

STN[®]

Patent Classification in the World
Patents Index

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21.04.2009

Agenda

- Overview of patent classification systems
- International Patent Classification (IPC)
- National/Regional Classification Systems
 - European Classification (ECLA)
 - US National Classification (NCL)
 - Japanese File Index (FI)
 - Japanese File Forming Terms (F-Terms)
- Derwent Classification

What is Patent Classification?

- A patent classification system is a formalized way to describe the contents of patent documents
 - hierarchical
 - alphanumerical code ('symbol')
 - designed to facilitate retrieval by content

Why use Patent Classification?

- Patent Classification
 - provides a concise subject code for the technology described in a patent document
 - breaks down patentable technology into manageable units
 - is independent of language and wording

Why use Patent Classification? (cont'd)

- The classification symbol
 - represents a searchable identifier for patents grouped together according to similarity of claimed subject matter
 - allows to gradually adjust precision by following the hierarchy in either direction
 - is assigned by the examiner, not the applicant

How to use Patent Classification?

(1) Identify the appropriate classification system(s)

- depending on the documents of interest, not all classification systems may be applicable
- different classification systems offer different degrees of detail

How to use Patent Classification?

(2) Identify the appropriate classification symbols

- use the online thesaurus (s.IPC)
- research on patent offices' websites
- ANALYZE answer sets (s.IPC)

How to use Patent Classification?

Researching Patent Offices' Websites

- Most patent offices offer web-based tools to navigate and search 'their' classification system

IPC <http://www.wipo.int/classifications/ipc/ipc8/?lang=en> (EN, FR)
<http://depatisnet.dpma.de/ipc/> (DE)

ECLA http://v3.espacenet.com/eclasrch?locale=en_EP (EN, DE, FR)

USPC <http://www.uspto.gov/go/classification/> (EN)

JP FI+ http://www5.ipdl.inpit.go.jp/pmgs1/pmgs1/pmgs_E (JP, EN)

FTERM

Thomson Reuters (Scientific) Classification

<http://www.uspto.gov/go/classification/> (EN)

http://www.stn-international.com/fileadmin/be_user/STN/pdf/search_materials/patents/derwentclass.pdf (EN)



How to use Patent Classification?

(3) Use classification symbols or ranges to complete your search strategy.

- use classification symbols as catchall for different languages, spellings and synonyms
- use classification symbols to minimize false hits and defuse homonyms
- ANALYZE the technological focus of an answer set

How to use Patent Classification?

1) Catchall Functionality (OR)

Search Question:

We're looking for vehicle headlights.

How to use Patent Classification?

1) Catchall Functionality (OR)

```

=> s headlight# or head(W)light# or headlight#
or head(W)lamp# or frontlight# or frontlight#
or mainlight# or main(W)light# or mainlight#
(2A) (automobile# or vehicle# or car#)
or vehicular(W)anterior(W)illumina

```

Keyword searching alone missed (e.g.):

- fog lights
- search lights
- projectors
- illuminators
- light units
- ...

```

L1          48220 HEADLIGHT# OR HEAD (W) LIGHT# OR HEADLIGHT#
              HEAD (W) LAMP# OR FRONTLIGHT# OR FRONTLIGHT#
              ...

=> s l1 or B60Q0001-04+NT/IPC or B60Q0001-04?/ECLA or
X22-B01+NT/MC

L2          52649 L1 OR B60Q0001-04+NT/IPC or B60Q0001-04?/ECLA or X22-
              B01+NT/MC

```

How to use Patent Classification?

2) Removing False Hits (AND)

This part of our above search strategy

...(lamp# or light#) (2A) (automobile# or vehicle# or car#)...

will retrieve:

L2 ANSWER X OF 52649 WPIINDEX COPYRIGHT 2009 THOMSON REUTERS on STN
USE. . . . lamp used as front illuminating lamp of vehicles.

L2 ANSWER X OF 52649 WPIINDEX COPYRIGHT 2009 THOMSON REUTERS on STN
TI. . . high-intensity discharge vehicle lamp, has mounting module connected. . .

L2 ANSWER X OF 52649 WPIINDEX COPYRIGHT 2009 THOMSON REUTERS on STN
NOV NOVELTY - The motor vehicle driving light device has a driving light.. . .

How to use Patent Classification?

2) Removing False Hits (AND)

...(lamp# or light#) (2A) (automobile# or vehicle# or car#)...

but also:

L2 ANSWER X OF 52649 WPINDEX COPYRIGHT 2009 THOMSON REUTERS on STN
 TI Vehicle rear light has reflectors and plates which . . .

L2 ANSWER X OF 52649 WPINDEX COPYRIGHT 2009 THOMSON REUTERS on STN
 NOV. . . . a roof carrier of the vehicle. A UV lamp is installed inside the housing.

L2 ANSWER X OF 52649 WPINDEX COPYRIGHT 2009 THOMSON REUTERS on STN
 TI Display device for motor vehicle, has light-guide plate having lens that guides. . .

L2 ANSWER X OF 52649 WPINDEX COPYRIGHT 2009 THOMSON REUTERS on STN
 TI. . . drum brake apparatus for light vehicle e.g. bicycle, wheelchair has elastic. . .

How to use Patent Classification?

2) Removing False Hits (AND)

Adding a classification range

...((lamp# or light#) (2A) (automobile# or vehicle# or car#) and B60Q0001-04+NT/IPC)...

Removes hits that are not classified as headlights.

L2 ANSWER X OF 52649 WPINDEX COPYRIGHT 2009 THOMSON REUTERS on STN

TI **F21V0029-00** has reflectors and plates which . . .

L2 ANSWER X OF 52649 WPINDEX COPYRIGHT 2009 THOMSON REUTERS on STN

NOV. . . . a roof carrier of the **B60H0003-00** is installed inside the housing.

L2 ANSWER X OF 52649 WPINDEX COPYRIGHT 2009 THOMSON REUTERS on STN

TI Display device for motor **B60K0035-00** guide plate having lens that guides. . .

L2 ANSWER X OF 52649 WPINDEX COPYRIGHT 2009 THOMSON REUTERS on STN

TI. . . drum brake apparatus f **F16D0051-00** . bicycle, wheelchair has elastic. . .

How to use Patent Classification?

2) Removing False Hits (AND)

...((lamp# or light#) (2A) (automobile# or vehicle# or car#) and B60Q0001-04+NT/IPC)...

