DERWENT

德温特世界专利检索手册

南京市科技情报研究所

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《德温特世界专利检索手册》编译组

南京市科技情报研究所

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前　言

我国广大科技工作者以及专利和图书情报界有关专业人员，由于经常利用世界各国专利文献，都比较熟悉英国德温特世界专利检索体系。但是，一般都苦于缺乏必要的有关辅助工具。事实上，这些辅助工具也是德温特体系的一部分。有些著作虽也系统地介绍了该体系手工检索作业所必须掌握的规律和使用方法，但仍缺乏必要的辅助工具与之配套。为此，我们编译了这本《德温特世界专利检索手册》。该手册提供了各种必要的综合性分类表、主题词表、代码手册等等。“工欲善其事，必先利其器”，使用德温特体系是查找世界专利的最好途径，但仅仅依靠它的文摘和索引分册还不能充分发挥该体系的优越性，只有同时掌握它的辅助工具才可以做到应付裕如。

本手册主要提供了该体系的全部检索语言，除原文主体部分外，还编译了中文使用说明；对一部分分类表及其关键词索引中的一、二级类目和主题词，编译了中文对照；对于用户经常提问的该体系专利号所用标识，编译了说明。关于“IPC”，本来是国际专利机构编制的专利分类表，在分类原则上德温特体系和它关系十分密切，经由IPC类号使用德温特体系已成为该体系主要检索途径之一。在“手册”编译中考虑到IPC分类表关键词索引在国内分布较广，因而对它的原文主体部分从略了。

本手册由杨世明同志主编，参加编译工作的有茅木川、贾沛泰、邢兰英、何露等同志。最后，沐志成同志对本手册的文字及编排进行了润色和加工，对此谨致谢意。由于时间较仓促，编者水平有限，在选材、编译过程中疏漏在所难免，敬请同行读者赐教指正。

编　译　组　谨　识

1986年10月

目　　录

一　五种传统的德温特分类表

（一）　说　　明

这里的五种分类表统称“德温特分类表”(Derwent Classification)，最早见于1984年“德温特专利通用手册”（Derwent Patents Manual—General)，十六开纸十页。该“手册”在国内并不多见。它的最常见的形式见德温特体系中各文摘（或总索引）分册的封二和封三的“WPI、P、Q、R、Ch类表”。这两种分类表的基本内容完全相同，而“德温特分类表”对某些类目增加了相当数量的文字说明。在使用上，两者可没有区别，可以互相代替。它们是德温特体系传统的分类系统。

（二）　Ch、P、Q、R、EL部类分类表

德温特五种传统分类表，即化学类（A—M类）、一般类（P部类）、机械类（Q部类）、WPI电气类（R部类）和EPI电气电子类（EL或S—X部类）分类表分别列于下页。

C: DERWENT CLASSIFICATION

CHEMICAL – SECTIONS A-M

Main Sections

Chemical patents currently account for about 45% of the total, and are selected for inclusion in one or more of the following twelve sections:-

A Plasdoc - polymers, plastics
B Farmdoc - pharmaceuticals
C Agdoc - agricultural chemicals
D Food, disinfectants, detergents
E Chemdoc - general chemicals
F Textiles, paper
G Printing, coating, photographic
H Petroleum
J Chemical engineering
K Nucleonics, explosives, protection
L Refractories, glass, ceramics
M Metallurgy

Classes

The sections are broken down into 135 well-defined classes. These are not intended to serve as a coding or retrieval tool, but to break down the subject matter simply and unambiguously for alerting, SDI and scanning purposes.

Classification is made from the complete specifications and takes into account all the claims, particularly references to the use of chemicals or polymers even when the main subject matter is non-chemical.

Where any patent specification falls logically into more than one section of the CPI classification it will be included in each of these sections. Thus a patent involving a new dyestuff for polyamide textiles will be included in the appropriate classes of Sections A, E and F.

All equivalents are regarded as falling within the same classes of Sections A-M as the parent basic document.

A – Plasdoc

Coverage

The following features are selected for inclusion:-

Polymers - Useful synthetic polymers. Selected natural polymers e.g. rubbers. Modified natural polymers. Polymerisation equipment and polymer work-up.

Fabrication - All processes and equipment for fabricating polymers including extrusion, injection moulding and slush moulding. The production, treatment and use of film, sheet and pipe.

Monomers - Also in Section E. All patents relating to the production and purification of specified common monomers.

Acrolein
Acrylic acid
Acrylonitrile
Adipic acid
Bisphenol A
Butadiene
Caprolactam
Chloroprene
DiEt terephthalate
DiMe terephthalate
Ethylacrylate
Ethylene
Ethylmethacrylate
Formaldehyde
Hexamethylene diamine
Isobutene
Isoprene
Maleic anhydride
Melamine
Methacrylic acid
Methyl (meth)acrylate
Methylstyrene
2.6-Naphthalene dicarboxylic acid
Phenol
Phthalic anhydride
Propylene
Sebacic acid
Styrene
Terephthalic acid
Tetrafluoroethylene
Urea
Vinyl acetate
Vinyl chloride
Vinylidene chloride

All patents relating to the production and purification of new monomers shown clearly in the specification to be usefully polymerisable. Purification, stabilisation or new route of production only of all other known usefully polymerisable monomers.

Additives - Preparation and use of catalysts shown clearly from the specification to be used in polymer processes. Stabilisers, surface-active agents, plasticisers slip agents, antistatic agents etc. for use with polymers.

