

Derwent Class Codes

Derwent categorizes patent documents using a simple classification system for all technologies. This unique classification is consistently applied to all patents by Derwent's subject experts, enabling effective and precise searching in a particular area of technology.

Patents are divided into the following three broad areas in the database.

- [Chemical Sections \(A - M\)](#)
- [Engineering Sections \(P - Q\)](#)
- [Electrical and Electronic Sections \(S - X\)](#)

They are subsequently divided into 20 broad subject areas or *sections*. These are designated A-M (Chemical), P-Q (Engineering), and S-X (Electrical and Electronic).

These sections are then further subdivided into *classes*. Each class consists of the section letter, followed by two digits. For example X22 is the class designation for Automotive Electrics and C04 is the class for all Chemical Fertilisers.

When used in combination with other search criteria, these classes allow you to precisely and effectively restrict your search to the relevant subject area. For example, the otherwise ambiguous word WARN can be combined with X22 (Automotive Electrics) to retrieve only those references to automotive warning devices. Derwent cross-classifies entries to ensure that all the patents of interest are retrieved when searching.

Chemical Sections (A - M)

Click a section for a listing of its class codes.

- [A - Polymers and Plastics](#)
- [B - Pharmaceuticals](#)
- [C - Agricultural Chemicals](#)
- [D - Food, Detergents, Water Treatment and Biotechnology](#)
- [E - General Chemicals](#)
- [F - Textiles and Paper-Making](#)
- [G - Printing, Coating, Photographic](#)
- [H - Petroleum](#)
- [J - Chemical Engineering](#)
- [K - Nucleonics, Explosives and Protection](#)
- [L - Refractories, Ceramics, Cement and Electro\(in\)organics](#)
- [M - Metallurgy](#)

Section A: Polymers and Plastics

Derwent Class Codes are listed in the first column of the table below.

A1	ADDITION AND NATURAL POLYMERS
A11	Polysaccharides; natural rubber; other natural polymers (only a restricted range of (modified) natural polymers are included. Thus starch would be excluded, but chemically modified starch included).
A12	Of di-and higher olefins; acetylenics; nitroso compounds.
A13	Of aromatic mono-olefins; including polystyrene.
A14	Of other substituted mono-olefins; including PVC, PTFE.
A17	Of unsubstituted aliphatic mono-olefins; including polyethylene.
A18	Addition polymers in general.

A2	CONDENSATION POLYMERS
A21	Epoxides; aminoplasts; phenoplasts.
A23	Polyamides; polyesters. (including polycarbonates, polyesteramides); alkyds; other unsaturated polymers.
A25	Polyurethanes; polyethers.
A26	Other condensation polymers including silicone polymers and polyimides (mineral silicates and similar materials would not usually appear in Section A).
A28	Condensation polymers in general.
A3	PROCESSING: GENERAL ADDITIVES AND APPLICATIONS
A31	Preliminary processes.
A32	Polymer fabrication - such as moulding, extrusion, forming, laminating, spinning.
A35	Other processing and general - including vulcanisation, welding of plastics and adhesive processes. Testing.
A41	MONOMERS AND CONDENSANTS These are also included in Section E.
A60	ADDITIVES AND COMPOUNDING AGENTS If the usage is very restricted it may be classified under the individual polymer or process involved.
A8/9	APPLICATIONS
A81	Adhesives and binders - including chipboard.
A82	Coatings, impregnations, polishes - excluding textile finishing.
A83	Clothing, footwear.
A84	Household and office fittings - including carpets and carbon paper.
A85	Electrical applications.
A86	Fancy goods, games, sports, toys.
A87	Textile auxiliaries.
A88	Mechanical engineering and tools eg valves, gears and conveyor belts.
A89	Photographic, laboratory equipment, optical - including electrophotographic, thermographic uses.
A91	Ion-exchange resins, polyelectrolytes.
A92	Packaging and containers - including ropes and nets.
A93	Roads, building, construction flooring.
A94	Semi-finished materials - fibres, films, foams.
A95	Transport - including vehicle parts, tyres and armaments.
A96	Medical, dental, veterinary, cosmetic.
A97	Miscellaneous goods not specified elsewhere - including papermaking, gramophone records, detergents, food and oil well applications.

Section B: Pharmaceuticals

Derwent Class Codes are listed in the first column of the table below.	
B01	Steroids - including systems containing carbocyclic and/or heterocyclic rings fused onto the basic steroidal ring structure.
B02	Fused ring heterocyclics.
B03	Other heterocyclics.
B04	Natural products and polymers. Including testing of body fluids (other than blood typing or cell counting), pharmaceuticals or veterinary compounds of unknown structure, testing of microorganisms for pathogenicity, testing of chemicals for mutagenicity or human toxicity and

	fermentative production of DNA or RNA. General compositions.
B05	Other organics - aromatics, aliphatic, organo-metallics, compounds whose substituents vary such that they would be classified in several of B01 - B05.
B06	Inorganics - including fluorides for toothpastes etc.
B07	General - tablets, dispensers, catheters (excluding drainage and angioplasty), encapsulation etc, but not systems for administration of blood or saline or IV feeding etc.