CAVEAT:

Removing hits always harbors the risk of losing relevant results!

B60Q0001-22 (lights) for reverse drive
B60Q0001-24 (lights) for lighting other areas than only the way ahead
H01K0007-02 (lamps) for producing a narrow beam of light, ...
i.e. searchlights

are not covered by B60Q0001-04+NT, but may prove relevant.

How to use Patent Classification?

3) Homonym Disposal (AND)

Search Question:

We're looking for vehicle antilock braking systems.

How to use Patent Classification?

3) Homonym Disposal (AND)

```
=> s (((antilock or anti(w)lock)
      (2a)brak?(2a)system#) or abs)/ti,ab
```

```
L3      18877  (((ANTILOCK OR ANTI(W) LOCK) (2A) BRAK? (2A) SYSTEM# . . .
```

```
=> s L3 and B60T/ipc
```

```
L4      2928  L3 AND B60T/IPC
```

B60T

VEHICLE BRAKE CONTROL SYSTEMS OR PARTS THEREOF; BRA
of electrodynamic brake systems B60L 7/00; conjoint control of brakes and othe
ELEMENTS ON VEHICLES IN GENERAL; PORTABLE DEVICES FOR
MODIFICATIONS TO FACILITATE COOLING OF BRAKES [1.81

```
=> s l3 not l4
```

```
L5      15949  L3 NOT L4
```

L5 ANSWER X OF 52649 WPINDEX COPYRIGHT 2009 THOMSON REUTERS on STN
NOV. . . . (PA66) or acrylonitrile butadiene styrene (ABS) plastic.

L5 ANSWER X OF 52649 WPINDEX COPYRIGHT 2009 THOMSON REUTERS on STN
USE. . . . (I) comprises neutralising egg yolk antibodies (ABs) specific for the infectious
agent. . .

How to use Patent Classification?

4) Analyzing answer sets

Search Question:

What's the technological focus of
Novo Nordisk AS?

(Portfolio Analysis)

How to use Patent Classification?

4) Portfolio Analysis

=> s novo-c/paco

L1 3429 NOVO-C/PACO

=> ana l1 mc len 7

L2 ANALYZE L1 1- MC LEN 7 : 1628 TERMS

=> d

L2 ANALYZE L1 1- MC LEN 7 : 1628 TERMS

TERM #	# OCC	# DOC	% DOC	MC	DEF
1	1310	706	20.59	D05-H12	DEF DNA, CDNA, TRANSFER VECTORS, RNA
2	806	678	19.77	D05-H17	DEF RECOMBINANT PROTEIN/POLYPEPTIDE PRODUCTIO
3	753	665	19.39	D05-A02	DEF OTHER ENZYME PROCESS
4	699	615	17.94	D05-H14	DEF RECOMBINANT CELLS
5	501	482	14.06	D05-C03	DEF ENZYMES BY FERMENTATION
6	451	280	8.17	B14-J01	DEF CNS ACTIVE DRUGS
7	432	380	11.08	B04-C01	DEF POLYPEPTIDES (GENERAL)

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 - Japanese File Forming Terms (F-Terms)
- Derwent Classification

The International Patent Classification 21

IPC

- Introduced in 1968
- Used by >100 patent authorities
 - Most widely used classification system
 - CORE and ADVANCED-level
- Hierarchical
 - non-expressive
- Revised on a regular basis
 - Reclassification of existing documents

The International Patent Classification

IPC

22

- Format
 - Alphanumerical code

A	NN	A	NNNN	/	NNNNN
Section	Class	Subclass	Group		Subgroup

The International Patent Classification

IPC

23

- Format
 - Sections



- **A** Human Necessities
- B** Performing Operations, Transporting
- C** Chemistry; Metallurgy
- D** Textiles; Paper
- E** Fixed Constructions
- F** Mechanical Engineering; Lighting Heating; Weapons; Blasting
- G** Physics
- H** Electricity

The International Patent Classification

24

IPC

- Format
 - Example

(19) World Intellectual Property Organization International Bureau		
(43) International Publication Date 24 April 2008 (24.04.2008)	PCT	(10) International Publication Number WO 2008/046897 A
(51) International Patent Classification: B65D 83/14 (2006.01) B65D 83/16 (2006.01)		DesignBureau Geiberger, Eduard-Rhein-Str. Konigswinter (DE).
(21) International Application Number: PCT/EP2007/061173		(74) Agents: WALKER, Ralph, Francis et al.; G line, Corporate Intellectual Property (CN925. West Road, Brentford Middlesex TW8 9GS (

B 65 D 83 / 14

Performing
Operations,
Transporting

Conveying, packing,
storing, handling thin
or filamentary
material

Containers for
storage or transport
of articles or
materials, e.g. bags,
barrels, bottles, (...)

Containers or
packages with
special means for
dispensing contents

for delivery of liquid
or semi-liquid
contents by internal
gaseous pressure,
i.e. aerosol
containers (...)

Searching with IPC codes Format

```
=> S B65D83/14/IPC
L1      6157 B65D83/14/IPC
          (B65D0083-14/IPC)
```

```
=> S B65D83-14/IPC
L2      6157 B65D83-14/IPC
          (B65D0083-14/IPC)
```

```
=> S B65D0083-14/IPC
L3      6157 B65D0083-14/IPC
```

```
=> S B65D008314/IPC
L4      0 B65D008314/IPC
```

```
=> S B65D8314/IPC
L5      0 B65D8314/IPC
```

For searching STN, IPC-codes are used full-length; the system accepts and automatically resolves different input formats.

Not all formats are accepted, though.

Searching with IPC codes

Truncation

=> S B65D/IPC

L6 319413 B65D/IPC

=> S B65D0083/IPC

L7 27650 B65D0083/IPC

=> S B65D83/IPC

L8 0 B65D83/IPC

IPC symbols are automatically truncated at the subclass and the group level.

For group level truncation, the IPC code has to be used full length (8 digits).
(Automatic truncation works only if the symbol stem is unambiguous.)

Searching with IPC codes Utilizing the Online Thesaurus

Search Question:

What classification symbols are used to describe antilock braking systems?

Searching with IPC codes

Utilizing the Online Thesaurus

=> e abs/ipc

Step 1: Expand a keyword of interest in the /IPC-field.

