

SECTION E – FIXED CONSTRUCTIONS

E01 CONSTRUCTION OF ROADS, RAILWAYS, OR BRIDGES (of tunnels E21D)

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

DESIGN; FOUNDATIONS.....	1/00; 3/00, 13/00	Special paving	9/00, 13/00, 15/00
PAVING FOR ROADS, PLAYGROUNDS, OR THE LIKE		Details.....	11/00, 17/00
Paving in general	5/00, 7/00	CONSTRUCTION OR REPAIR OF ROADS, PLAYGROUNDS, OR THE LIKE	21/00, 19/00, 23/00

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)	7/06	. . by melting, burning, or vitrifying road-metal <u>in situ</u>
1/02	. Crossings, junctions, or interconnections between roads on the same level	7/08	. made of road-metal and binders
1/04	. Road crossings on different levels; Interconnections between roads on different levels	7/10	. . of road-metal and cement or like binders (cement or like binders, composition of mortars C04B)
Structure of roads, playgrounds, sports grounds, airfields		7/12	. . . Mortar-bound paving
3/00	Foundations for pavings (specially adapted for playgrounds or sports grounds E01C 13/02; foundations in general E02D)	7/14	. . . Concrete paving
3/02	. Concrete base for bituminous paving	7/16	 Prestressed concrete paving
3/04	. Foundations produced by soil stabilisation	7/18	. . of road-metal and bituminous binders
3/06	. Methods or arrangements for protecting foundations from destructive influences of moisture, frost or vibration	7/20	. . . Binder incorporated in cold state, e.g. natural asphalt
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)	7/22	. . . Binder incorporated in hot state, e.g. heated bitumen
5/02	. made of natural stones, e.g. sett stones	7/24	. . . Binder incorporated as an emulsion or solution (making dispersions or emulsions for road building C04B)
5/04	. made of bricks	7/26	. . . mixed with other materials, e.g. cement, rubber, leather, fibre
5/06	. made of units with cement or like binders	7/30	. . of road-metal and other binders, e.g. synthetic material
5/08	. . Reinforced units	7/32	. . of courses of different kind made <u>in situ</u>
5/10	. . . Prestressed reinforced units	7/34	. . . made of several courses which are not bound to each other
5/12	. made of units with bituminous binders	7/35	. . Topping or surface dressings; Methods of mixing, impregnating, or spreading them
5/14	. made of wooden units	7/36	. by subjecting soil to stabilisation
5/16	. made of metallic units (steel gratings E01C 9/10)	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)
5/18	. made of rubber units	9/02	. Wheel tracks (rail tracks for guiding vehicles E01B 25/28)
5/20	. made of units of plastics (E01C 5/18 takes precedence)	9/04	. Pavings for railroad level-crossings
5/22	. made of units composed of a mixture of materials covered by two or more of groups E01C 5/02 E01C 5/20	9/06	. Pavings adjacent tramways rails
7/00	Coherent pavings made <u>in situ</u> (specially adapted for playgrounds or sports grounds E01C 13/06, for footpaths, sidewalks or cycle tracks E01C 15/00)	9/08	. Temporary pavings (steel gratings E01C 9/10)
7/02	. made of road-metal without binders	9/10	. Steel gratings (gully gratings E03F 5/06; as building elements in general E04C)
7/04	. . of broken stones, gravel, or like materials	11/00	Details of pavings
		11/02	. Arrangement or construction of joints; Methods of making joints; Packing for joints (sealing joints not restricted to road or airfield paving E04B 1/68)

E01C

- 11/04 . . . for cement concrete paving
- 11/06 . . . Methods of making joints
- 11/08 . . . Packing of metal
- 11/10 . . . Packing of plastic or elastic materials
- 11/12 . . . Packing of metal and plastic or elastic materials
- 11/14 . . . Dowel assembly
- 11/16 . Reinforcements (for building in general E04C)
- 11/18 . . for cement concrete pavings
- 11/20 . . . for prestressed concrete pavings
- 11/22 . Gutters; Kerbs (kerbs specially adapted for informing road users E01F 9/053)
- 11/24 . Methods or arrangements for preventing slipperiness or protecting against influences of the weather
- 11/26 . . Permanently-installed heating or blowing devices

13/00 Pavings or foundations specially adapted for playgrounds or sports grounds (general layout A63C 19/00)

- 13/02 . Foundations, e.g. with drainage or heating arrangements [6]
- 13/04 . Pavings made of prefabricated single units (E01C 13/08, E01C 13/10 take precedence) [6]
- 13/06 . Pavings made *in situ* (E01C 13/08, E01C 13/10 take precedence) [6]
- 13/08 . Surfaces simulating grass [6]
- 13/10 . Artificial surfaces for outdoor or indoor practice of snow or ice sports (E01C 13/08 takes precedence) [6]
- 13/12 . . for snow sports [6]

15/00 Pavings specially adapted for footpaths, sidewalks, or cycle tracks

17/00 Pavement lights, i.e. translucent constructions forming part of the surface (blocks specially designed for marking roads E01F 9/04)

Machines, tools, or auxiliary devices for constructing or repairing the surfacing of roads or like structures (constructing the road bed E02D, E02F)

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)