Section C: Agricultural Chemicals

Derwent Class Codes are listed in the first column of the table below.	
C01	Organophosphorus; organometallic - ie compounds containing other than H, C, N, O, S and halogen.
C02	Heterocyclic.
C03	Other organic compounds, inorganic compounds and multi-component mixtures. Polymers and proteins.
C04	Fertilisers - including urea and phosphoric acid production. Also soil modifiers and plant growth media. Chemical aspects of compost production.
C05	Biological control - excluding veterinary medicine, but including use of microorganisms, predators and natural products.
C06	Biotechnology - including plant genetics and veterinary vaccines.
C07	Apparatus, formulation, general - including veterinary syringes, general formulations where the active compound is not central to the invention (for example, wettable powders) and analysis.

Section D: Food, Detergents, Water Treatment and Biotechnology

Derwent Class Codes are listed in the first column of the table below. Approximate IPCs are given in parentheses.	
D1	FOOD AND FERMENTATION
D11	Baking - including bakery products, flour, doughs, bakery ovens, dough transporting and/or handling equipment, pies and pasta, but not flour milling (A21).
D12	Butchering, meat treatment, processing poultry or fish (A22).
D13	Other foodstuffs and treatment - including preservation of food, milk, milk products, butter substitutes, edible oils and fats, non-alcoholic beverages, artificial sweeteners, food additives and animal feed (A23B-L).
D14	General foodstuffs machinery - excluding machines which can be classified in D11-13 (A23N, P).
D15	Treating water, industrial waste and sewage - including purification, sterilising or testing water, scale prevention, treatment of sewage sludge, regeneration of active carbon which has been used for water treatment and impregnating water with gas eg CO ₂ , but excluding marine anti-pollution devices and purification of water which will be recycled within an industrial process (C02).
D16	Fermentation industry - including fermentation equipment, brewing, yeast production, production of pharmaceuticals and other chemicals by fermentation, microbiology, production of vaccines and antibodies, cell and tissue culture and genetic engineering.
D17	Sugar and starch industry (C07H, C13).
D18	Skins, hides, pelts, leather and chemical treatment of tobacco, but excluding drying, wetting, cutting or shaping tobacco (A24, C14).
D2	COSMETICS, DISINFECTANTS AND DETERGENTS
D21	Preparations for dental or toilet purposes - including filling alloys, compositions for dentures or dental impressions, anti-caries chewing gum, plaque disclosing compositions, toothpastes, cosmetics, shampoos, topical anti-sunburn compositions and toilet soaps (A61K).
D22	Sterilising, bandages, dressing and skin-protection agents - including sterilising agents (other

	than for food), sutures, plaster casts, bioactive prostheses, contact lenses, diapers, animal litter, timber preservatives, disinfectants, bactericidal detergents, deodorants, insect repellent compounds, moth proofers, sheep dip, insect attractants (where for cleaning air), flysprays and compositions for relieving insect bites and stings (A61L).
D23	Oils, fats and waxes - including fatty acids, candles, essential oils, but excluding butter (substitutes) and montan wax (C11B, C).
D24	Soap (limited to metal salts of fatty acids which are used for cleaning), solvent cleaners (C11D).
D25	Detergents - other than soap and used for cleaning (C11D).

Section E: General Chemicals

Derwent Class Codes are listed in the first column of the table below.

E1	GENERAL ORGANIC
E11	Containing P and/or Si.
E12	Organometallics - ie containing other than H, C, N, O, S, halogens, Si and P.
E13	Heterocyclics.
E14	Aromatics - ie containing at least one benzene ring.
E15	Alicyclics.
E16	Aliphatics - containing N and/or halogen.
E17	Other aliphatics.
E18	General hydrocarbon mixtures.
E19	Other organic compounds general - organic compounds of unknown or indefinite structure; general mixtures of many types; organic reactions (eg nitration, resolution) when applied generally.
E2	DYESTUFFS
E21	Azo - including diazonium compounds.
E22	Anthracene - including those containing more than 3 rings.
E23	Heterocyclic.
E24	Other dyes, all precursors.
E3	GENERAL INORGANIC
E31	Compounds of V, Nb, Ta, Cr, Mo, W, Mn, Tc, Re, Fe, Ru, Os, Co, Rh, Ir, Ni, Pd, Pt, Pa, V and subsequent actinides.
E32	Compounds of Ti, Zr, Hf, Cu, Ag, Au, Zn, Cd, Hg, Ga, In, Te, Ge, Sn, Pb, As, Sb, Bi.
E33	Compounds of Be, Mg, Ca, Sr, Ba, Ra, Sc, Y, La, Ac, Al, lanthanides (Rare-earths), Th.
E34	Compounds of Li, Na, K, Rb, Cs, Fr.
E35	Ammonia, cyanogen and their compounds - including HCN and cyanamide, but not hydrazine.
E36	Non-metallic elements, semi-metals (Se, Te, B, Si) and their compounds (except for E35).
E37	Mixtures of many components; inorganic reactions and processes of general applicability.