E#	FREQUENCY	AT	TERM
--	-----	--	----
E1	0	1	ABRASIVE(S) * SELECTION OF ABRASIVE(S) PARTICLES FOR B LASTING/IPC
E2	0	1	ABRASIVE(S) * SOAPS AND DETERGENTS CONTAINING ABRASIVE (S)/IPC
E3	0	-->	ABS/IPC
E4	0	1	ABS (ANTILOCK BRAKING SYSTEM)/IPC
E5	0	1	ABSORBENTS/IPC
...			

Searching with IPC codes

Utilizing the Online Thesaurus

=> e abs/ipc

E#	FREQUENCY	AT	TERM
--	-----	--	----
E1	0	1	ABRASIVE (S) * SELECT LASTING/IPC
E2	0	1	ABRASIVE (S) * SOAPS AND DETERGENTS CONTAINING ABRASIVE (S)/IPC
E3	0	-->	ABS/IPC
E4	0	1	ABS (ANTILOCK BRAKING SYSTEM)/IPC
E5	0	1	ABSORBENTS/IPC
...			

Step 2:

Expand a suitable result (E#) using the relationship code KT (keyword terms).

=> e e4+kt

E1	0	-->	ABS (Antilock Braking System)/IPC
E2	305	KT	B60T0008-176/IPC
***** END *****			

Type HELP RCODE to learn about the relationship codes available.

Searching with IPC codes

Utilizing the Online Thesaurus

=> e e2+all

```
E1      0    BT6    B/IPC
          SECTION B - PERFORMING
E2      0    BT6    TRANSPORTING/IPC
E3      0    BT5    B6/IPC
E4      0    BT4    B60/IPC
```

VEHICLES IN GENERAL

Note

(1) In this class, the following term is used with the meaning indicated:

- "vehicle" means all vehicles except those restricted to one of the following types of vehicles: rail vehicles, waterborne vessels, aircraft, space vehicles, hand carts, cycles, animal-drawn vehicles, and sledges, which are covered by the relevant subclass B64.

(a) Thus the term "vehicle" includes
#3# vehicular characteristics other than one of the above-listed types

#3# certain characteristics restricted to automobiles,

Step 3:

Expand the resulting IPC symbol with a relationship code of your choice (ED, NT, HIE, ALL...).

The relationship code ALL results in a rather lengthy display.

Searching with IPC codes

Utilizing the Online Thesaurus

...			limiting or varying distribution of braking force (by changing number of effective I brake systems B60T0017-10) CORE VALID FROM 19680901 TO PRESENT
E7	10765	BT1	B60T0008-17/IPC . Using electrical or electronic regulation means to control braking CORE VALID FROM 20060101 TO PRESENT (IPC EDITION: 8) Note (1) When classifying in group B60T0008-17, classification is also made in appropriate places in groups B60T0008-18, B60T0008-24, B60T0008-26 or B60T0008-32 if other aspects than electronic control are of interest.
E8	305	-->	B60T0008-176/IPC . . Brake regulation specially adapted to prevent excessive wheel slip during vehicle deceleration, e.g. ABS (B60T0008-1755 takes precedence) ADVANCED VALID FROM 20060101 TO PRESENT (IPC EDITION: 8)

The relationship code ALL results in a rather lengthy display.

Searching with IPC codes

Utilizing the Online Thesaurus

E9	2351	NT1	B60T0008-1761/IPC . . . responsive to wheel or slip, wheel acceleration or fluid pressure ADVANCED VALID FROM 20060101 TO PRESENT (IPC EDITION: 8)	Sub-classification is denoted with the relationship code NT (narrower terms).
E10	968	NT1	B60T0008-1763/IPC . . . responsive to the coefficient of friction between the wheels and the ground surface (B60T0008-1764 takes precedence) ADVANCED VALID FROM 20060101 TO PRESENT (IPC EDITION: 8)	
E11	649	NT1	B60T0008-1764/IPC . . . Regulation during travel on surface with different coefficients of friction, e.g. between left and right sides, mu-split ADVANCED VALID FROM 20060101 TO PRESENT (IPC EDITION: 8)	
E12	628	NT1	B60T0008-1766/IPC . . . Proportioning of brake forces according to vehicle axle loads, e.g. front to rear of vehicle ADVANCED	

Searching with IPC codes

Utilizing the Online Thesaurus

```

VALID FROM 20060101 TO PRESENT ( IPC EDITION: 8 )
E13      207      NT1      B60T0008-1769/IPC
          . . . specially adapted for ve
          one driven axle, e.g. four-wh
          ADVANCED
          VALID FROM 20060101 TO PRESENT ( IPC EDITION: 8 )
***** END *****

```

Step 4: SEARCH
using E# and
relationship
codes.

=> s e8+nt,core

L1 10765 B60T0008-176+NT,CORE/IPC (7 TERMS)

=> d ti ...

Relationship codes can be
used for searching as well.

```

L1 ANSWER 1 OF 10765 WPINDEX COPYRIGHT 2009 THOMSON REUTERS on STN
TI Braking force control apparatus for hybrid vehicle, has control unit that...

```

```

L1 ANSWER 10 OF 10765 WPINDEX COPYRIGHT 2009 THOMSON REUTERS on STN
TI Vehicle control apparatus e.g. anti-lock brake system (ABS) for...

```

Searching with IPC codes

Utilizing the Online Thesaurus

- Step 1: Expand a keyword of interest in the /IPC-field.
- Step 2: Expand a suitable result (E#) using the relationship code KT (keyword terms).
- Step 3: Expand the resulting IPC symbol with a relationship code of your choice (ED, NT, HIE, ALL...).
- Step 4: SEARCH using E# and relationship codes.

Searching with IPC codes

Analyzing answer sets

Search Question:

What classification symbols are used to describe laser welding techniques?

Searching with IPC codes

Analyzing answer sets

Step 1. Produce a highly significant answer set

=> `s (laser and welding)/ti`

`193917 LASER/TI`

`107852 WELDING/TI`

`L1 6070 (LASER AND WELDING)/TI`

The enhanced titles in WPI offer an excellent way to produce relevant answer sets instantaneously.

Searching with IPC codes

Analyzing answer sets

=> ana l1 ipc

L2 ANALYZE L1 1- IPC :

Step 2.

