

# STN<sup>®</sup>

Japanese Classification in Derwent World  
Patents Index<sup>®</sup> (DWPI<sup>SM</sup>) on STN<sup>®</sup>

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**STN**

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and Chemical Abstracts Service, U.S.A.

# Agenda

- Japanese patent classification in DWPI
- File Index (FI) and F-Term Thesauri
- Search example

# Japanese Patent Classifications

- International Patent Classification (IPC)
- File Index (FI) – *based on IPC*
- F-Term – *the most in-depth classification*

# Japanese File Index (FI) and File Forming (F) Term patent classification

- Independent, in-depth classifications assigned by the JPO to Japanese patent publications
- **File Index (FI)** codes have a similar structure to IPCs, but provide more detailed subdivisions
- **File Forming (F) Terms** are used to index the various technical fields within an invention, not just the main inventive feature (indexed by IPC)
- Japanese FI and F-Term classifications are searchable in DWPI back to **1963**
- New FI and F-Term Thesauri are available

# Example: FI codes and F-Terms in DWPI

```
L1 ANSWER 1 OF 1 WPINDEX COPYRIGHT 2010 THOMSON REUTERS on STN
AN 2006-554139 [200657] WPINDEX
TI Modified timber for construction material, contains timber
    impregnated with an organosilicon compound containing
    hydrogen-silicon groups
DC A82; C01; D22; E11; F09; P63
IN MATSUMURA K; YAMAMOTO A
PA (SHIE-C) SHINETSU CHEM IND CO LTD
PI JP 2006205448 A 20060810 (200657)* JA
    JP 4320636 B2 20090826 (200956) JA 15
ADT JP 2006205448 A JP 2005-18306 20050126; JP
    20050126
FDT JP 4320636 B2 Previous Publ JP 200620
PRAI JP 2005-18306 20050126
IPCI A01N0055-00 [I,A]; A01N0055-00 [I,C]; B27K0003-34 [I,A]; B27K0003-34
    [I,A]; B27K0003-34 [I,C]; B27K0003-34 [I,C]; B27K0005-00 [I,A];
    B27K0005-00 [I,C]
FCL A01N0055-00 E; B27K0003-34 C; B27K0003-34 Z; B27K0005-00 B
    Main: B27K0003-34 C
FTRM 2B230; 4H011; 4H011/AA02; 4H011/AA03; 2B230/AA15; 2B230/AA18;
    4H011/AC03; 2B230/BA01; 4H011/BB16; 2B230/CB23; 4H011/DA15;
    4H011/DH07; 2B230/EB01; 2B230/EB03
```

FI codes are searched and displayed in the FCL field.

F-Terms are searched and displayed in the FTRM field.