Section F: Textiles and Paper-Making

Derwent Class Codes are listed in the first column of the table below. Approximate IPCs are given in parentheses.

F01	Threads and fibres - natural or artificial; spinning - including the production of mineral and carbon fibres (D01).
F02	Yarns - mechanical finishing of yarns or ropes; warping or beaming (D02, D07).
F03	Weaving - including finished products (D03).

F04	Braiding, knitting - including trimmings and non-woven fabrics (D04).
F05	Sewing, embroidering, tufting - including finished products (D05).
F06	Chemical-type treatment of textiles (D06B, L, M, P, Q).
F07	Other textile applications - including clothing design, accessories and fasteners (D06C, F, G, H, J, L, M).
F08	Flexible sheet materials - consisting of polymer-coated fibrous web, including end products not classified in other sections (D06N).
F09	Paper-making production of cellulose, chemical treatment of wood - including chipboard and fibre-board (D21).

Section G: Printing, Coating and Photographic

Derwent Class Codes are listed in the first column of the table below. Approximate IPCs are given in parentheses.

G01	Inorganic pigments and non-fibrous fillers (C09C).
G02	Inks, paints, polishes, polymer-based paints and inks are also classified in Section A (C09D, F, G).
G03	Adhesives - excluding dispensers. Polymeric adhesives are also classified in Section A (C09H, J).
G04	Miscellaneous compositions - including luminescent and tenebrescent materials, de-icing/ de-misting compositions, mastics, heat transfer compositions and aerosol-can filling mixtures (C09H).
G05	Printing materials and processes (B41, M, N).
G06	Photosensitive compositions and bases; photographic processes - includes photo-resist coatings (G03C).
G07	Photo-mechanical production of printing surfaces (G03F).
G08	Electrography, electrophotography and magnetography (G03G).

Section H: Petroleum

Derwent Class Codes are listed in the first column of the table below. Approximate IPCs are given in parentheses.

H01	Obtaining crude oil and natural gas - including exploration, drilling, well completion, production and treatment. General off-shore platform and drilling technology is included together with the treatment of tar sands and oil shales (C10G, E21B).
H02	Unit operations - including distillation, sorption and solvent extraction (C10G).
H03	Transportation and storage - only large scale systems are included. Road tankers and retail petrol station-type applications are excluded. Treatment of pollution from marine oil tankers is included.
H04	Petroleum processing - including treating, cracking, reforming, gasoline preparation - biosynthesis based on hydrocarbon feedstocks is included (C10G).
H05	Refinery engineering.
H06	Gaseous and liquid fuels - including pollution control. Chemical aspects of catalytic exhaust systems for cars are included as well as liquid or gaseous fuels of non-petroleum origin eg methanol or ethanol-based fuels. Combustion improvement additives for liquid fuels are included (C10L).
H07	Lubricants and lubrication - this excludes self-lubricating surfaces eg PTFE coated surfaces and lubrication systems in general. The section includes lubricants of non-petroleum origin eg silicone oils (C10M).
H08	Petroleum products, other than fuels and lubricants - this includes hydraulic fluids and electrical oils even when of non-petroleum origin (C10M).
H09	Fuel products not of petroleum origin - excluding coal handling, preparation or mining, but

including coking, briquetting, peat processing synthesis, gas production, coal gasification. Combustion improvement additives for coal, peat and other non-hydrocarbon based fuels are included in this Section together with coal liquefaction and desulphurisation.

Section J: Chemical Engineering

Derwent Class Codes are listed in the first column of the table below. Approximate IPCs are given in parentheses.

J01	Separation - including evaporation, crystallisation, solvent extraction, chromatography, dialysis, osmosis including drying gases and/or vapours, and separation of solids from gases, liquids and other solids. Isotope separation, filter materials (including molecular sieves for separation), and centrifuges (except where used for analysis) (B01D, B03, B04, B07B).
J02	Mixing, crushing, spraying - including dispersing, pulverising, disintegrating, atomising and applying liquids other than paints to surfaces (B01F, B05B, C).
J03	Electrochemical processes and electrophoresis - including ozone production, brine electrolysis, water electrolysis, apparatus for the production of pure chemical compounds and non-metallic elements, but excluding batteries or other means of producing power and the treatment of metals (C25B).
J04	Chemical/physical processes/ apparatus - including catalysis, catalysts (including molecular sieves where appropriate, but excluding specific eg enzymatic or polymerisation catalysts), colloid chemistry, laboratory apparatus and methods, testing, controlling, general encapsulation, detection and sampling (B01J, L).
J05	Boiling and boiling apparatus - including generation of steam unless for power plant (B01B).
J06	Storing or distributing gases or liquids - including gas holders, vessels for gases, decantation and vaporisation of gases, pipelines and pipe systems, but excluding those for hydrocarbon gases or liquids and laying of pipelines (F17).
J07	Refrigeration; ice; gas liquefaction/solidification - including machines, freezing of (semi)liquids, gas separation/ liquefaction by cooling or pressure, fractionation of air (F25).
J08	Heat transfer and drying - including steam and vapour condensers, direct/indirect heat exchangers, heat transfer apparatus, drying processes, but only where of general application (F26, F28).
J09	Furnaces, kilns, ovens, retorts including furnace constructional details and accessories, but only where of general application (F27).