Uses - Wherever specific synthetic polymers or families of polymers are claimed or the specification is clearly concerned with them. Wherever novelty resides in the use of polymers. Patents primarily on the use of colouring and dyeing agents for specific polymers or families of polymers. When the polymer is not specified or can be a range of alternative materials for an application or fabrication it is not included. Thus the use of rubber (undefined) components for a common application would not be automatically included.

Merging - Classes A15, A16; A22, A24 A27; A33, A34; A42 to A44 and A61 to A69 have been merged with the immediately preceding remaining class since 1972.

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 cpds.
A13 Of aromatic mono-olefins - includes polystyrene
A14 Of other substd. mono-olefins - includes PVC, PTFE
A17 Of unsubstd. aliphatic mono-olefins - includes polyethylene
A18 Addition polymers in general

A2: Condensation polymers

A21 Epoxides; aminoplasts; phenoplasts
A23 Polyamides; polyesters - incl. polycarbonates, polyesteramides, alkyds; other unsatd. linear polymers
A25 Polyurethanes; polyethers
A26 Other condensation polymers - incl. inorganic polymers - 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 - includes vulcanisation, welding of plastics and adhesive processes

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; A9: Applications

A81 Adhesives and binders - incl. chipboard
A82 Coatings, impregnations, polishes - excl. textile finishing
A83 Clothing, footwear

C: Derwent Classification

A84 Household and office fittings - includes carpets and carbon paper
A85 Electrical applications
A86 Fancy goods, games, sports, toys
A87 Textile auxiliaries
A88 Mechanical engineering and tools e.g. valves, gears and conveyor belts
A89 Photographic, laboratory equipment, optical includes electrophotographic, thermographic uses

A91 Ion-exchange resins, polyelectrolytes
A92 Packaging and containers - includes ropes and nets
A93 Roads, building, construction, flooring
A94 Semi-finished materials - fibres, films, foams
A95 Transport - includes vehicle parts, tyres and armaments
A96 Veterinary, medical, dental - includes cosmetic uses
A97 Miscellaneous goods not specified elsewhere - including papermaking, gramophone records, detergents, food and oil well applications.

B – Farmdoc

All specifications stated to be of pharmaceutical or veterinary interest, as well as those relating to compounds for use as intermediates in the manufacture of drugs or veterinary products.

All steroids, alkaloids, vitamins, vaccines, alpha - amino acids and antibiotics are covered automatically except where these are used for non-pharmaceutical purposes. Intermediates for alpha-amino acids, however, are not generally included. Also compositions used for diagnosis and analysis in the pharmaceutical and veterinary fields (e.g. stains for bacterial pathogens) but not apparatus for these purposes are included.

Inventions dealing with bactericides and fungicides are included when these substances are for internal or topical application. However, when they are used for other purposes (such as in detergent compositions, disinfection of textiles, lubricating oil additives, etc.) they are not covered in this section.

Artificial sweeteners, chemical warfare agents and plaque disclosing compositions are also included.

Patents dealing with the production of tablets, pills, capsules, suppositories etc. are included as are devices for specifically dispensing pharmaceuticals such as syringes, child-proof closures, calendar pill boxes, aerosols etc.

In the classification given below, the order of priority is B1 before B2, B2 before B3 and so on in the same compound.

B1 Steroids - includes systems containing carbocyclic and/or heterocyclic rings fused onto the basic steroidal ring structure but excludes compounds where the basic steroid cyclopentano-phenanthrene ring structure has been modified by heteroatoms (e.g. azasteroids), additional ring atoms (e.g. homosteroids) or bond breakage (secosteroids). These compounds may however be cross-referenced in B1 if they are classified in section B.
B2 Fused ring heterocyclics
B3 Other heterocyclics
B4 Natural products and polymers - including oligo- or poly-peptides with at least four amino acid units (but not homopolymers of any amino acid) testing of body fluids (other than blood typing or cell counting), pharmaceuticals or veterinary compounds of unknown structure, testing of micro-organisms for pathogenicity, testing of chemicals for mutagenicity or human toxicity and fermentative production of DNA or RNA
B5 Other organics - aromatics, aliphatic, organo-metallics, compounds whose substituents vary such that they would be classified in several of B1-B5 and general compositions
B6 Inorganics - including fluorides for toothpastes etc.
B7 General - tablets, dispensers, catheters (unless for drainage), encapsulation etc. but not systems for administration of blood or saline or i.v. feeding etc. (e.g. dialysis machines, which are in section J1, or peristaltic pumps for oral administration) or machinery for general tabletting etc.

C – Agdoc

Compounds of agricultural and veterinary interest including:-

Pest control agents - Insecticides, miticides, rodenticides, molluscicides, slugicides, vermicides (nematocides, anthelmintics, etc.) soil fumigants pest repellants and attractants and also chemical warfare agents.

Plant growth control agents - Herbicides, weedicides, defoliants, desiccants, fruit drop and set controllers, rooting compounds, sprouting inhibitors, growth stimulants and retardants, moss and lichen controllers.

Plant disease control agents - Fungicides, viricides, timber preservatives and bactericides.

Soil improvement agents - Fertilisers, trace metal additives, bacterial action control stimulants and soil consolidation agents if for agricultural purposes.

Veterinary products - Disease control agents, nutritional agents etc.

In the classification given below, the order of priority is C1 before C2 and C2 before C3 in the same cpd.