# JPO File Index (FI) classification

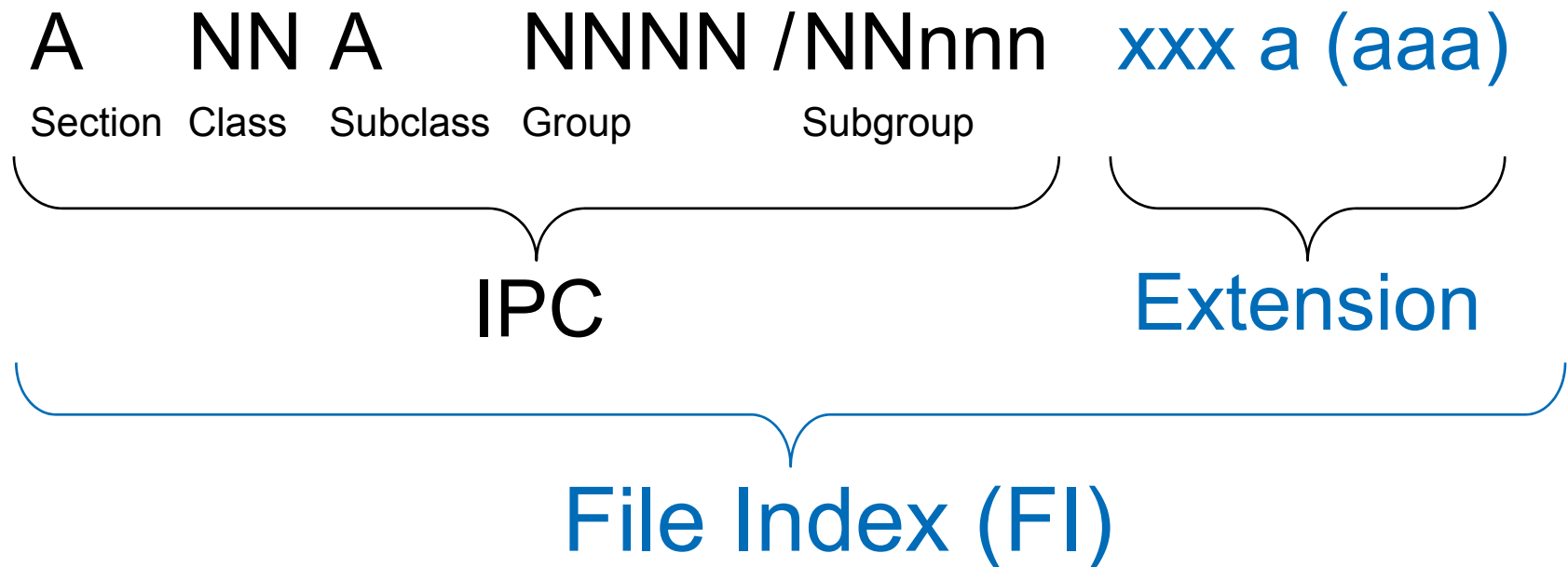
- Introduced in 1980 as a JPO internal system
  - Based on IPC Version 4
  - There are over 192,000 codes
- Assigned to claimed content
  - Japanese patent and utility model publications
- Additional disclosed content may be indexed
  - Technology, uses, chemical substances
- Assigned by the IPCC

Look-up JPO FI and F-Term English definitions at:

[http://www5.ipdl.inpit.go.jp/pmgs1/pmgs1/pmgs\\_E](http://www5.ipdl.inpit.go.jp/pmgs1/pmgs1/pmgs_E)

# File Index (FI) classification code format

- IPC + extension



**Note:** when searching on STN, the forward slash in an FI code (/FCL) is automatically converted to a hyphen.



# Searching File Index (FI) codes (/FCL)

=> FILE WPINDEX

=> S B23K/IPC, FCL

188052 B23K/IPC

87143 B23K/FCL

L1 189176 B23K/IPC, FCL

=> S B23K0026/IPC, FCL

36800 B23K0026/IPC

21271 B23K0026/FCL

L2 36916 B23K0026/IPC, FCL

=> S B23K0026-00/IPC, FCL

27606 B23K0026-00/IPC

14596 B23K0026-00/FCL

L3 27687 B23K0026-00/IPC, FCL

=> S B23K0026-00 C/FCL

L4 466 B23K0026-00 C/FCL

=> D L4 FCL 14

L4 ANSWER 14 OF 466 WPINDEX COPYRIGHT 2010

FCL B23K0026-00 C; B23K0026-00 N; B23K0026-03

Main: B23K0026-00 C

Secondary: B23K0026-00 N; B23K0026-03

**B23K0026-00 C** = trimming metal with a laser beam.

Searching FI codes (/FCL) at the Subclass (L1), Group (L2) and Subgroup (L3) levels is analogous to IPC searching.

The specific FI code (/FCL) is also searchable (L4).