Section K: Nucleonics, Explosives and Protection

Derwent Class Codes are listed in the first column of the table below. Approximate IPCs are given in parentheses.

K01	Fire fighting, fire-extinguishing compositions - excluding fire engines, sprinkler systems, hose reels and protective clothing (A62D with K2).
K02	Protection against chemical warfare breathing apparatus - chemical aspects only (A62D with K1).
K03	Explosive charges; ammunition, fuses, blasting including only complete devices, except missile systems (F42).
K04	Explosives, matches - including detonators, chemical lighters, pyrophoric compositions, fire works, distress signals, chemical lasers, smoke generation, gas attack compositions, generation of gas for blasting or propulsion, but only their chemical aspects (C06).
K05	Nuclear reactors and simulators - including reactor processes, components and accessories, but excluding power plant (G21B, C).
K06	Nuclear power plant - including reprocessing used nuclear fuel (G21D).
K07	Health physics - including radiation protection (other than against sunlight), monitoring devices, decontamination, radioactive waste disposal and protective clothing (G21F).
K08	Nucleonics; X-ray techniques - including conversion of chemical elements, nuclear explosives and plasma techniques other than electron beam or plasma welding methods and apparatus and X- ray films (G01T, G21G, H, J, K, H05G, H).

Section L: Refractories, Ceramics, Cement and Electro (in)organics

Derwent Class Codes are listed in the first column of the table below. Approximate IPCs are given in parentheses.

L01	Glass - includes chemical compositions, batch treatment, furnaces, flat glass forming, hollow-ware forming, post-forming and glass/ceramics, but not lens designs, bottling, bottle-washing, closures for containers, glazing designs, glass cutting, chamfering edges, printing on glass, disposing of used glass or the production of pure sodium silicate. Chemical aspects of optical fibres (C03).
L02	Refractories, ceramics, cement - includes manufacturing methods, limes, soil preparation for (road) building, magnesias and slags, cements, mortars, concretes, abrasives, thermal or acoustic insulation (non)oxide ceramics and ceramic composites, but not brick making, concrete mixers or casting or potters' wheels (C04).
L03	Electro-(in)organic, chemical features of conductors, resistors, magnets, capacitors and switches, electric discharge lamps, semiconductor and other materials, batteries, accumulators and thermo-electric devices, including fuel cells, magnetic recording media, radiation emission devices, liquid crystals and basic electric elements. Growing of single crystals of semiconductors and their doping are included, but semiconductor devices, where the manufacture is not claimed are excluded. Electrography, electrophotography, magnetography, electrolysis, electrophoresis, power plant, X-ray and plasma-techniques, ion-exchange resins, polyelectrolytes, electroplating, metal electrodeposition, electroforming, anodising, electrolytic cleaning, cathodic protection and electrolytic or electrothermic production or refining of metals are all covered elsewhere (Sections G, J, K and M).

Section M: Metallurgy

Derwent Class Codes are listed in the first column of the table below. Approximate IPCs are given in parentheses.

M1	METAL FINISHING
M11	Electroplating; electrolytic treatment of or with metals - including electro-deposition of metals, electro-plating apparatus, electro-forming, electro-erosion, spark erosion, anodising (electrophoretically) coating metals and electrolytic cleaning and polishing (C25).
M12	Chemical cleaning and degreasing - including cleaning and pickling.
M13	Coating material with metals, diffusion processes, enamelling and vitreous coatings - including coating from liquid metal or solution, spraying, cementation, cathodic sputtering, enamelling and oil-free lubricant coatings, but not coatings for the production of semiconductors (C23C, D).
M14	Other chemical surface treatments - including etching, brightening, forming non-metallic layers, passivation, cathodic protection and corrosion inhibitors, but not processes specifically for semiconductor production (C23F, C25). This Section also covers multistage processes.
M2	METALS
M21	Mechanical working of metal without metal removal - including rolling sheet, wire, tube and profile production, extended surface tube, high energy rate forming, deep drawing, working sheet metal, rolled products, forging, hammering, pressing, where of sufficiently large scale to be of importance to the metallurgical industry (B21).
M22	Casting; powder metallurgy - including foundry moulding, moulding machines, patterns, moulds, cores and metal casting (B22).
M23	Soldering; welding - including brazing, flame cutting and scarfing, cutting and welding rods, soldering and unsoldering apparatus and solder compositions (B23K).
M24	Metallurgy of iron and steel - including manufacture and processing, treatment of steel melts and changing the physical properties of iron and steel, control/testing methods, blast furnaces and converters. Metallurgical coking processes (C21, C10B).
M25	Production and refining of metals other than iron - including ore treatment, extraction, working up scrap, obtaining specific metals, control testing methods (C22B).
M26	Non-ferrous alloys - including alloy production and composition (C22C).
M27	Ferrous alloys - including alloy production and composition (C22C).