C1 Organophosphorus; organometallic - i.e. containing other than H, C, N, O, S and halogen
C2 Heterocyclic
C3 Other organic compounds, inorganic compounds and general compositions - including devices for administration of veterinary drugs but not of agrochemicals
C4 Fertilisers - including urea and phosphoric acid but excluding compost production

D – Food, Detergents

The food classes include all commercial food machinery, processes and products. Domestic apparatus, operations which would be performed on the farm or plantation prior to arrival at the food factory and packaging are excluded unless they are in IPC A21-A23 and in no other A-C or E-M CPI class. Approx. IPCs in brackets.

D1: Food and fermentation

D11 Baking - including bakery products, flour doughs bakery ovens, dough transporting and/or handling equipment, pies and pasta out 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. (A23NP)
D15 Treating water, waste water 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 e.g. CO_2, but excluding marine antipollution 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, distillation, alcoholic beverages, microbiology, production of vaccines and antigens and cell and tissue culture. (C12)

D17 Sugar and starch industry - excluding modified polysaccharides (C07H, C13)

D18 Skins, hides, pelts, leather and chemical treatment of tobacco - including shaping or chemical treatment of fur but not making fabrics or garments, and excluding drying, wetting, cutting or shaping tobacco and mechanical shaping, forming or treating tobacco filters. (A24, C14)

D2: 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, but excluding syringes for dental amalgam etc. (A61K)

D22 Sterilising, bandages, dressing and skin-protection agents - including sterilising agents other than for food, sutures, plaster casts, bioactive prostheses (but excluding other prostheses and apparatus for the manufacture of prostheses), barrier creams, wigs and hairpieces (unless of synthetic fibres), animal litter, timber preservatives, disinfectants, bactericidal detergents, antibacterial or antifungal 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 lubricants, butter and its substitutes and montan wax. (C11B, C)

D24 Soap - including only metal salts of fatty acids which are used for cleaning but excluding toilet soap (C11D)

D25 Detergents - other than soap and used for cleaning (C11D)

E - Chemdoc

Patents concerning the production, purification, use, detection, removal or phase changes, of non-polymeric chemical compounds, and apparatus and novel catalysts for producing them, are classified in Section E.

Exceptions to this are:-

1. Cpds. stated to be solely for use as a pharmaceutical, veterinary medicament, fertiliser, herbicide or pesticide are classified only in B and/or C. Some disinfectants, insect repellents, etc. are also included in this category. However, where an additional use is stated, e.g. the compound is a dyestuff intermediate, the patent is classified in B and/or C and E. Further all α-amino acids are classified in B and E but their intermediates only in E unless a B or C use is stated.

2. Monomers taking part in a polymerisation reaction and starting materials for a chemical reaction are not classified in section E unless the patent is also concerned with the production or purification of the monomer/starting material.

3. Polymerisation catalysts are not normally classified in E unless the novelty of the invention is the catalyst and it is a single compound.

4. Mixtures of compounds described as a cut in a petrochemical process are normally classified in Section H only.

5. Highly complex non-stoichiometric compounds, e.g. those used as fluorescent materials are classified in Section L only, but simpler compounds are normally classified also in E. Growth of single crystals of pure elements or compounds e.g. Si, GaAs or BN is classified in E and L.

Dyestuffs (including colour couplers, colour formers, leuco dyes, cyanine-type electron acceptors, organic nacreous pigments, phthalocyanines, pigment toners and non-UV-absorbing sensitising agents) are classified in Section E2. However colour developers, non-cyanine electron acceptors, indicators, luminophores, photoconductors, UV-absorbing sensitising agents and photographic toners are not classified as dyestuffs but in Sections E1 and E3 as appropriate.

Apart from the dyestuffs, Section E is divided into E1 (organic chemicals) and E3 (inorganic chemicals). Of interest is the distinction between (a) C, CO, CO_2, COS, CS_2, CSe_2, $COCl_2$, $CSCl_2$, NH_2COOH, $(CN)_2$, HCN, NH=C=NH, NH_2CN, HCNO, HON=C, HCNS, etc., which are classified as inorganic and (b) carbon suboxides, CH_4, CCl_4, CH_2N_2, HCOOH, HCHO, $HCONH_2$, $(NH_2)_2C=NH$, $(NH_2)_2CO$, $(NH_2)_2CS$, etc., which are classified as organic.

Where necessary a patent is classified in Section E for the compound and other section(s) for its use(s), etc. Typically perfumes, flavourings, and additives to foods and tobacco are normally classified in Sections D and E. Similarly, a compound or non-metallic element made by electrolysis is classified in Sections E and J, as is a gas obtained by fractionation of air, or removal or detection of a compound, such as H_2S in a gas.

Inclusion of certain compounds is dependent on their structure. Typically, plastic sulphur is normally classified in Section E only unless it is described as polymeric when it is classified in Section A only.

Solvents and very common reagents such as water are not normally classified in Section E but may be included if they are the object of the invention.

Priority is E11 before E12 before E13, E21 before E22 and E31 before E32 and so on in the same compounds. For E3, the periodic table used is as in Cotton and Wilkinson Advanced Inorganic Chemistry' 1st. ed.

E1: General organic

E11 Containing P and/or Si

E12 Organometallics - i.e. containing other than H, C, N, O, S, halogens, Si and P.

E13 Heterocyclics

E14 Aromatics - i.e. 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 (e.g. 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 metals of groups Va, VIa, VIIa and VIII and of actinoids except for Th.
E32 Compounds of metals of groups IVa, IB, IIb, IIIb except for Al, IVb including Ge and Vb (As, Sb, Bi)
E33 Compounds of metals of groups IIa, IIIa, the lanthanoids and of Al and Th.
E34 Compounds of group Ia metals
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.