Analyze the
answer set for
the
classification
used

=> d

L2 ANALYZE L1 1- IPC : 3643 TERMS

TERM #	# OCC	# DOC	% DOC	IPC
1	6667	3540	58.32	B23K0026-00
2	2478	2319	38.20	B23K0026-20
3	1512	721	11.88	B23K0026-06
4	1284	546	9.00	B23K0026-14
5	1206	566	9.32	B23K0026-08

Searching with IPC codes

Analyzing answer sets

=> e B23K0026-00+NT/IPC

Step 3.

Review the
top result(s) in
the thesaurus

E1	25277	-->	B23K0026-00/IPC Working by laser beam, e.g. welding , cutting, boring (lasers H01S0003-00) CORE ←
			VALID FROM 19740701 TO PRESENT (IPC EDITION: 2-8)
E2	3712	NT1	B23K0026-02/IPC . Positioning or observing the workpiece, e.g. with respect to the point of impact; Aligning, aiming or focusing the laser beam CORE
			VALID FROM 19800101 TO PRESENT (IPC EDITION: 3-8)
E3	1507	NT2	B23K0026-03/IPC . . Observing the workpiece ADVANCED
			VALID FROM 20000101 TO PRESENT (IPC EDITION: 7-8)
E4	2795	NT2	B23K0026-04/IPC

Searching with IPC codes

Analyzing answer sets

E14	4696	NT1	<p>VALID FROM 19800101 TO PRESENT (IPC EDITION: 3-8)</p> <p>B23K0026-20/IPC</p> <p>. Bonding, e.g. welding (soldering by means of radiant energy B23K0001-005; joining of preformed plastic parts by heating using laser beam B29C0065-16)</p> <p>ADVANCED ←</p>
E15	201	NT2	<p>VALID FROM 20000101 TO PRESENT (IPC EDITION: 7-8)</p> <p>B23K0026-22/IPC</p> <p>. . Spot welding</p> <p>ADVANCED</p>
E16	687	NT2	<p>VALID FROM 20000101 TO PRESENT (IPC EDITION: 7-8)</p> <p>B23K0026-24/IPC</p> <p>. . Seam welding</p> <p>ADVANCED</p>
E17	415	NT3	<p>VALID FROM 20000101 TO PRESENT (IPC EDITION: 7-8)</p> <p>B23K0026-26/IPC</p> <p>. . . of rectilinear seams</p> <p>ADVANCED</p> <p>VALID FROM 20000101 TO PRESENT (IPC EDITION: 7-8)</p>

Searching with IPC codes

Analyzing answer sets

E18	339	NT3	B23K0026-28/IPC . . . of curved planar seams ADVANCED VALID FROM 20000101 TO PRESENT (IPC EDITION: 7-8)
E19	40	NT3	B23K0026-30/IPC . . . of three-dimensional seams ADVANCED VALID FROM 20000101 TO PRESENT (IPC EDITION: 7-8)
E20	1211	NT2	B23K0026-32/IPC . . taking account of the properties of the material ADVANCED VALID FROM 20000101 TO PRESENT (IPC EDITION: 7-8)
E21	1026	NT1	B23K0026-34/IPC ← . Welding for purposes other than joining e.g. build-up welding ADVANCED VALID FROM 20000101 TO PRESENT (IPC EDITION: 7-8)
E22	1224	NT1	B23K0026-36/IPC . Removing material

Searching with IPC codes

Analyzing answer sets

Step 4. Use relationship codes for perfect retrieval

=> s (laser# (2a) (weld? or bond?)) or
 (laser# and (weld? or bond?) and B23K/IPC) or
 B23K0026-20+NEXT7,CORE/IPC

L9 32063 (LASER# (2A) (WELD? OR BOND?)) OR
 (LASER# AND (WELD? OR BOND?) AND B23K/IPC,ECLA) OR
 B23K0026-20+NEXT7,CORE/IPC

Searching with IPC codes

Analyzing answer sets

- Step 1. Produce a highly significant answer set
- Step 2. Analyze the answer set for the classification used
- Step 3. Review the top result(s) in the thesaurus or on the website
- Step 4. Use relationship codes for perfect retrieval

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- Derwent Classification

The European Classification

ECLA

- Introduced 1975
- Assigned exclusively by the EPO
 - very consistent use
- Extension of the IPC
 - highly detailed
- Assigned to ~30M documents
- Revised on a regular basis
 - Reclassification of existing documents

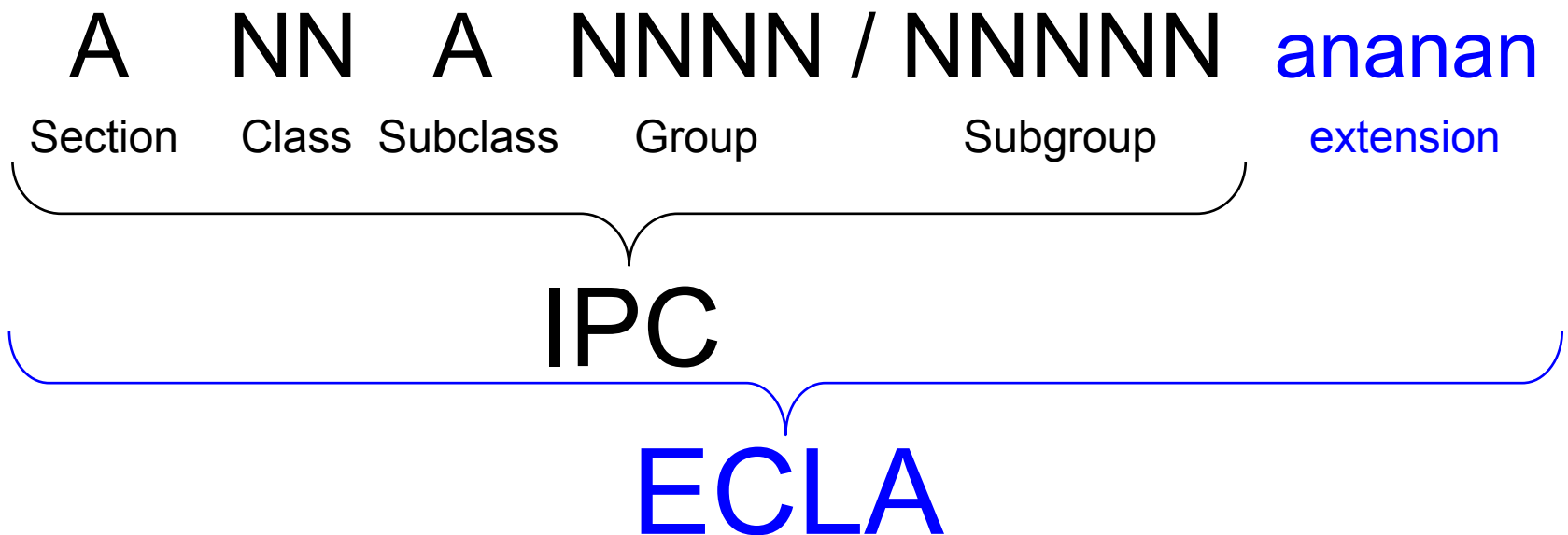
- Classifying all new inventive concepts, whether claimed or not
 - Emphasis on function rather than application
 - single specific use preceeds
- Additional information may be indexed
 - Originally indexed via ECLA
 - Moving toward using ICO for this information