M28	Electrolytic and electrothermic production and refining of non-ferrous metals - excluding heat treatment (C25).
M29	Changing the physical structure of non-ferrous metals and alloys - including tempering, annealing, work-hardening and recrystallising (C22F).

Engineering Sections (P - Q)

Click a section for a listing of its class codes.

- [P - General](#)
 - P1 - Agriculture, Food, Tobacco (A01 (except A01N), A24)
 - P2 - Personal, Domestic (A41-A47)
 - P3 - Health, Amusement (A61-A63, excluding A61K)
 - P4 - Separating, Mixing (B02-B09)
 - P5 - Shaping Metal (B21-B23)
 - P6 - Shaping Non-metal (B24-B28)
 - P7 - Pressing, Printing (B30- B32, B41-B44)
 - P8 - Optics, Photography; General (G02, G03, G09, G10)

- [Q - Mechanical](#)
 - Q1 - Vehicles in General (B60)
 - Q2 - Special Vehicles (B61-B64)
 - Q3 - Conveying, Packaging, Storing (B65-B68)
 - Q4 - Buildings, Construction (E)
 - Q5 - Engines, Pumps (F01-F15)
 - Q6 - Engineering Elements (F16-17)
 - Q7 - Lighting, Heating (F21-F28, F41-F42)

Section P: General

Derwent Class Codes are listed in the first column of the table below. The IPCs are given in parentheses.

P1	AGRICULTURE, FOOD, TOBACCO
P11	Soil working, planting (A01B, C).
P12	Harvesting (A01D, F).
P13	Plant culture, dairy products (A01G, H, J).
P14	Animal care (A01K, L, M).
P15	Tobacco (A24).
P2	PERSONAL, DOMESTIC
P21	Wearing apparel (A41, 2).
P22	Footwear (A43).
P23	Haberdashery, jewellery (A44).
P24	Hand, travelling articles, brushes (A45, 6).
P25	Office furniture (A47B).
P26	Chairs, sofas, beds (A47C, D).
P27	Shop, household, furnishings (A47F, G, H).
P28	Kitchen, sanitary equipment (A47J, K, L).
P3	HEALTH, AMUSEMENT

P31	Diagnosis, surgery (A61B).
P32	Dentistry, bandages, veterinary, prosthesis (A61C, D, F).
P33	Medical aids, oral administration (A61G, H, J).
P34	Sterilising, syringes, electrotherapy (A61L, M, N).
P35	Life-saving, fire-fighting (A62).
P36	Sports, games, toys (A63).
P4	SEPARATING, MIXING
P41	Crushing: centrifuging, separating solids (B02, 3, 4).
P42	Spraying, atomising (B05).
P43	Sorting, cleaning, waste disposal (B06, 7, 8, 9).
P5	SHAPING METAL
P51	Rolling, drawing, extruding (B21B, C).
P52	Metal punching, working, forging (B21D-L).
P53	Metal casting, powder metallurgy (B22).
P54	Metal milling, machining, electroworking (23B-H).
P55	Soldering, welding metal (B23K).
P56	Machine tools (B23P,Q).
P6	SHAPING NON-METAL
P61	Grinding, polishing (B24).
P62	Hand tools, cutting (B25, 6).
P63	Working, preserving wood (B27).
P64	Working cement, clay, stone (B28).
P7	PRESSING, PRINTING
P71	Presses (B30).
P72	Working paper (B31).
P73	Layered products (B32).
P74	Printing: lining machines (B41B - G).
P75	Typewriters, stamps, duplicators (B41J-N).
P76	Books, special printed matter (B42).
P77	Writing, drawing appliances (B43).
P78	Decorative art (B44).
P8	OPTICS, PHOTOGRAPHY, GENERAL
P81	Optics (G02).
P82	Photographic apparatus (G03B).
P83	Photographic processes, compositions (G03C).
P84	Other photographic (G03D-H).
P85	Education, cryptography, adverts. (G09).
P86	Musical instruments, acoustics (G10).

Section Q: Mechanical

Derwent Class Codes are listed in the first column of the table below. The IPCs are given in parentheses.