F Textiles, paper, cellulose

Includes all aspects of clothing, as well as all textile machinery other than that solely for domestic use unless in IPC D. Approx IPCs in brackets.

Non textile fibre handling processes e. g. for fibre reinforced polymer production are classified only in Section A.

Pure textile processes e. g. crimping applied to polymeric fibres in general are not usually classified in A but only in F, while chemical treatments and dyeing of polymeric fibres with specified chemicals/dyes are classified in sections AEF.

F1 Threads and fibres - natural or artificial; spinning - includes the production of mineral and carbon fibres. (D01)
F2 Yarns - mechanical finishing of yarns or ropes; warping or beaming (D02 D07)
F3 Weaving - including finished products (D03)
F4 Braiding knitting - incl. trimmings and non-woven fabrics (D04)
F5 Sewing, embroidering, tufting - incl. finished products (D05)
F6 Chemical type treatment of textiles (D06BLMPQ)
F7 Other textile treatment - includes clothing design, accessories and fasteners (D06CFGHJLM)
F8 Flexible sheet materials - consisting of polymer-coated fibrous web, incl. end products not classified in other sections (D06N)
F9 Paper-making - production of cellulose, chemical treatment of wood - includes chipboard and fibre board (D21)

G – Printing, coating, photographic

Specifications limited to mechanical features only with no chemical interest are not included. Thus printing machines and photographic film processing apparatus are excluded, as well as adhesive applicators.

Adhesive processes in the production of specific goods are excluded unless novelty lies in the adhesive material.

Normally excluded from section G are polymeric coatings produced by hot melt extrusion e. g. cable coatings (section A), metallic coatings (section M) and vitreous enamel coatings (section L).

Fillers for specific materials are usually classified under the related material section e. g. Section A and are excluded from section G. Approx. IPCs in brackets.

G1 Inorganic pigments - and non-fibrous fillers (C09C)
G2 Inks, paints, polishes - polymer based paints and inks are also classified in section A. (C09DFG)
G3 Adhesives - excl. dispensers therefor - polymeric adhesives are also classified in section A. (C09HJ)
G4 Miscellaneous compositions - incl. luminescent and tenebrescent materials, de-icing/de-misting compositions, mastics, heat transfer compositions and aerosol can filling mixtures. (C09K)
G5 Printing materials and processes (B41CMN)
G6 Photosensitive compositions and bases; photographic processes - includes photo-resist coatings (G03C)
G7 Photo-mechanical production of printing surfaces (G03F)
G8 Electrography, electrophotography and magnetography (G03G)

H – Petroleum

If the production of single compounds is involved then the specification is likely to be placed only in Section E, and of course also A if this compound is a monomer. Class H7 excludes lubrication systems, but includes non-petroleum lubricants. Class H9 does not include coal handling and washing. Approx. IPCs in brackets.

H1 Obtaining crude oil and natural gas - incl. exploration, drilling, well completion, producing and treating. General off shore platform and drilling technology is included together with the treatment of tar sands and oil shales. (C10G, E21B)
H2 Unit operations - incl. distillation, sorption and solvent extraction (G10G)
H3 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.
H4 Petroleum processing - incl. treating, cracking, reforming gasoline prepn. and catalysis in general - Biosynthesis based on hydrocarbon feedstocks is included (C10G)
H5 Refinery engineering
H6 Gaseous and liquid fuels - incl. pollution control - Chemical aspects of catalytic exhaust systems for cars are included together with liquid or gaseous fuels of non-petroleum origin e. g. methanol or ethanol based fuels. Combustion improvement additives are included if for hydrocarbon fuels (C10L)
H7 Lubricants and lubrication - this excludes self-lubricating surfaces, e. g. PTFE coated surfaces, and lubrication systems in general. The section includes lubricants of non-petroleum origin e. g. silicone oils. (C10M)
H8 Petroleum products, other than fuels and lubricants - this includes hydraulic fluids and electrical oils even when of non-petroleum origin (F01M, F16N)
H9 Fuel products not of petroleum origin - this excludes coal preparation or mining but includes coking briquetting, peat processing and synthesis gas production. Combustion improvement additives for coal, peat and other non-hydrocarbon based fuels are included in this section together with coal liquefaction and desulphurisation.

J – Chemical engineering

Unit processes and/or plant for general application in chemical industries, but excluding processes and apparatus for specific applications. Approx. IPCs in brackets.

J1 Separation - including evaporation, crystallisation, solvent extraction,chromatography, dialysis, osmosis (except where specifically for treatment of water),treating incl. drying liquids, gases and/or vapours (but not removal of specific compounds from internal combustion exhaust), and sepn. of solids from gases liquids and solids; isotope separation, filter materials (including molecular sieves for separation), and centrifuges (except where used in analysis) (B01D, B03, B04, B07B)

J2 Mixing, crushing, spraying - including dispersing, pulverising, disintegrating, atomising and applying liquids other than paints to surfaces (B01F,B05BC)

J3 Electrochemical processes and electrophoresis - including ozone production, ozonisers, brine electrolysis, electrolysis of water, 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)

J4 Chemical/physical processes/apparatus - including catalysis, catalysts (including molecular sieves where appropriate but excluding specific e.g. enzymatic or polymerisation catalysts), colloid chemistry, laboratory apparatus and methods, testing, controlling, general encapsulation, detection and sampling. (B01JL)

J5 Boiling and boiling apparatus - including generation of steam unless for power plant. (B01B)

J6 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)

J7 Refrigeration; ice; gas liquefaction/solidification - including refrigeration machines, freezing of (semi)liquids, refrigerators, gas separation/liquefaction by cooling or pressure, fractionation of air (F25)

J8 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)

J9 Furnaces kilns, ovens, retorts - including furnace constructional details and accessories but only where of general application (F27)

K – Nucleonics, explosives, protection

Approx. IPCs in brackets.