**Note:** Main (/FMCL) and Secondary (/FSCL) FI are separately searchable.

# JPO File Forming (F) Term classification

- Introduced in 1987 as JPO internal system
  - Additional in-depth indexing for a subset of FI/IPC
- F-Terms split the FI/IPC into ~2,800 Themes
  - Themes are further subdivided into viewpoints (terms)
  - There are over 350,000 terms (symbols)
- Assigned from multiple technical perspectives, and not just to the main inventive features
  - Intended to be searched in combination with keywords, or FI/IPC classification
- Assigned by the IPCC

# File Forming (F) Term format

- Alphanumerical code

NANNN / AA NN . a

Theme

Aspect

Figure

extension

(Viewpoint)

Term

**File Forming Term**

**Note:** when searching on STN, the slash within an F-Term code (/FTRM) MUST be used for correct retrieval.

# F-Term example: 4E068/AC01

**MENU**

**HELP**

[TOP](#) [BACK](#) [NEXT](#)

\* \* F-term List \* \*

This screen shows the F-term list of the theme "4E068".

**4E068** = metal processing using a laser (general).

<b>4E068</b>	Laser processing									
	B23K26/00-26/42									
<b>Viewpoint</b>	<b>F-term</b>									
<b>AA</b>	AA00	AA01	AA02	AA03	AA04	AA05				
	LASER PROCESSING	. In combination with other processing	. . Plasticity processing or deformation processing	. . Machining	. . Surface treatments or heating treatments	. Combinations of multiple laser treatments				
<b>AB</b>	AB00	AB01	AB02							
	MARKING PROCESSING	. Processing methods	. . Printing means							
<b>AC</b>	AC00	AC01								
	TRIMMING PROCESSING	. Processing methods								
<b>AD</b>	AD00	AD01								
	SCRIBING PROCESSING	. Process methods								
<b>AE</b>	AE00	AE01	AE02							
	CUTTING	. Cutting methods	. Blank making							
<b>AF</b>	AF00	AF01	AF02							

**Note:** remember to combine the Theme and Term together with a slash, to search on STN, i.e. 4E068/AC01.

# Searching File Forming (F) Terms (/FTRM)

=> FILE WPINDEX

**4E068/AC01** = trimming metal with a laser beam.

=> S 4E068/FTRM

L1 21280 4E068/FTRM

=> S 4E068/AC01/FTRM

L2 359 4E068/AC01/FTRM

Searching F-Term (/FTRM) Themes (L1) and Individual F-Terms is possible (L2).

=> S L2 NOT B23K0026-00 C/FCL

466 B23K0026-00 C/FCL

L3 188 L2 NOT B23K0026-00 C/FCL

Searching F-Terms may find additional results (L3) beyond using FI codes (/FCL) alone.

=> D FCL FTRM

L3 ANSWER 1 OF 188 WPINDEX COPYRIGHT 2010 THOMSON REUTERS on STN

FCL B23K0026-06 J; B23K0026-06 Z; B23K0026-08 D; G02B0026-08 E

Main: B23K0026-06 J

Secondary: B23K0026-06 Z; B23K0026-08 D; G02B0026-08 E

FTRM 2H041; 2H141; 4E068; 2H041/AA04; 2H041/AA06; 2H041/AB14; **4E068/AC01**;  
2H041/AC06; 2H041/AZ00; 2H041/AZ05; 4E068/CA07; 4E068/CB01; 4E068/CD05;  
4E068/CD08; 4E068/CD10; 4E068/CE04; 4E068/DA09

# Agenda

- Overview of Japanese classification in DWPI
- **File Index (FI) and F-Term Thesauri**
- Search example

# Using the F-Term (/FTERM) and FI (/FCL) classification thesauri in DWPI

- Hierarchies of terms in both thesauri can be displayed using EXPAND followed by a plus symbol (+), a Relationship Code, and /FTERM or /FCL
  - e.g. `E 2B002/AA09+TI/FTERM`
  - e.g. `E H01L0033+ALL/FCL`
- To automatically search additional Narrower, Broader, Related, or other terms, use the SEARCH command with a term followed by a plus symbol (+), a Relationship Code, and /FTERM or /FCL
  - e.g. `S 2B002/AA09+NT/FTERM`
  - e.g. `S H01L0033+NT/FCL`