- 19/02 . for preparing the materials
- 19/05 . . Crushing, pulverising, or disintegrating apparatus (in general B02C); Aggregate screening, cleaning, or heating apparatus
- 19/08 . . Apparatus for transporting and 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; Apparatus for premixing non-hydraulic mixtures prior to placing or for reconditioning salvaged non-hydraulic compositions
- 19/12 . for distributing granular or liquid materials (E01C 23/07 takes 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 19/52 takes precedence; distributing E01C 19/20)

- 19/16 . . for applying or spreading liquid materials, e.g. bitumen slurries (E01C 19/45, E01C 23/02, E01C 23/03, E01C 23/16 take precedence; spraying or spreading liquids or other fluent materials to surfaces in general B05)
- 19/17 . . . Application by spraying
- 19/18 . . Devices for distributing road-metals mixed with binders, e.g. cement, bitumen, without consolidating or ironing effect (E01C 19/20, E01C 19/47 take precedence; conveying installations for concrete or the like B65G)
- 19/20 . . Apparatus for distributing, e.g. spreading, granular or pulverulent materials, e.g. sand, gravel, salt, dry binders (fertiliser distributors A01C 15/00)
- 19/21 . . for simultaneously but separately applying liquid material and granular or pulverulent material, e.g. bitumen and grit, with or without spreading
- 19/22 . for consolidating or finishing laid-down unset materials (E01C 23/02 takes precedence; apparatus for generating vibrations in general B06B)
- 19/23 . . Rollers therefor; Such rollers usable also for compacting soil (E01C 19/43 takes precedence; specially adapted for agricultural purposes A01B 29/00; garden rollers A01G 1/12; making or maintaining surfaces of snow or ice E01H 4/00; solely for soil compaction E02D 3/026)
- 19/24 . . . hand propelled (E01C 19/27 E01C 19/29 take precedence)
- 19/25 . . . propelled by animals or vehicles (E01C 19/26 E01C 19/29 take precedence)
- 19/26 . . . self-propelled or fitted to road vehicles (E01C 19/27 E01C 19/29 take precedence)
- 19/27 . . . with elastically-deformable rolling elements, e.g. pneumatic tyres (vibrating or impacting E01C 19/28)
- 19/28 . . . Vibrated rollers or rollers subjected to impacts, e.g. hammering blows (E01C 19/29 takes precedence)
- 19/29 . . . Rolling apparatus adapted to apply a rolling pressure less than its weight, e.g. roller finishers travelling on formrails
- 19/30 . . Tamping or vibrating apparatus other than rollers (E01C 23/02, E01C 23/04 take precedence; vibrated depositing devices E01C 19/12; tamping or vibrating rollers E01C 19/28; portable percussion tools in general B25D; tamping or vibrating soil in general E02D 3/046)
- 19/32 . . . Hand-held hand-actuated rammers or tampers
- 19/34 . . . Power-driven rammers or tampers
- 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
- 19/40 adapted to impart a smooth finish to the paving, e.g. tamping or vibrating finishers
- 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)
- 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, dampers, or vibrators, specially adapted for imparting a required surface finish to freshly-laid paving courses (E01C 19/43 takes 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 (E01C 19/45 takes precedence; making surfaces by mixing borrowed aggregate with binders E01C 21/00)
- 19/47 . . Hydraulic cement concrete mixers combined with distributing means specially adapted for road building (concrete mixers per se B28C)
- 19/48 . for laying-down the materials and consolidating them, or finishing the surface
- 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; slip forms E01C 19/48); Devices or arrangements for forming individual paving elements, e.g. kerbs, in situ
- 19/52 . Apparatus for laying individual preformed surface elements, e.g. kerbs (preforming and placing continuous strip E01C 19/46; forming paving elements in situ E01C 19/50)
- 21/00 **Apparatus or processes for surface stabilisation for road building or like purposes, e.g. mixing borrowed aggregate with binder** (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
- 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 E01C 19/10)
- 23/01 . Devices or auxiliary means for setting-out or checking the configuration of new surfacing, e.g. templates, screed 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 insert supports E01C 11/02)
- 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 reinforcing elements or dowel bars; Removable supports for reinforcing elements (non-removable supports therefor 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 reinforcement
- 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 the surface of damaged paving [6]
- 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)
- 23/08 . . for roughening or patterning; for removing high spots or material bonded to the surface, e.g. markings (removing matter not bonded to the surface E01H 1/00; roughening or detaching ice E01H 5/12)
- 23/082 . . . using non-powered tools [6]
- 23/085 . . . using power-driven tools, e.g. vibratory tools [6]
- 23/088 Rotary tools, e.g. milling drums [6]
- 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
- 23/10 . . for raising or levelling sunken paving; for filling voids under paving; for introducing material into substructure (consolidating soil in general E02D 3/12)
- 23/12 . . for taking-up, tearing-up, or breaking-up paving (adapted to both placing and removing paving E01C 19/52)
- 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 stabilisation by fusing, calcining, or burning soil in situ 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 per se E01F 9/04); Protecting fresh markings
- 23/18 . . for applying prefabricated markings [6]
- 23/20 . . for forming markings in situ [6]
- 23/22 . . . by spraying [6]
- 23/24 . . . by pouring [6]