiding or steering devices for marking apparatus, e.g. sights}		
23/166	. . {Means for dispensing particulate material on to freshly applied markings or into the marking material after discharge thereof, e.g. reflective beads, grip-improving particles}		
23/18	. . for applying prefabricated markings		
23/185	. . . {Tape- or sheet-shape markers or carriers}		

2201/00 Paving elements

2201/02	. having fixed spacing features
2201/04	. consisting of natural stones and a binder
2201/06	. Sets of paving elements
2201/065	. . specially for coverings around manhole-shafts or the like
2201/08	. having direction indicating means
2201/10	. having build-in shock absorbing devices
2201/12	. vertically interlocking
2201/14	. Puzzle-like connections
2201/16	. Elements joined together
2201/162	. . with breaking lines
2201/165	. . with spots of glue
2201/167	. . by reinforcement or mesh
2201/18	. Elements representing text
2201/20	. Drainage details
2201/202	. . Horizontal drainage channels
2201/205	. . . channels on the top
2201/207	. . . channels on the bottom

2301/00 Machine characteristics, parts or accessories not otherwise provided for

2301/02	. Feeding devices for pavers
2301/04	. . Independent shuttles
2301/06	. . Windrow pickup
2301/08	. . Pushing devices for lorries
2301/10	. Heated screeds
2301/14	. Extendable screeds
2301/16	. . Laterally slidable screeds
2301/18	. . . the whole machine being laterally slidable
2301/20	. Screed or paver accessories for paving joint or edge treatment
2301/30	. Cabin details
2301/40	. Working platform or walkway
2301/50	. Methods or devices for preventing dust by spraying or sucking