**Tip:** to learn more about Thesauri Relationship codes in DWPI type `HELP RCODE` at the STN prompt (=>).

# FTERM Thesaurus Relationship codes

<b><u>Code</u></b>	<b><u>Description</u></b>
ALL	All associated terms
BT	Broader term
CODE	Code for the thesaurus text term
DEF	Definition
HIE	Hierarchy terms (all broader and narrower terms)
KT	Keyword term
NT	Narrower term
RFI	Related FI (File Indexing) classification term
TI	Complete title of the SELF term and Broader Terms

# FCL (FI) Thesaurus Relationship codes

<b><u>Code</u></b>	<b><u>Description</u></b>
ALL	All usually required associated terms
MAX	All associated terms
BT	Broader term
DEF	Definition
HIE	Hierarchy terms (all broader and narrower terms)
INDX	Index Note
NOTE	Scope Notes
NT	Narrower term
RT	Related Terms
TI	Complete title of the SELF term and Broader Terms

# Use the EXPAND command to access the F-Term Thesaurus (/FTERM)

```
=> E 5F041/BB00+TI/FTERM
```

```
E1      34159  BT1  5F041/FTERM
          Light-emitting diodes
E2      10     --> 5F041/BB00/FTERM
          DRIVE CIRCUITS FOR LIGHT-EMITTING DIODES (LED)
***** END *****
```

+TI relationship code shows the F-Term, and its broader term definitions.

```
=> E 5F041/BB00+ALL/FTERM
```

```
E1      34159  BT1  5F041/FTERM
          Light-emitting diodes
E2      10     --> 5F041/BB00/FTERM
          DRIVE CIRCUITS FOR LIGHT-EMITTING DIODES (LED)
E3      12     NT1  5F041/BB01/FTERM
          Types of circuits
          . . . .
E25     1534   NT2  5F041/BB33/FTERM
          Driving by intermittent pulses
E26     467   NT2  5F041/BB34/FTERM
          Other drive systems
***** END *****
```

+ALL relationship code shows the F-Term, and both broader and narrower term definitions.

```
=> S 5F041/BB00+NT/FTERM
```

```
L1      4611 5F041/BB00+NT/FTERM (25 TERMS)
```

The thesaurus provides the efficient option to search all narrower terms (+NT) in a single search step (L1).

# Use the EXPAND command to access the definitions of codes in a Thesaurus

```
=> E LED+KT/FTERM
```

```
E1          0    --> LED/FTERM
E2          131   2C262/GA38/FTERM
E3          971   2F103/EB06/FTERM
E4          293   5G019/JJ08/FTERM
E5         1355   5K102/PB02/FTERM
E6          0    KT  Articles placed between fibers light-emitting diodes
                   (LED)/FTERM
E7          0    KT  Bonding molding to light-emitting diode (LED)
                   chips/FTERM
E8          0    KT  Bonding to molding onto light-emitting diode (LED)
                   chips/FTERM
E9          0    KT  Bulb-type light-emitting diodes (LED)/FTERM
E10         0    KT  Characteristic products after finished light-emitting
                   diodes (LED) are mounted/FTERM
E11         0    KT  DRIVE CIRCUITS LIGHT-EMITTING DIODES (LED)/FTERM
E12         0    KT  Devices mounting finished light-emitting diodes
                   (LED)/FTERM
E13         0    KT  Display devices light emitting diodes (LED)/FTERM
E14         0    KT  FORMS LIGHT-EMITTING DIODES (LED) (1)/FTERM
E15         0    KT  FORMS LIGHT-EMITTING DIODES (LED) (2)/FTERM
. . . .
```

Definitions of F-Terms are included to allow identification of appropriate codes (KT=Keyword Term).

# Use EXPAND command to access the definitions of codes in a Thesaurus (cont.)

=> E E13+KT

```
E1          0    -->  Display devices light emitting diodes (LED)/FTERM
E2          224    5J055/EZ68/FTERM
***** END *****
```

Explore the definition which fits your search question using **+KT**, to locate the corresponding F-Term.