Q1	VEHICLES IN GENERAL
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Q11	Wheels, tyres, connections (B60B-F).
Q12	Suspension, heating, doors, screens (B60G-J).
Q13	Transmissions, controls (B60K).
Q14	Electric propulsion, seating (B60L-N).
Q15	Transporting special loads (B60P).
Q16	Vehicle lighting, signalling (B60Q).
Q17	Vehicle parts, fittings, servicing (B60R,S).
Q18	Brake-control systems (B60T).
Q19	Air-cushion vehicles (B60V).
Q2	SPECIAL VEHICLES
Q21	Railways (B61).
Q22	Hand, motor vehicles (B62B-D).
Q23	Cycles B62H-M).
Q24	Ships (B63).
Q25	Aircraft, aviation, cosmonautics (B64).
Q3	CONVEYING, PACKAGING, STORING
Q31	Packaging, labelling (B65B, C).
Q32	Containers (B65D01-37).
Q33	Closures (B65D39-55).
Q34	Packaging elements, types (B65D57-91).
Q35	Refuse collection, conveyors (B65F, G).
Q36	Handling thin materials (B65H).
Q37	Container traffic (pre-1984 only) (B65H).
Q38	Hoisting, lifting, hauling (B66).
Q39	Liquid, handling, saddlery, upholstery (B67, 8).
Q4	BUILDINGS, CONSTRUCTION
Q41	Road, rail, bridge construction (E01).
Q42	Hydraulic engineering, sewerage (E02, 3).
Q43	General building constructions (E04B).
Q44	Structural elements (E04C).
Q45	Roofing, stairs, floors (E04D, F).
Q46	Building aids, special structures (E04G, H).
Q47	Locks, window and door fittings (E05).
Q48	Blinds, shutters, ladders, doors (E06).
Q49	Mining (E21).
Q5	ENGINES, PUMPS
Q51	Machines, engines in general (F01).
Q52	Combustion engines, gas turbines (F02B-G).
Q53	Jet engines, fuel supply (F02K, M).
Q54	Starting, ignition (F02N, P).
Q55	Machines, engines for liquids (F03).
Q56	Pumps (F04).
Q57	Fluid-pressure actuators (F15).

Q6	ENGINEERING ELEMENTS
Q61	Securing machine parts together (F16B).
Q62	Shafts, bearings (F16C).
Q63	Couplings, clutches, brakes, springs (F16D, F).
Q64	Belts, chains, gearing (F16G, H).
Q65	Pistons, cylinders, packing (F16J).
Q66	Valves, taps cocks (F16K).
Q67	Pipes, joints, fittings (F16L).
Q68	Other engineering elements (F16M-T).
Q69	Storing/distributing gas/liquid (F17).
Q7	LIGHTING, HEATING
Q71	Lighting (F21).
Q72	Steam generation (F22).
Q73	Combustion equipment/processes (F23).
Q74	Heating, ranges, ventilating (F24).
Q75	Refrigeration, liquefaction (F25).
Q76	Drying (F26).
Q77	Furnaces, kilns, ovens, retorts (F27).
Q78	Heat exchange in general (F28).
Q79	Weapons, ammunition, blasting (F41-2).

Electrical & Electronic Sections (S - X)

Click a section for a listing of its class codes.

- [S - Instrumentation, Measuring and Testing](#)
- [T - Computing and Control](#)
- [U - Semiconductors and Electronic Circuitry](#)
- [V - Electronic Components](#)
- [W - Communications](#)
- [X - Electric Power Engineering](#)

Section S: Instrumentation, Measuring and Testing

Derwent Class Codes are listed in the first column of the table below.	
S01	Electrical Instruments (G01R, G12B) Measuring magnetic and electrical variables. Instrument panels, housings, indicating elements, screening, suspensions, damping. Cooling arrangements.
S02	Engineering Instrumentation (G01B-H, L, M, P) Measuring dimensions, weight, flow rate, mechanical vibrations, force, acceleration, etc. Recording equipment. General testing methods.
S03	Scientific Instrumentation (G01J, K, N, T-W) Photometry, calorimetry. Thermometers. Meteorology, geophysics, measurement of nuclear or X-radiation. Investigating chemical or physical properties.
S04	Clocks and Timers (G04B-G) Electronic and mechanical clocks and watches. Time switches. Time-interval measuring.
S05	Electrical Medical Equipment (A61, A61N) Electrotherapy. Electrosurgical apparatus. Blood cell counters. Electrical diagnostic apparatus. Tomography. Veterinary apparatus.
S06	Electrophotography and Photography (G03, G03G) Cameras, film projectors and processing

(electrical aspects only). Electrography, xerography. Rotary press printers (electrical aspects only).

Section T: Computing and Control

Derwent Class Codes are listed in the first column of the table below.	
T01	Digital Computers (G06C-F) Electronic data processors, interfaces and programme control. Mechanical digital computers.
T02	Analogue and Hybrid Computers (G06G, J) Function evaluators, equation solvers, simulators.
T03	Data Recording (G11B) Analogue and digital recording on tape, disc etc, using for example, magnetic, optical, magneto-optical, capacitive methods.
T04	Computer Peripheral Equipment (G06K) Card and tape punches and readers. Magnetic, optical and smart cards. Serial and line printers. VDUs, character and graphics generators. Pattern recognition, magnetic ink recognition, bar coders. COM equipment.
T05	Counting, Checking, Vending, ATM and POS Systems (G06M, G07B-G) Counting systems. Ticket issuing, registering and franking apparatus. Attendance registering apparatus. Coin and paper currency handling. Point-of-sale equipment. Electronic funds transfer.
T06	Process and Machine Control (G05B, D) General control systems. Control of non-electrical variables eg. temporal flow. Control system applications eg. machine tools, lifts.
T07	Traffic Control Systems (G08G) Traffic light systems, flow control. Electronic indicators.