Type [HELP ECLA](#) to be directed via a hyperlink to an up-to-date PDF file of ECLA definitions and hierarchy.

The European Classification

ECLA

- Format
 - IPC + extension



The European Classification ECLA

=> s B23K0026-00?/ecla

L1 942 B23K0026-00?/ECLA

=> d hit 1-5

L2 ANSWER 1 OF 942 WPINDEX COPYRIGHT 2009 THOMSON REUTERS on STN
EPC B23K0026-00J; B23K0026-03; B23K0026-08L; B23K0031-00

[N: for surface treatment (laser shock processing C21D10/00L)] [N0701]

B23K26/00J

L2 ANSWER 2 OF 942 WPINDEX COPYRIGHT 2009 THOMSON REUTERS on STN
EPC B23K0026-00F3; B23K0026-00J; B23K0026-08E4

[N: Semiconducting material]

B23K26/00F3

L2 ANSWER 3 OF 942 WPINDEX COPYRIGHT 2009 THOMSON REUTERS on STN
EPC B23K0026-00F4; B23K0026-02C

[N: Non-metallic material, isolators (B23K26/00F2 and B23K26/00F3 take precedence)]

B23K26/00F4

L2 ANSWER 4 OF 942 WPINDEX COPYRIGHT 2009 THOMSON REUTERS on STN
EPC B23K0026-00J2C; B23K0026-03; B23K0033-03; B23K0048-00

[N: for surface treatment (laser shock processing C21D10/00L)] [N0701]

B23K26/00J

[N: Modifying rugosity] [N0701]

B23K26/00J2

L2 ANSWER 5 OF 94

[N: Diminishing rugosity, e.g. grinding; Polishing; Smoothing] [N0701]

B23K26/00J2C

EPC B23K0026-00; H

[N: Increasing rugosity, e.g. roughening] [N0701]

B23K26/00J2E

[N: Texturing] [N0701]

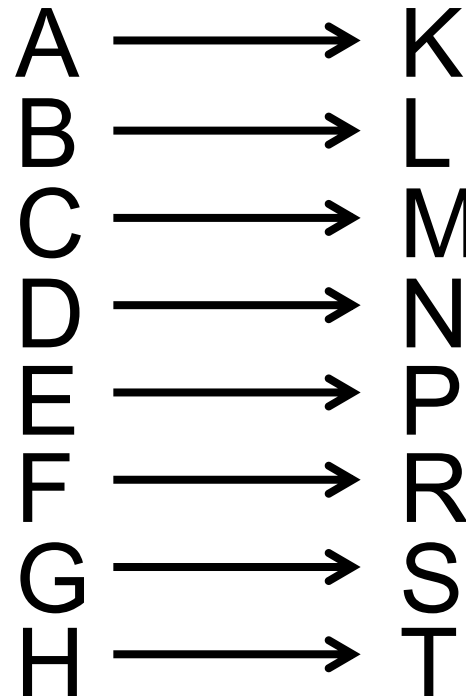
B23K26/00J7

The European Classification ICO

- In Computer Only
 - Internal EPO indexing tool
 - Introduced in the mid-1990s
- 'ECLA for side aspects'
 - Used for minor aspects
 - Same as the ECLA + experimental codes
 - For characteristics not covered by ECLA codes
 - Only in combination with ECLA
 - Non-obligatory

The European Classification ICO

- Format
 - ECLA, section codes shifted



The European Classification ICO

=> s L23K0026-00?/ico

L6 41 L23K0026:00?/ICO

=> d hit 1-5

L6 ANSWER 1 OF 41 WPINDEX COPYRIGHT 20
ICO L23K0015:00; L23K0026:00; L23K0101:0

The ICO-definitions are available in PDF-format for download in the INPADOCDB, INPAFAMDB and EPFULL file entry banners.

L6 ANSWER 2 OF 41 WPINDEX COPYRIGHT 2009 THOMSON REUTERS on STN
ICO L23K0026:00C20B2

L6 ANSWER 3 OF 41 WPINDEX COPYRIGHT 2009 THOMSON REUTERS on STN
ICO L22F0998:10+B22F9/08B+B22F1/00B; L23K0026:00; R02B0275:18

L6 ANSWER 4 OF 41 WPINDEX COPYRIGHT 2009 THOMSON REUTERS on STN
ICO L23K0026:00; S11B0005:60D1

L6 ANSWER 5 OF 41 WPINDEX COPYRIGHT 2009 THOMSON REUTERS on STN
ICO L23K0026:00C40; L23K0026:00D4

Agenda

- Overview of patent classification systems
- International Patent Classification (IPC)
- **National/Regional Classification Systems**
 - European Classification (ECLA)
 - US National Classification (NCL)
 - Japanese File Index (FI)
 - Japanese File Forming Terms (F-Terms)
- Derwent Classification

The United States Patent Classification

- Dates back to 1830
- Used by the USPTO
 - very consistent use
- Hierarchical, non-expressive
- Consists of ~450 classes and ~150,000 subclasses
- Patent documents revised and reclassified at regular intervals