=> E E2+ALL

```
E1          14836  BT2  5J055/FTERM
                    ELECTRONIC SWITCHES I
E2          1885  BT1  5J055/EZ00/FTERM
                    FUNCTIONAL CIRCUIT THAT CONSTITUTES THE INVENTION *
E3          224   -->  5J055/EZ68/FTERM
                    Display devices or light emitting diodes (LED)
E4          75    NT1  5J055/EZ69/FTERM
                    LIQUID CRYSTALS
E5          13    NT1  5J055/EZ70/FTERM
                    Cathode ray tubes
***** END *****
```

Expand with **+ALL** to review the associated terms and definitions.

=> S E4+NT

```
L2          301  5J055/EZ68+NT/FTERM  (3 TERMS)
```

Use **+NT** to search the chosen F-Term, and its narrower terms in one step.

# Use the EXPAND command to access the FI Thesaurus (/FCL)

```
=> E 5F041+RFI/FTERM
E1      34159  --> 5F041/FTERM
          RFI  H01L33/00-33/00@Z
***** END *****
```

The FTERM Relationship +RFI (Related File Index) refers to the related File Index classification: H01L0033-00 to H01L0033-00 Z.

```
=> E H01L0033-00+ALL/FCL
E1      3      BT3  H/FCL
          DEF  SECTION H - ELECTRICITY
E2      0      BT2  H01/FCL
          DEF  BASIC ELECTRIC ELEMENTS
E3      684794 BT1  H01L/FCL
          DEF  SEMICONDUCTOR DEVICES NOT OTHERWISE PROVIDED FOR
          semiconductor wafers
E4      34124  --> H01L0033-00/FCL
          DEF  Semiconductor devices with at least one potential-jump barrier or surface barrier specially adapted for light emission, e.g. infra-red; Processes . . .
E5      5736   NT1  H01L0033-00 A/FCL
          DEF  characterised by bodies (GaAs, AlGaAs, Group 4 . . .
          . . .
E16     11501  NT1  H01L0033-00 N/FCL
          DEF  Mounts, packages, and carriers
E17     204    NT1  H01L0033-00 Z/FCL
          DEF  Others
***** END *****
```

Use the FI Thesaurus like the IPC Thesaurus, to view definitions, and to search codes from within their respective hierarchies.

**Note:** Where no translation is available, FI codes are not included in the STN Thesaurus.

# Agenda

- Overview of Japanese classification in DWPI
- File Index (FI) and F-Term Thesauri
- **Search example**

# Search example using FI and F-Terms

## **Search Question:**

Use Japanese patent classifications to find and explore DWPI records describing diamond coating techniques using chemical vapor deposition

# Analyze a preliminary keyword answer set for relevant JPO patent classifications

=> S DIAMOND (3A) COAT? AND (CHEMICAL VAPOR DEPOSITION OR CVD)  
 L1 571 DIAMOND (3A) COAT? AND (CHEMICAL VAPOR DEPOSITION OR CVD)

=> ANA L1 IPC FCL FTERM

L2 ANALYZE L1 1- IPC FCL FTERM : 4699 TERMS

=> D TOP 5 DOC FCL

L2 ANALYZE L1 1- IPC FCL FTERM : 4699 TERMS

TERM #	# OCC	# DOC	% DOC	IPC FCL FTERM
5	172	161	28.20	C23C0016-27
8	182	132	23.12	C30B0029-04
12	119	119	20.84	C23C0016-26
27	58	52	9.11	B23B0027-14
30	51	49	8.58	B23P0015-28

IPC and FCL code definitions can be identified using STN classification thesauri.

=> D TOP 5 DOC IPC

L2 ANALYZE L1 1- IPC FCL FTERM : 4699 TERMS

TERM #	# OCC	# DOC	% DOC	IPC FCL FTERM
1	581	315	55.17	C23C0016-26
2	310	270	47.29	C23C0016-27
6	296	138	24.17	C30B0029-04
15	221	94	16.46	C23C0016-02
20	101	62	10.86	C23C0016-50

# Use STN thesauri to review the definitions of codes identified in the analysis

=> E C23C0016-27+TI/FCL

. . . .