K1 Fire-fighting, fire-extinguishing compsns. - excluding fire engines, sprinkler systems, hose reels and protective clothing (A62D with K2)

K2 Protection against chemical warfare, breathing apparatus - chemical aspects only (A62D with K1)

K3 Explosive charges; ammunition, fuses, blasting - only complete devices and excluding missile systems (F42)

K4 Explosives, matches - including detonators, chemical lighters, pyrophoric compositions, fireworks, distress signals, chemical lasers, smoke generation, gas attack compositions, generation of gas for blasting or propulsion but only their chemical aspects. (C06)

K5 Nuclear reactors and simulators - including reactor processes, components and accessories, but excluding power plant (G21BC)

K6 Nuclear power plant - including reprocessing used nuclear fuel (G21D)

K7 Health physics - including radiation protection (other than against sunlight), monitoring devices, decontamination, radioactive waste disposal and and protective clothing (G21F)

K8 Nucleonics; X-ray techniques - including conversion of chemical elements, neutrons, electron beams, cosmic radiation, nuclear explosives and plasma techniques other than electron beam or plasma welding methods and apparatus and X-ray films (G01T, G21GHJK, H05GH)

L – Refractories, ceramics, cement

Approx. IPCs in brackets.

L1 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)

L2 Refractories, ceramics, cement - includes manufacturing methods, limes, soil improvement 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)

L3 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 but not insulation, electric circuitry, or battery case designs.
Growing of single crystals of semiconductors and their doping are included but semiconductor devices of which the manufacture is not claimed are not.
Electrography, electrophotography, magnetography, electrolysis, electrophoresis, power plant, X-ray and plasma-techniques, ion-exchange resins, polyelectrolytes, electroplating, metal electro-deposition, 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)

M – Metallurgy

Approx. IPCs in brackets.

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 liq. metal or solution, spraying, cementation, gas plating and condensation, cathodic sputtering, enamelling and oil-free lubricant coatings but

not coatings for the production of semiconductors. (C23CD)

M14 Other chemical surface treatments - including etching, brightening, forming non-metallic layers, passivation, cathodic protection and corrosion inhibitors but not processes specifically for semi-conductor production (C23F,C25)

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, rivetting and chain making, 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 props. 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)

GENERAL and MECHANICAL – SECTIONS P, Q

Main Sections

General and Mechanical patents currently account for about 40% of the total, and are selected for inclusion in one or more of the following 15 sections based upon the International Patents Classification (IPC) shown in italics.

P – General

P1 Agriculture, food, tobacco – *A01 excl. n, A24*
P2 Personal, domestic – *A41–A47*
P3 Health, amusement – *A61–A63 excl. 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, F17*
Q7 Lighting, heating – *F21–F28, F41, F42*

Classes

The fifteen sections are broken down into 103 finer IPC-based classes so as to narrow the subject matter still further into finer profiles for alerting, SDI and scanning purposes.

Classification is made automatically by computer based on the IPCs on the specification or, where not present as for Research Disclosure items, on Derwent-assigned IPCs. Where a patent falls into more than one of the Sections P, Q, it will be placed in each, and may also occur in one or more of the chemical sections A–M or electrical sections R, S–X.

Unlike the chemical section classification, an equivalent may introduce a fresh P,Q class (which is then added to the master record) if it has a fresh IPC which is outside the range of IPCs covered by the classes already assigned to the patent family.

P – General

Human necessities; performing operations — all IPC A excl. A01n, A21–A23, A61k; All IPC B02–B44 excl. B29. All IPC G02, G03, G09, G10. In the list of classes below, the IPCs covered are shown in italics.

P1: Agriculture, food, tobacco

P11 Soil working; planting – *A01bc*
P12 Harvesting – *A01df*
P13 Plant culture; dairy products – *A01ghj*
P14 Animal care – *A01klm*
P15 Tobacco – *A24*

P2: Personal, domestic

P21 Wearing apparel – *A41, 2*
P22 Footwear – *A43*
P23 Haberdashery; jewellery – *A44*
P24 Hand, travelling articles – *A45, 6*
P25 Office furniture – *A47b*
P26 Chairs; sofas; beds – *A47cd*
P27 Shop; household; furnishings – *A47fgh*
P28 Kitchen, sanitary equipment – *A47jkl*

P3: Health, amusement

P31 Diagnosis; surgery – *A61b*
P32 Dentistry; bandages – *A61cdf*
P33 Medical aids, oral admin. – *A61ghj*
P34 Sterilising; syringes; electrotherapy – *A61lmn*
P35 Life-saving; fire-fighting – *A62*
P36 Sports; games; toys – *A63*

P4: Separating, mixing

P41 Crushing; centrifuging – *B02, 3, 4*
P42 Spraying; atomising – *B05*
P43 Sorting; cleaning; waste disposal – *B06, 7, 8, 9*

P5: Shaping metal

P51 Rolling, drawing, extruding – *B21bc*
P52 Metal punching, working, forging – *B21d–l*
P53 Metal casting; powder metallurgy – *B22*
P54 Metal milling, machining – *B23b–g*
P55 Soldering, welding metal – *B23k*
P56 Machine tools – *B23pq*

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*

Effective from Week 8009, the following section contains classes transferred from sections R2 and R3.