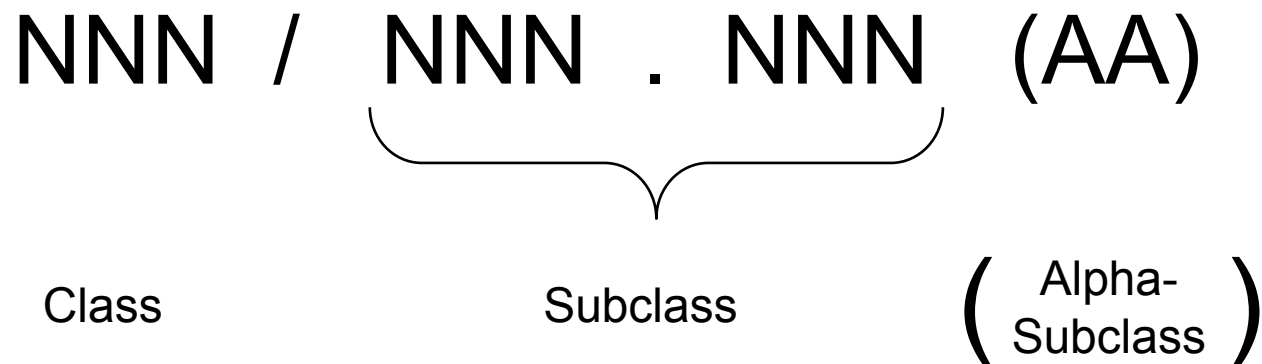
The United States Patent Classification

- Application-oriented system
- 'Main' and 'secondary' classification levels
- Three main disciplines
 - chemical, electrical, mechanical
- Classes are mutually exclusive – no overlaps

The United States Patent Classification

- Format

- numerical code(*)



(* letters are used to denote alpha subclasses and digests)

The United States Patent Classification

=> s 219121?/ncl

L1 8212 219121?/NCL

=> d hit 1-5

The NCLM and NCLS search fields allow to search for main and secondary USPC classification symbols.

L1 ANSWER 1 OF 8212 WPINDEX COPYRIGHT 2009
 NCL NCLM 623/011.110
 NCLS 029/428.000; 219/121.850

L1 ANSWER 2 OF 8212 WPINDEX COPYRIGHT 2009 THOMSON REUTERS on STN
 NCL NCLM 219/121.720

L1 ANSWER 3 OF 8212 WPINDEX COPYRIGHT 2009 THOMSON REUTERS on STN
 NCL NCLM 438/795.000
 NCLS 219/121.800; 257/E21.347

L1 ANSWER 4 OF 8212 WPINDEX COPYRIGHT 2009 THOMSON REUTERS on STN
 NCL NCLM 219/121.680
 NCLS 219/121.690

L1 ANSWER 5 OF 8212 WPINDEX COPYRIGHT 2009 THOMSON REUTERS on STN
 NCL NCLM 219/121.550

Agenda

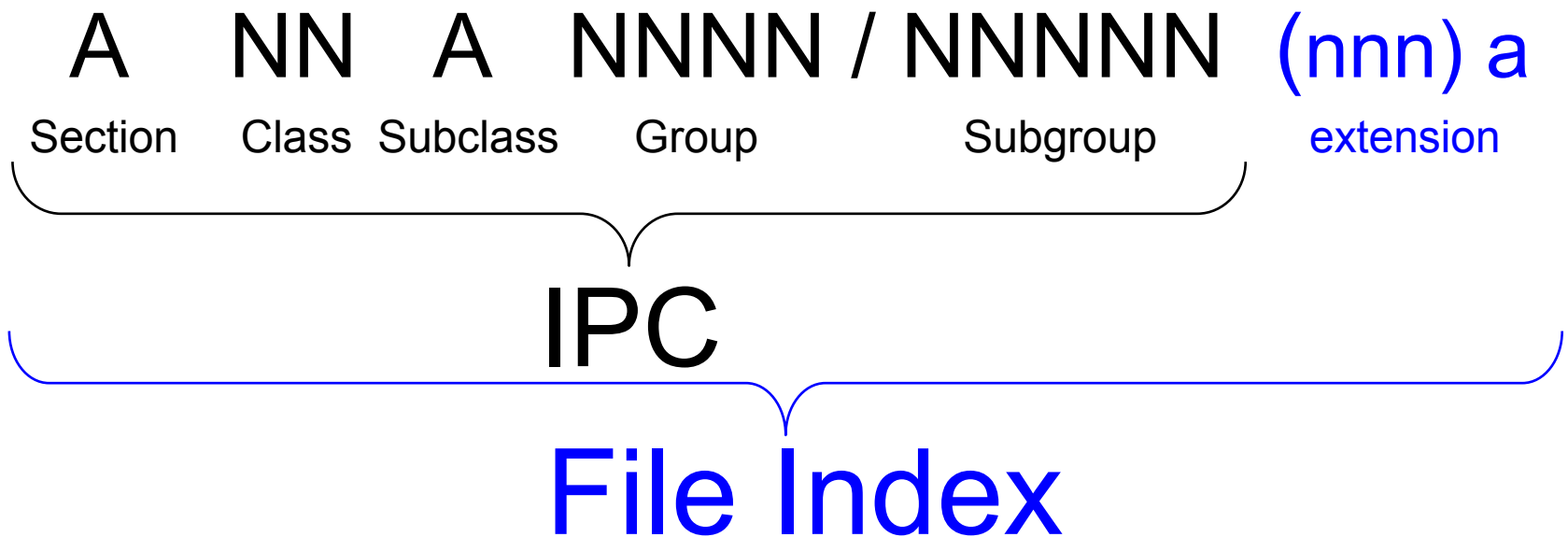
- Overview of patent classification systems
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The Japanese File Index

- Introduced in 1980 as JPO-internal system
 - based on IPCv4 (extension)
 - revised 2006 for better compliance with IPCv8
 - ~192k symbols
- Assigned to claimed content
 - to all Japanese patents and utility models
 - by the IPCC
- Additional disclosed content may be claimed
 - technology, uses, chemical substances