E4 287 BT3 C23C0016-00/FCL  
DEF Chemical coating by decomposition of gaseous . . .

E5 156 BT2 C23C0016-22/FCL  
DEF . characterised by the deposition of inorganic material, other than metallic material (4)

E6 2133 BT1 C23C0016-26/FCL  
DEF . . Deposition of carbon only (4)

E7 2171 --> C23C0016-27/FCL  
DEF . . . Diamond only (7)

\*\*\*\*\* END \*\*\*\*\*

=> E C23C0016-27+TI/IPC

. . . .

E8 5011 BT1 C23C0016-26/IPC  
. . Deposition of carbon only  
CORE  
VALID FROM 19850101 TO PRESENT ( IPC EDITION: 4-8 )

E9 2940 --> C23C0016-27/IPC  
. . . Diamond only  
ADVANCED  
VALID FROM 20000101 TO PRESENT ( IPC EDITION: 7-8 )

\*\*\*\*\* END \*\*\*\*\*

**Note:** for this example, the FI and IPC code hierarchies are the same.

# Use STN thesauri to review the definitions of codes identified in the analysis (cont.)

=> D TOP 5 DOC **FTERM**

L2 ANALYZE L1 1- IPC FCL FTERM : 4699 TERMS

TERM #	# OCC	# DOC	% DOC	IPC FCL FTERM
3	178	178	31.17	4K030
4	162	162	28.37	4K030/BA28
7	135	135	23.64	4G077
9	131	131	22.94	4G077/BA03
10	127	127	22.24	4G077/AA03

=> E 4K030/BA28+ALL/FTERM

```

E1      31766   BT4   4K030/FTERM
          Chemical vapor deposition (CVD)
E2      29     BT3   4K030/BA00/FTERM
          Coating materials
E3      609    BT2   4K030/BA24/FTERM
          Non-metallic components
E4      1853   BT1   4K030/BA27/FTERM
          Carbon (C)
E5      2349   --> 4K030/BA28/FTERM
          Carbon in the form of diamonds
  
```

There is a relevant F-Term available to add to the search.

\*\*\*\*\* END \*\*\*\*\*

# Repeat the search including relevant Japanese patent classifications

=> S L1 OR C23C0016-27/IPC, FCL OR 4K030/BA28/FTERM

2940 C23C0016-27/IPC

2171 C23C0016-27/FCL

2349 4K030/BA28/FTERM

L3 3494 L1 OR C23C0016-27/IPC

The IPC, FI and F-Term codes all contribute unique results to the search.

=> D TI IPC FCL FTERM 3 5

L3 ANSWER 3 OF 3494 WPIX COPYRIGHT 2010 THOMSON REUTERS on STN  
TI Diamond electrode for electrolysis of oxidizing electrolyte solution, has diamond layer having thickness of more than specified value  
IPCI C02F0001-46 [I,A]; C02F0001-46 [I,C]; C23C0016-26 [I,C];  
**C23C0016-27** [I,A]; C25B0001-00 [I,C]; C25B0001-28 [I,A];  
C25B0011-00 [I,C]; C25B0011-04 [I,A]; C25B0011-12 [I,A]

L3 ANSWER 5 OF 3494 WPIX COPYRIGHT 2010 THOMSON REUTERS on STN  
TI Method for forming film e.g. continuous coating membrane on base material, involves making plasma to contact coating film surface through mask and depositing decomposition component of raw material on coating film surface  
IPCI C23C0016-04 [I,A]; C23C0016-04 [I,C]; C23C0016-50 [I,C]; C23C0016-505 [I,A]  
FCL Main: C23C0016-505  
Secondary: C23C0016-04  
FTRM 4K030; 4K030/AA09; **4K030/BA28**; 4K030/BB14; 4K030/CA02; 4K030/CA17; 4K030/EA00; 4K030/FA01; 4K030/KA01; 4K030/KA08