P8: Optics, photography, general

P81 Optics – *G02*
P82 Photographic apparatus – *G03b*
P83 Photographic processes, compsns. – *G03c*
P84 Other photographic – *G03d–h*
P85 Education; cryptography; adverts. – *G09*
P86 Musical instruments; acoustics – *G10*

Q – Mechanical

Mechanical engineering – all IPC B60–B68, E and F. In the list of classes below, the IPCs covered are shown in italics.

Q1: Vehicles in general

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 – *B60rs*
Q18 Brake-control systems – *B60t*
Q19 Air-cushion vehicles – *B60v*

C: Derwent Classification

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 – *B65bc*
Q32 Containers – *B65d01–37*
Q33 Closures – *B65d39–55*
Q34 Packaging elements, types – *B65d57–91*
Q35 Refuse collection; conveyors – *B65fg*
Q36 Handling thin materials – *B65h*
Q37 Container traffic – *B65j*
Q38 Hoisting; lifting; hauling – *B66*
Q39 Liqd. handling; saddlery, upholst. – *B67, 8*

Q4: Buildings, construction

Q41 Road, rail, bridge construction – *E01*
Q42 Hydraulic engineering; sewerage – *E02, 3*
Q43 Gen. building constructions – *E04b*
Q44 Structural elements – *E04c*
Q45 Roofing; stairs; floors – *E04df*
Q46 Building aids; special structures – *E04gh*
Q47 Locks; window, door fittings – *E05*
Q48 Blinds; shutters; ladders – *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 – *F02km*
Q54 Starting; ignition – *F02np*
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 – *F16df*
Q64 Belts; chains; gearing – *F16gh*
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 – *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 (WPI) – SECTION R

Electrical patents currently account for 25-30% of the total. Assignment of one or more of the five R sections is based solely and automatically upon the IPCs applied by the issuing patent offices.

Covers IPCs G01, G04 – G08, G11, G12 and the whole of IPC H.

In the list of classes given below, the IPCs covered are shown in italics.

R1: Measuring, testing

R11 Measuring, dimensions, bearings – *G01bc*
R12 Indicating, recording, instruments – *G01d*
R13 Measuring volume, weight – *G01fg*
R14 Measuring vibrations, light, temp. – *G01h–k*
R15 Statics, dynamics measurement – *G01lm*
R16 Investigating chem./phys. props. – *G01n*
R17 Measuring acceleration, shock – *G01p*
R18 Meas. electric/mag. variables – *G01r*
R19 Radio; nuclear radiation; weather – *G01s–w*

R2: Horology, Computing, Control

R21 Transferred to *P81* from Week *8009*
R22 Transferred to *P82*
R23 Transferred to *P83*
R24 Transferred to *P84*
R25 Horology – *G04*
R26 Controlling; regulating – *G05*
R27 Digital computers – *G06–f*
R28 Analogue computers; data register – *G06g–m*
R29 Checking devices – *G07*

R3: Display, recording

R31 Signalling – *G08*
R32 Transferred to *P85* from Week *8009*
R33 Transferred to *P86*
R34 Informtn. storage – moving record – *G11b*
R35 Informtn. storage – static stores – *G11cd*
R36 Instrument details – *G12*

R4: Basic electric elements

R41 Conductors; insulators; resistors – *H01bc*
R42 Magnets; transformers; capacitors – *H01fg*
R43 Switches – *H01h01–43*
R44 Relays; emergency protection – *H01h45–87*
R45 Discharge tubes, lamps – *H01jk*
R46 Semiconductor devices – *H01l*
R47 Batteries; waveguides; resonators – *H01mp*
R48 Aerials; current collectors – *H01qr*
R49 Emissive, spcl. devices, spark gaps – *H01stv*

R5: Electric power, communication

R51 Electric power circuits – *H02b–j*
R52 Dynamoelectric machines – *H02k*
R53 Converters; genrtr/motor control – *H02mnp*
R54 Basic electric circuitry – *H03b–j*
R55 Pulse technique – *H03kl*
R56 Transmission; broadcasting – *H04b–k*
R57 Telecommunication – *H04l–n*
R58 Sorting; transducers – *H04qrs*
R59 Other electric techniques – *H05*

11: ELECTRICAL PATENTS INDEX CLASSIFICATION

The EPI classes are assigned by Derwent according to the technical content as disclosed in the basic specification and take into account all the claims, particularly references to electrical applications even when the main subject matter is chemical or mechanical in nature.

Where any patent specification falls logically into more than one section of the EPI classification it will be included in each of these sections. Thus a patent involving a TV receiver line output transformer will be included in classes V2 and W3.

The sections are broken down into 50 well-defined classes. These are not intended to serve as a coding or retrieval tool, but to break down the subject matter simply and unambiguously into a number of profiles for alerting, SDI and scanning purposes.

All equivalents are regarded as falling within the same classes of Sections S-X as the parent basic document.

A guide to the main IPC class(es) corresponding to each EPI class is shown. In general, an asterisk indicates inclusion in the specified EPI class.

S: INSTRUMENTATION, MEASURING AND TESTING

S1: Electrical Instruments (G01r*, G12b*)
Measuring magnetic and electric variables.
Instrument panels, housings, indicating elements, screening, suspensions, damping.
Cooling arrangements.