The Japanese File Index

- Format
 - IPC + extension



The Japanese File Index

=> s B23K0026-00?/jpc

L1 9483 B23K0026-00?/JPC

=> d hit 1-5

L1 ANSWER 1 OF 9483 WPINDEX COPYRIGHT 2009 THOMSON REUTERS on STN

FCL B23K0026-00 M; B23K0026-00 Q; B23K0026-06 A

L1 ANSWER 2 OF 9483 WPINDEX COPYRIGHT 2009 THOMSON REUTERS on STN

FCL B23B0027-14 A; B23B0051-00 J; B23K0026-00 E; B23P0015-28 Z

Index: B23K0101:20

L1 ANSWER 3 OF 9483 WPINDEX COPYRIGHT 2009 THOMSON REUTERS on STN

FCL B23K0026-00 M; B23K0026-00 N

L1 ANSWER 4 OF 9483 WPINDEX COPYRIGHT 2009 THOMSON REUTERS on STN

FCL B23K0026-00 310 C; B23K0026-20 310 C; B23K0009-16 K

L1 ANSWER 5 OF 9483 WPINDEX COPYRIGHT 2009 THOMSON REUTERS on STN

FCL B23K0026-00 M

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The Japanese F-Terms

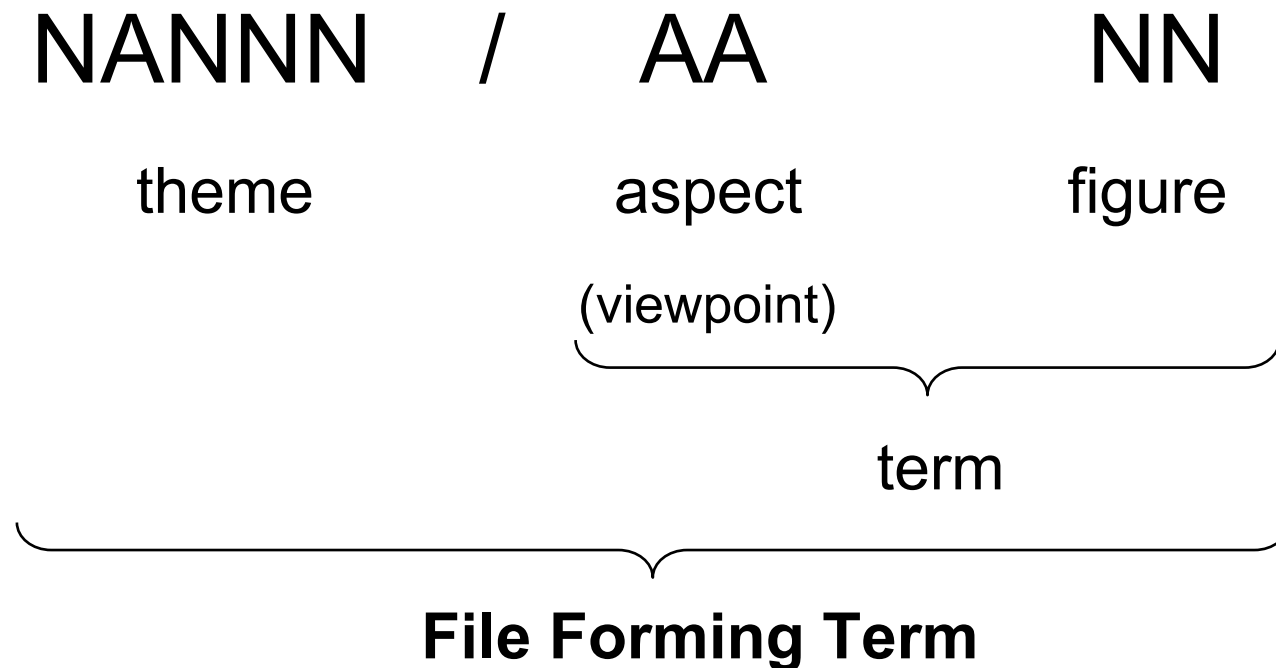
- Introduced in 1987 as JPO-internal system
 - for additional indexing
 - for all disclosed aspects
- Designed for electronic (boolean-logic) retrieval
 - never assigned alone
- Designed for use with keywords, FI and IPC
 - not fully elaborated for areas sufficiently covered by FI / IPC
- Printed on publications since 1999

The Japanese F-Terms concept

- Coverage of the IPC split in ~2800 themes
 - based on FI (IPCv4)
- Themes are subdivided in terms (viewpoints)
 - use, purpose, material, preparation, process, control, structure...
- Over 350k term codes (symbols)
- Assigned by the IPCC
 - to Japanese documents only
- Thesaurus available soon!

The Japanese F-Terms

- Format
 - Alphanumerical code



Searching with F-Terms

Search Question:

What F-Terms are used to describe diamond coating techniques using chemical vapor deposition?

Searching with F-Terms

=> s diamond(2a)coating and cvd and jp/pc

L1 177 DIAMOND (2A) COATING AND CVD AND JP/PC

=> ana L1 fterm

L2 ANALYZE L1 1- FTERM : 2409 TERMS

TERM #	# OCC	# DOC	% DOC	FTERM FCL IPC
1	101	101	57.06	4K030
2	98	98	55.37	4K030/BA28
3	78	78	44.07	4K030/FA01
4	73	73	41.24	4K030/AA17
5	63	63	35.59	4K030/AA10
6	62	62	35.03	4G077
7	60	60	33.90	4G077/BA03

Searching with F-Terms

=> s (4K030/BA28 and 4K030/FA07 and 4K030/FA08 and
4K030/FA15)/fterm

L1 8 (4K030/BA28 AND 4K030/FA07 AND
4K030/FA08 AND 4K030/FA15)/FTERM

=> d ti hit 7

L1 ANSWER 7 OF 8 WPINDEX COPYRIGHT 2009 THOMSON REUTERS on STN
TI Optically useful diamond obtd. by gas-phase synthesis - involving
irradiating hydrocarbon gas with UV laser beam and feeding excited
hydrogen gas to irradiated portion
FTRM 4G077; 4K030; 4G077/AA03; 4K030/AA09; 4K030/AA10; 4K030/AA17; 4G077/BA03;
4K030/BA28; 4K030/CA02; 4K030/CA04; 4G077/DB07; 4G077/DB11; 4G077/DB25;
4K030/EA01; 4G077/EJ04; 4K030/FA01; 4K030/FA07; 4K030/FA08;
4K030/FA12; 4K030/FA15

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Thomson Reuters (Scientific) Indexing

- Proprietary indexing scheme
- Assigned by Thomson Reuters
- Three levels of detail
 - File Segment
 - Derwent Classification
 - Manual Codes
- Subject matter is split 21 DWPI Classification Sections (A-X) and 3 broad File Segments

Thomson Reuters (Scientific) Indexing File Segment

- Basic attribution
 - simple
- Three segments
 - Chemical Patents Index (CPI, Sections A-M)
 - General Mechanical Patents Index (GMPI, Sections P, Q)
 - Electrical Patents Index (EPI, Sections S-X)
- Easy to remember, no research necessary

Thomson Reuters (Scientific) Indexing File Segment

```
=> s (((antilock or anti(w)lock)
      (2a)brak?(2a)system#) or abs)/ti,ab
```

```
L3      18877  (((ANTILOCK OR ANTI(W)LOCK) (2A)BRAK? (2A)SYSTEM#...
```

```
=> e a/fs
```

```
**** START OF FIELD ****
```

```
E3      0  --> A/FS
```

```
E4      6669765      CPI/FS
```

```
E5      8742713      EPI/FS
```

```
E6      8681585      GMPI/FS
```

```
**** END OF FIELD ****
```

```
=> s l4 not cpi/fs
```

```
L4      5163 L3 NOT CPI/FS
```

Restricting the search to a File Segment significantly reduces the number of hits in a matter of seconds.