# Explore F-Terms within the subject area

4K030

CHEMICAL VAPOUR DEPOSITION (CVD)  
C23C16/00-16/56

**4K030/AA09 = Reaction gas contains hydrocarbons.**

Viewpoint	F-term										
AA	AA00	AA01	AA02	AA03	AA04	AA05	AA06	AA07	AA08	AA09	AA10
	SPECIFIED MATERIAL GAS	. Specified main reaction gases	. . Main reaction gases containing halides	. . . Chlorides	. . . Fluorides	. . Main reaction gases containing hydrides	. . . Silanes	. . . Diboranes	. . . Phosphines	. . Main reaction gases containing hydrocarbon compounds	. . . Saturated hydrocarbons
		AA11	AA12	AA13	AA14		AA16	AA17	AA18		AA20
		. . Main reaction gases containing metal organic compounds	. . Main reaction gases containing metal carbonyl compounds	. . Main reaction gases containing ammonia	. . Main reaction gases containing oxygen, carbon monoxide, or carbon dioxide		. Specified carrier gases	. . Hydrogen -based carrier gases	. . Nitrogen -based carrier gases		. Specified doping gases
		AA22		AA24							
		. using sensitisers		. Others							
BA	BA00	BA01	BA02	BA03	BA04	BA05	BA06	BA07	BA08	BA09	BA10
	SPECIFIED COATING MATERIAL	. Coatings containing metal components	. . Aluminium	. . Beryllium	. . Bismuth	. . Cobalt	. . Chromium	. . Iron	. . Gallium	. . Germanium	. . Hafnium
		BA11	BA12	BA13	BA14	BA15	BA16	BA17	BA18	BA19	BA20
		. . Indium	. . Molybdenum	. . Niobium or columbium	. . Nickel	. . Antimony	. . Tin	. . Tantalum	. . Titanium	. . Vanadium	. . Tungsten
	BA21	BA22		BA24	BA25	BA26	BA27	BA28	BA29	BA30	
	. . Zinc	. . Zirconium		. Coatings containing non-metal components	. . Arsenic	. . Boron	. . Carbon	. . . Diamond-like carbon	. Silicon	. . . Amorphous silicon	

# Combine key F-Terms to pinpoint specific records within the subject area of interest

```
=> S L3 AND (4K030/AA09 AND 4K030/CA02+NT AND 4K030/FA02) /FTERM
```

```
4242 4K030/AA09/FTERM
```

```
5232 4K030/CA02+NT/FTERM
```

```
1512 4K030/FA02/FTERM
```

```
L4 41 L2 AND (4K030/AA09 AND
```

**4K030/AA09** = Reaction gas contains hydrocarbons.

**4K030/CA02** = Specified metal or alloy substrate.

**4K030/FA02** = Excitation of material gas by ECR plasma.

```
=> D TI FTERM
```

```
L4 ANSWER 1 OF 41 WPIX COPYRIGHT 2010 THOMSON REUTERS on STN
```

```
TI Plasma process apparatus, useful to process object used in atmospheric environment, comprises electromagnetic wave generator, vacuum vessel, electromagnetic wave guiding portion, gas supplying portion, evacuation portion and voltage source
```

```
FTRM 2G084; 4K030; 4K030/AA06; 4K030/AA09; 4K030/BA28; 4K030/CA02;  
4K030/CA15; 4K030/FA02; 4K030/JA09; 4K030/JA18; 4K030/KA30
```

# Summary

- Japanese patent classifications are searchable in Derwent World Patents Index (DWPI)
- File Index (FI) codes are derived from IPC codes and are straightforward to include in a search
- F-Term codes provide in-depth indexing, and may be used to retrieve additional unique results
- F-Term codes may also be combined to pinpoint records of interest within large answer sets
- New STN thesauri are available for looking-up and searching the FI and F-Term codes

# STN<sup>®</sup>

For more information ...

CAS

E-mail: [help@cas.org](mailto:help@cas.org)

Support and Training:

[www.cas.org](http://www.cas.org)

FIZ Karlsruhe

[helpdesk@fiz-karlsruhe.de](mailto:helpdesk@fiz-karlsruhe.de)

Support and Training:

[www.stn-international.de](http://www.stn-international.de)