Section U: Semiconductors and Electronic Circuitry

Derwent Class Codes are listed in the first column of the table below.	
U11	Semiconductor Materials and Processes (C30B, H01L) Materials, substrate and layer processing, packages and mountings, assembly, testing, and handling aspects of all semiconductor devices, included in U12, U13, U14. Aspects of manufacture specific to devices such as LEDs, lasers, solar cells and especially thick film and hybrid circuits are covered in U12 and U14.
U12	Discrete Devices (H01L) Individual semiconductor devices, as either discrete components or specific parts of integrated circuit. Examples are LEDs, including LED arrays, semiconductor lasers, photovoltaic cells and arrays, discrete photodetectors, semiconductor transducers, diodes, capacitors, bipolar transistors, thyristors, unipolar transistors eg. FET, HEMT, and quantum interference devices. Also, defines specific application of inventions in U11.
U13	Integrated Circuits (H01L) Integrated circuit structures eg, CMOS, BICMOS, optoelectronic IC, wafer scale integration. Analogue circuits. Digital circuits, especially with matrix arrays eg. memory, programmable logic and gate arrays. Solid state image sensors eg. CCD. Not used for routinely integrated circuitry eg. logic gates, or for IC application which do not claim actual IC novelty.
U14	Memories, Film and Hybrid Circuits (G11C, H01L) Digital memories including magnetic, optical, semiconductor, ferroelectric analog memories. Testing of memories. Thermoelectric devices. Superconductive materials and devices. Thin film arrays and layers. Thick film and hybrid circuits including multilayer ceramic wiring boards. Electroluminescent light sources. Passive displays, especially liquid crystal display.
U21	Logic Circuits, Electronic Switching and Coding (H03K, M) Basic logic circuits, eg AND-gates. A/D and D/A conversion. Delta modulation, coding, code conversion, error detection and correction. Pulse counters, frequency conversion. Electronic switching circuits.
U22	Pulse Generation and Manipulation (H03K, L) Rectangular wave oscillators, pulse generators, (astable, bistable, etc). Pulse shapers. Digital waveform synthesizers. PAM, PPM, PFM, PDM (modulation and demodulation aspects). Digital filters. DSP.
U23	Oscillation and Modulation (H03B-D, H03L) Oscillators, mixers. Amplitude and angle (de)modulation. Frequency and phase comparators. PLLs.
U24	Amplifiers and Low Power Supplies (H03F, H03G, G05F, H02M) DC, LF and HF amplifiers, parametric, magnetic, dielectric amplifiers. Gain control. Volume compression or expansion. Limiters. Voltage and current stabilisation, power supplies, converters, inverters, rectifiers. Low power protection.

U25	Impedance Networks and Tuning (H03H, H03J) Tone or bandwidth control. Impedance converters. Analogue filters (active and passive). Voltage dividers, attenuators, impedance matching, baluns. Tuning circuits. AFC.
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Section V: Electronic Components

Derwent Class Codes are listed in the first column of the table below.	
V01	Resistors and Capacitors (H01C, G) Low power fixed and variable devices. Thermistors. VDRs. Electrolytic and non-electrolytic capacitors.
V02	Inductors and Transformers (H01F) Low power inductive components. Communication type inductive components. (Electro)magnets.
V03	Switches, Relays (H01H) Low power switches and relays. Thermally or magnetically operated switches.
V04	Printed Circuits and Connectors (H01R, H05K) PCBs and their manufacture. Low power connectors. Electronic apparatus, housings and constructional details. RFI/EMI screening. General circuit manufacture.
V05	Valves, Discharge Tubes and CRTs (H01J, H05G) Vacuum tubes, klystrons, TWTs, magnetrons, CRTs, camera tubes, X-ray tubes and operating circuits. Photoelectric discharge tubes. Gas filled tubes. Gas discharge displays.
V06	Electromechanical Transducers and Small Machines (H04R, H03H, H02K) Audio-communication - and measurement type transducers. Electromechanical resonators. Small electric machines and their controllers.
V07	Fibre-optics and Light Control (G02B, F) Light guides. Connectors, couplers, mode selectors, polarisers. Switching, gating, modulating etc.
V08	Lasers and Masers (H01S) Laser and maser devices. Pumping and mode locking circuitry.