S2: Engineering Instrumentation (G01b-h, l, m, p*)
Measuring dimensions, weight, flow rate, mechanical vibrations, force, acceleration, etc.
Recording equipment.
General testing methods.

S3: Scientific Instrumentation (G01j, k, n, t-w*)
Photometry, calorimetry.
Thermometers.
Meteorology, geophysics, measurement of nuclear or X-radiation.
Investigating chemical or physical props.

S4: Clocks and Timers (G04[illegible])
Electronic and mechanical clocks and watches.
Time switches.
Time-interval measuring.

S5: Electromedical (A61, A61n*, H05g)
Electrotherapy.
Electrosurgical appts.
Blood cell counters.
Electrical diagnostic appts.
Tomography.
Veterinary appts.

S6: Electrophotography (G03, G03g*)
Cameras, film projectors and processing (electrical aspects only).
Electrography, xerography.

T: COMPUTING AND CONTROL

T1: Digital Computers (G06c-f*, G11d*)
Electronic data processors, interfaces and programme control.
Mechanical digital computers.

T2: Analogue and Hybrid Computers (G06g, j*)
Function evaluators, equation solvers, simulators.

T3: Data Recording (G11b)
Digital magnetic and optical tape, disc, etc.

T4: Computer Peripheral Equipment (G06k*)
Card and tape punches and readers.
Serial and line printers.
VDUs. Character and graphics generators.
Pattern recognition, magnetic ink recognition, bar coders, COM equipment.

T5: Counting, Checking, Sorting (G06m*, G07b-g*)
Counting systems.
Ticket issuing, registering and franking appts.
Attendance registering appts.
Coin and paper currency handling.

T6: Process and Machine Control (G05b, d, g*)
Machine tool, press, lift and hoist control.
General control circuits. Automated assembly.

T7: Traffic Control Systems (G08g)
Traffic light systems: flow control.
Electronic indicators.

U: SEMICONDUCTORS AND ELECTRONIC CIRCUITRY

U11: Semicond. Matls. and Processes (C30b, H01l)
Materials, doping, depo[illegible]n, etching, masking.
Mounting, packaging, testing.

U12: Discrete Devices (H01l)
Diodes, photodiodes, LEDs, Zener diodes, semiconductor lasers.
Bipolar and field effect transistors, thyristors.
Solar cells. Hall effect devices.

U13: Integrated Circuits (H01l)
Uni- and bi-polar analogue and digital circuits.
Charge transfer devices.

U14: Memories and Hybrid Circuits (G11c*, H01l)
Semiconductor, magnetic bubble and magnetic core memories.
Thick and thin film circuits. Surface acoustic wave devices.
Josephson effect and thermoelectric devices.
Liquid crystal displays.
Electroluminescent light sources.

U21: Logic Circuits and Coding (H03k)
Basic logic circuits, e.g. AND-gates.
A/D and D/A conversion.
Delta modulation, coding, code conversion, error detection and correction.
Pulse counters, frequency conversion.

U22: Pulse Generation and Manipulation (H03k, l)
Rectangular wave oscillators, pulse generators.
Pulse shapers.
Digital waveform synthesisers.
PAM, PPM, PFM, PDM and demodulation.
Digital filters.

U23: Oscillation and Modulation (H03b-d*, H03l)
Oscillators, mixers.
Amplitude and angle (de) modulation.
Frequency and phase comparators.

U24: Amplification (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.

U25: Impedance Networks and Tuning (H03h, H03j*)
Tone or bandwidth control. Equalisers.
Analogue filters.
Voltage dividers.
Tuners.
AFC.

V: ELECTRONIC COMPONENTS

V1: Resistors and Capacitors (H01c, g)
Low power fixed and variable devices.
Thermistors.
VDRs.

V2: Inductors and Transformers (H01f)
Low power transformers, magnets, cores, coils, housings.

V3: Switches, Relays (H01h)
Low power switches and relays.
Thermally or magnetically operated switches.

11: ELECTRICAL PATENTS INDEX CLASSIFICATION (cont)

V4: Printed Circuits and Connectors (H01r, H05k)
PCBs and mountings.
Low power connectors, plugs, sockets, terminals, edge connectors.
Insulation strippers. Component lead shaping appts.

V5: 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.

V6: Electromechanical Transducers (H04r, H03h, H02k)
Piezo-electric devices, quartz resonators.
Electro- and magneto-strictive devices.
Microphones, pick-ups, loudspeakers, earpieces.
Moving coil and moving iron transducers.
Electrostatic and variable resistance transducers.
Small electric motors.

V7: Fibre Optics (G02b,f)
Light guides.
Connectors, couplers, mode selectors, polarisers.
Switching, gating, modulating etc.

V8: Lasers and Masers (H01s*)
Laser and maser devices.
Pumping and mode locking circuits.

W: COMMUNICATIONS

W1: Telephony and Telegraphy (H04l,m,q*)
Exchanges, call metering, test equipment, equipment racks.
Subscriber equipment.
Telephone line and cable installation.

W2: Broadcasting and Transmission (H01p,q*, H04, H04k*)
Aerials, waveguides, resonators and other microwave components.
Transmitters, transceivers, transponders.
Communication receivers.
Line transmission systems, e.g. cable TV.
Diversity systems.
IR or ultrasonic wave transmission systems.
Secret communication, jamming.
Facsimile.
Colour and stereoscopic TV systems.
Stereophonic systems.