Thomson Reuters (Scientific) Indexing Derwent Classification

- More Detail
 - all 21 sections
 - two-digit sub-section number for additional detail
- Manual Code - Thesaurus can be used

Thomson Reuters (Scientific) Indexing Derwent Classification

```
=> s (((antilock or anti(w)lock)
      (2a)brak?(2a)system#) or abs)/ti,ab
```

```
L3      18877  (((ANTILOCK OR ANTI(W)LOCK) (2A)BRAK? (2A)SYSTEM#...
```

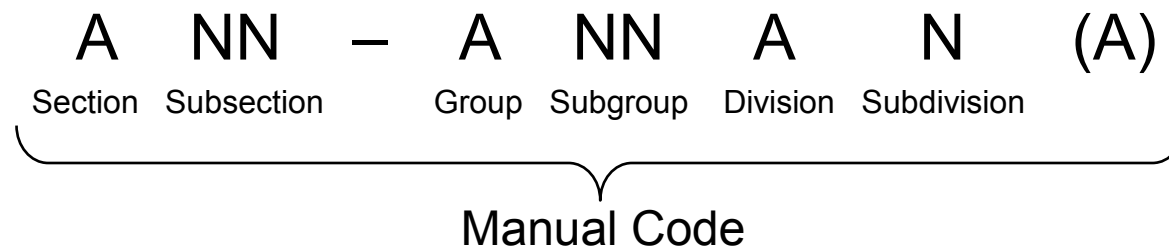
Derwent Classes offer quick categorization of the search matter, much like IPC-Subclasses.

```
=> s l3 and X22/dc
```

```
L4      3507  L3 AND X22/DC
```

Thomson Reuters (Scientific) Indexing Manual Codes

- Maximum Detail
- Thesaurus available
- Format
 - alphanumerical code*



* **Note:** In the Electrical Patents Index Sections (S-X) the first three letters of the Manual Code (MC) are the same as the DWPI Classification (DC).

Thomson Reuters (Scientific) Indexing Manual Codes

```
=> s (((antilock or anti(w)lock)
      (2a)brak?(2a)system#) or abs)/ti,ab
```

```
L3      18877  (((ANTILOCK OR ANTI(W)LOCK) (2A)BRAK? (2A)SYSTEM#...
```

```
=> e x22+nt1/mc
```

Expanding from the
Derwent Class...

```
E1      479880  --> X22/MC
E2          352  **NT1  X22-A/MC
           DEF  FOR INTERNAL COMBUSTION ENGINES
E3          2832  **NT1  X22-B/MC
           DEF  LIGHTING OR SIGNALLING
E4          2768  **NT1  X22-C/MC
           DEF  BRAKING, STEERING* ←
           HNTE (1980-1996)
E5          2225  **NT1  X22-D/MC
           DEF  LOCKABLE SWITCHES; LOCKS; THEFT ALARMS
E6          13347 **NT1  X22-E/MC
           DEF  INSTRUMENTATION FOR DASHBOARD
E7          3296  **NT1  X22-F/MC
           DEF  POWER SUPPLIES; BATTERIES; ALTERNATORS; CHARGING
```

Thomson Reuters (Scientific) Indexing Manual Codes

=> e x22-c+nt1/mc

E1 2768 --> X22-C/MC

E2 2065 **NT1 X22-C01/MC

DEF ANTI-SKID ... allows you to explore
ARRANGEME the MC-hierarchy...

HNTE (1983-1996)

E3 4822 **NT1 X22-C02/MC

DEF BRAKING ←

HNTE (1997-)

E4 4960 **NT1 X22-C05/MC

DEF STEERING

HNTE (1983-)

***** END *****

Thomson Reuters (Scientific) Indexing Manual Codes

=> e e3+nt1

E1 4822 --> X22-C02/MC

E2 949 NT1 X22-C02A/MC

DEF PARKING B ...through relationship
HNT E (1997- codes.

E3 5415 **NT1 X22-C02C/MC

DEF BRAKING FORCE CONTROLLER ←

HNT E (1997-)

E4 1186 **NT1 X22-C02D/MC

DEF AUTOMATIC BRAKE INITIATION

HNT E (1997-)

***** END *****

Thomson Reuters (Scientific) Indexing Manual Codes

=> e e3+nt1

E1	5415	-->	X22-C02C/MC	
E2	1090	NT1	X22-C02C1/MC	
		DEF	ANTI-SLIP BRAKE REGULATION	
		HNTE	(1997-)	
E3	3442	NT1	X22-C02C3/MC	
		DEF	ANTI-LOCK BRAKE SYSTEM ←	
		HNTE	(1997-)	
E4	570	NT1	X22-C02C5/MC	
		DEF	ELECTRONIC STABILITY CONTROL	
		HNTE	(2005-)	
E5	350	NT1	X22-C02C7/MC	
		DEF	BRAKE-BY-WIRE	

Thomson Reuters (Scientific) Indexing Manual Codes

```
=> s (((antilock or anti(w)lock)
      (2a)brak?(2a)system#) or
```

```
L3      18877 (((ANTILOCK OR ANTI(W)
```

Manual Codes are a powerful and convenient ... search tool.

```
=> s 13 and X22-C02C3/MC
```

```
X22-C02C3 ANTI-LOCK BRAKE SYSTEM
```

```
3442 X22-C02C3/MC
```

```
L4      1454 L3 AND X22-C02C3/MC
```

STN[®]

Patent Classification in the World
Patents Index

Jeremias Gromotka
21.04.2009