Section W: Communications

Derwent Class Codes are listed in the first column of the table below.	
W01	Telephone and Data Transmission Systems (H04L, M, Q) Error detection and correction. Code conversion. Synchronising. Secret data communication. Data networks (LAN, WAN, etc). ISDN. Baseband and broadband data transmission. Exchanges, call metering, test equipment, equipment racks. Subscriber equipment, cordless and cellular phones. Telephone line and cable installation.
W02	Broadcasting, Radio and Line Transmission Systems (H01P, Q, H04, H04K) Aerials, waveguides, resonators and other distributed constant components. Transmitters, transceivers, transponders. Communication receivers. Line transmission systems. Radio systems, including diversity, relay, mobile (including cellular). Optical and ultrasonic wave transmission systems. Spread Spectrum communication. Secret communication, jamming. Facsimile. TV systems, including colour, stereoscopic, cable, subscription, satellite and high definition. Stereophonic broadcast systems.
W03	TV and Broadcast Radio Receivers (H04) AM/FM/SW radio receivers, car radios. TV receivers. Teletext, high definition, satellite, stereophonic. Remote control. Audio amplifiers. AV systems and interconnection.
W04	Audio/Video Recording and Systems (G10H, G11B, H04N) Loudspeaker enclosures, cross-over networks. Audio disc recording and reproducing equipment. Audio magnetic tape recording and reproduction. Sound mixers. Electrical musical instruments. Video cameras, camera recorders, electronic still-picture cameras. Studio equipment eg video mixers, special effect apparatus. Projection TV. Video tape and disc recording and reproduction. Video games, karaoke. Electronic educational apparatus. Sports equipment. Speech coding, analysis and synthesis. Antiphase sound cancelling.
W05	Alarms, Signalling, Telemetry and Telecontrol (G08B, C) Burglar and fire alarms. Personal calling arrangements. Paging systems. Signal transmission systems. Home bus systems, vehicle remote control bus systems. Advertising arrangements (electrical aspects).
W06	Aviation, Marine and Radar Systems (G01S) Radar, sonar and lidar. Velocity and depth measuring equipment. Airport control systems. Ship and aircraft control and instrumentation.

	Flight simulators. Space vehicles, including satellites.
W07	Electrical Military Equipment and Weapons (F41) Target indicating systems. Sighting devices. Missile direction control. Military training equipment. Arming and safety devices.

Section X: Electric Power Engineering

Derwent Class Codes are listed in the first column of the table below.

X11	Power Generation and High Power Machines (H02K, N) Conventional power generating prime movers. Dynamo-electric machines. MHD generators.
X12	Power Distribution/Components/Converters (H01B, H01T, H02G, H02J, H02M) High power AC, DC and HVDC distribution/control. Power and communication cables. Superconducting cables, coils and magnets. Installing power cables and lines. Power transformers, reactors. Spark gaps and circuits. Insulators. High power connectors. Power converters. Conductive, superconductive and insulating materials.
X13	Switchgear, Protection, Electric Drives (H02B, H02H, H02P) Electric machines and static power converters. Controllers. Switchboards, switchyards, switchgear. Power system protection. Circuit protectors, circuit breakers, fuses.
X14	Nuclear Power Generation (G21, H05H) Nuclear reactor processes, components and power plants. Control mechanisms. Plasma techniques. Particle accelerators.
X15	Non-Fossil Fuel Power Generating Systems (F03D, F24J) Geothermal, wind, wave and solar energy, types of power generation.
X16	Electrochemical Storage (H01M) Primary, secondary and fuel cells and batteries. Battery chargers. Non-electrochemical storage of electric energy.
X21	Electric Vehicles (B60L) Electric cars, trolley buses. Propulsion, braking. Power supply lines, current collectors. Traction batteries. Control equipment.
X22	Automotive Electrics (F02P) Vehicle accessories. Vehicle lighting. IC engine ignition. IC engine controllers. Batteries and charging. Starting motors, and generators. Engine and vehicle instrumentation. Non-engine related controllers eg. transmissions, brakes.
X23	Electric Railways and Signalling (B61) Propulsion, power and distribution, signalling, control.
X24	Electric Welding (B23K) Electric soldering. Arc, induction, electron beam, resistance, laser beam and HF welding. Electroerosion.
X25	Industrial Electric Equipment (H05B, F27) Electric furnaces and kilns. Resistance, induction, electric discharge and EM field heating. Electrostatic spraying and cleaning. Vibrating apparatus. Electrolytic processes. Electro-refining metals. Electrically powered tools. Industrial drying equipment. Ore separating magnets. Magnetic work holders. Lifting magnets. Sewing machines. Industrial components eg. pumps, fans.
X26	Lighting (F21, H01J, H01K) Discharge, incandescent and electric arc lamps. Operating and control equipment. Light fittings Portable lighting devices. Stage lighting equipment.
X27	Domestic Electric Appliances (A47, F24) Washing machines, dryers, irons. Vacuum cleaners. Electric cookers, microwave ovens. Kitchen equipment. Refrigerators. Water heaters. Space heating and air conditioning equipment. Personal and hygiene electrical appliances.