W3: Radio and TV Receivers (H04)
AM/FM/SW radio receivers.
B/W and colour TV receivers.
Teletext.
Remote control.

W4: Audio/video Rec. and Reprod. (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.
Studio equipment e.g. TV cameras, video mixers, projection appts.
Video tape and disc recording and reproduction.
Video games. Electronic educational appts.

W5: Signalling and Alarms (G08b,c*)
Burglar and fire alarms.
Personal calling arrangements, mechanical indicators.
Signal transmission systems.
Advertising arrangements (electrical aspects).

W6: Aviation and Marine Systems (G01s*)
Radar. Velocity and depth measuring equipment.
Airport control systems.
Ship and aircraft lighting and instrumentation.
Generators and control systems.
Flight simulators.

W7: Weapons Guidance Systems (F41)
Target indicating systems.
Sighting devices.
Missile direction control.
Military training equipment.
Arming and safety devices.

X: ELECTRIC POWER ENGINEERING

X11: Power Generation (H02k,n)
Power generating prime movers.
Dynamo-electric and MHD generators.
Electric motors.

X12: Power Distribution (H01b*, H01t, H02)
Power and communication cables.
Cryogenic conductors.
Installing power cables and lines.
Power transformers, reactors.
Arcing horns. Insulators.
Power converters.

X13: Control Equipment (H02b*, H02h,p)
Motor and generator control.
Switchboards, switchyards, switchgear.
Circuit protectors, circuit breakers, fuses.

X14: Nuclear Power Generation (G21, H05h)
Nuclear reactors and power plant.
Control mechanisms.

X15: Solar, etc. Power Generation (F03d, F24j)
Wind, wave and solar energy driven power generators and control equipment.

X16: Electric Storage (H01m*)
Primary, secondary and fuel cells and batteries.
Battery chargers.
Electric energy storage in hydraulic or pneumatic energy form.
Electric storage heaters and control circuitry.

X21: Electric Vehicles (B60l)
Electric cars, trolley buses.
Propulsion, braking. Power supply lines, current collectors.
Control equipment.

X22: Automotive Electrics (F02p)
Vehicle lighting.
IC engine ignition.
Speed, fuel injection and exhaust control systems.
Starting motors and generators.
Instrumentation.

X23: Electric Railways and Signalling (B61)
Propulsion, power distribution, signalling, control.

X24: Electric Welding (B23k)
Electric soldering.
Arc, induction, electron beam, laser beam and HF welding.
Electroerosion.

X25: Industrial Electric Equipment (H05b, F27)
Electric furnaces and kilns.
Resistance, induction, electric discharge and e.m. field heating.
Electrochemical processes.
Electrostatic spraying and cleaning.
Vibrating appts.
Electrolytic processes.
Electro-refining metals.
Electrically powered tools.
Industrial drying equipment.
Ore separating magnets.
Magnetic work holders. Lifting magnets.
Sewing machines.

X26: Lighting (F21, H01j, H01k*)
Discharge, incandescent and electric arc lamps.
Operating and control equipment.
Portable lighting devices.
Stage lighting equipment.

X27: Domestic Appliances (A47, F24)
Washing machines, driers, irons.
Vacuum cleaners.
Electric cookers, microwave ovens.
Kitchen equipment.
Refrigerators. Water heaters. Space heating and air conditioning equipment.
Electric razors.

二 CPI系统代码分类表及其索引

（一）《CPI代码分类手册》使用说明

本代码分类表只适用于WPI类表中的A—M部类，对机械、一般和电气电子类并不适用。

本分类系统的结构和一般国家专利局的分类系统相近似，但对化学类、聚合物类特别重视。

本手册在化学方面共有4398个分类代码，包括催化剂（N）部类。每一代码平均每年拥有专利文献50件。

本手册第一部分为按类排列的CPI系统全部分类代码；第二部分是它的关键词索引，便于检索时参考。

1 CPI分类代码

（1）文摘与代码分类：在BAJ（基本专利文摘杂志）中，每一条基本专利文摘的右上方记载该专利适用的有关分类代码。平均每条专利有三个不同的分类代码。

（2）代码分类索引：在BAJ文摘周刊中，每期附有分类代码索引，只适用于各现期BAJ周刊。它上面有代码、有关文字说明和当期各代码有关各国专利文献。

（3）格式：CPI代码分类表在结构和使用原则上和EPI代码分类表一致。可参照EPI代码类表使用说明。

（4）过期代码：本手册中凡有括号的代码，说明它们已经不再使用。但如认为它们与需要切题，仍可检索。

2 CPI代码类表关键词索引

本索引的主要作用是通过本索引关键词找出适当的分类代码，迅速地从分类角度得到相关专利文献。使用本索引时应当注意参考代码类表中的许多说明语，以便准确地掌握应用时期和使用的限度等。

代码从1978年的第一周开始实行。

本索引中的每一词条由代码和关键词两部分组成；代码置于相关关键词的前面，整个索引按关键词字顺排列。一级关键词第一个字母大写，二级关键词都是小写体，同时，在相关一级词之下，向右缩进两字顺排。

代码后面有“+”号者，说明对这个代码的检索要扩大到它的二级词。例如，“A12—A5+”，意思是检索代码A12—A5的同时，还应当检索它的二级代码5A到5F。

当代码之后有“：”号时，表示此代码现在已不再使用，应当用它的二级代码如1A和1B进行检索。

代码开头有大写“B”时，检索时应包含代码“C”的内容；开头是“B”，它的下方又有一横，如“B”，说明在检索时还要包含代码“E”的内容。