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AIRGUIDE Guide to the AIVC's Bibliographic Database

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Air Infiltration and Ventilation Centre

University of Warwick Science Park Sovereign Court Sir William Lyons Road Coventry CV4 7EZ Great Britain



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AIRGUIDE Guide to the AIVC's Bibliographic Database

Mark Limb

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Preface

International Energy Agency

The International Energy Agency (IEA) was established in 1974 within the framework of the Organisation for Economic Co-operation and Development (OECD) to implement an International Energy Programme. A basic aim of the IEA is to foster co-operation among the twenty-one IEA Participating Countries to increase energy security through energy conservation, development of alternative energy sources and energy research development and demonstration (RD&D). This is achieved in part through a programme of collaborative RD&D consisting of forty-two Implementing Agreements, containing a total of over eighty separate energy RD&D projects. This publication forms one element of this programme.

Energy Conservation in Buildings and Community Systems

The IEA sponsors research and development in a number of areas related to energy. In one of these areas, energy conservation in buildings, the IEA is sponsoring various exercises to predict more accurately the energy use of buildings, including comparison of existing computer programs, building monitoring, comparison of calculation methods, as well as air quality and studies of occupancy. Seventeen countries have elected to participate in this area and have designated contracting parties to the Implementing Agreement covering collaborative research in this area. The designation by governments of a number of private organisations, as well as universities and government laboratories, as contracting parties, has provided a broader range of expertise to tackle the projects in the different technology areas than would have been the case if participation was restricted to governments. The importance of associating industry with government sponsored energy research and development is recognized in the IEA, and every effort is made to encourage this trend.

The Executive Committee

Overall control of the programme is maintained by an Executive Committee, which not only monitors existing projects but identifies new areas where collaborative effort may be beneficial. The Executive Committee ensures that all projects fit into a pre-determined strategy, without unnecessary overlap or duplication but with effective liaison and communication. The Executive Committee has initiated the following projects to date (completed projects are identified by *):

- I Load Energy Determination of Buildings*
- II Ekistics and Advanced Community Energy Systems*
- III Energy Conservation in Residential Buildings*
- IV Glasgow Commercial Building Monitoring*

V Air Infiltration and Ventilation Centre

VI Energy Systems and Design of Communities*

VII Local Government Energy Planning*

VIII Inhabitant Behaviour with Regard to Ventilation*

IX Minimum Ventilation Rates*

X Building HVAC Systems Simulation*

XI Energy Auditing*

XII Windows and Fenestration*

XIII Energy Management in Hospitals*

XIV Condensation*

XV Energy Efficiency in Schools*

XVI BEMS - 1: Energy Management Procedures*

XVII BEMS - 2: Evaluation and Emulation Techniques

XVIII Demand Controlled Ventilating Systems*

XIX Low Slope Roof Systems

XX Air Flow Patterns within Buildings*

XXI Thermal Modelling

XXII Energy Efficient Communities

XXIII Multizone Air Flow Modelling (COMIS)

XXIV Heat Air and Moisture Transfer in Envelopes

XXV Real Time HEVAC Simulation

XXVI Energy Efficient Ventilation of Large Enclosures

Annex V Air Infiltration and Ventilation Centre

The IEA Executive Committee (Building and Community Systems) has highlighted areas where the level of knowledge is unsatisfactory and there was unanimous aggreement that infiltration was the area about which least was known. An infiltration group was formed drawing experts from most progressive countries, their long term aim to encourage joint international research and increase the world pool of knowledge on infiltration and ventilation. Much valuable but sporadic and uncoordinated research was already taking place and after some initial groundwork the experts group recommended to their executive the formation of an Air Infiltration and Ventilation Centre. This recommendation was accepted and proposals for its establishment were invited internationally.

The aims of the Centre are the standardisation of techniques, the validation of models, the catalogue and transfer of information, and the encouragement of research. It is intended to be a review body for current world research, to ensure full dissemination of this research and based on a knowledge of work already done to give direction and firm basis for future research in the Participating Countries.

The Participants in this task are Belgium, Canada, Denmark, Germany, Finland, France, Italy, Netherlands, New Zealand, Norway, Sweden, Switzerland, United Kingdom and the United States of America.

AIRBASE - Now for your PC

AIRBASE, the Air Infiltration and Ventilation Centre's bibliographical database, is now available in a PC version. The software is menu driven and is exceptionally straightforward to use. Starting with either a single multiple or hyphenated search term, for example, energy, energy conservation or even demand-controlled ventilation, the computer develops a retrieved list of all entries containing the term(s). The search may then be systematically narrowed or widened using the appropriate function key and by selecting additional terms.

AIRBASE contains articles related to air infiltration and ventilation. In addition to articles scanned from journals, it also contains references of specialist reports, such as written documents and internal publications from sources worldwide. In total the topics covered by AIRBASE may be subdivided into nearly 200 subject areas, with broad themes covering energy aspects, indoor air quality, occupancy effects, ventilation strategies, theory calculation and measurement techniques and case studies.

The software contains other useful databases which operate along side AIRBASE, one such database, is the AIVC's Survey of Current Research into Air Infiltration, Ventilation and Indoor Air Quality. This database contains information about projects that are currently underway around the world, this database is updated yearly so the information is as current as possible.

THE AIVC's LIBRARY SERVICE

Every item referenced in AIRBASE, is available from the centre's library service and may be requested by completing a literature request form, (See Appendix A). The AIRBASE search service continues to be available and the centre's staff will be pleased to conduct your search for you either on-line by telephone, or by fax or letter.

1. Before you start......

Welcome to AIRBASE - The Air Infiltration and Ventilation Centre's database on IDEALIST software.

You should have received:

- An Installation diskette
- AIRBASE in compressed format, backed up using MS DOS onto either 3 1/2" or 5 1/4" diskettes.
- AIRGUIDE A copy of the AIVC'S user guide to AIRBASE on Idealist software.

2. Installation Procedure

To Install AIRBASE

- (i). Insert the installation disk into either disk drive A or B.
- (ii). Make this drive the active drive by typing A: or B: at the DOS prompt, press < Enter >
- (iii). At the DOS prompt (A:\> or B:\>) type Install XY.

Where X is the drive you are installing from, and Y is the hard disk drive you are installing to. There are no need for colons (:) after the drive definitions.

Example 1) To install from disk drive A to hard disk C, type...

A:\>INSTALL A C < Enter>

Example 2) To install AIRBASE from disk drive B to hard disk E, type...

B:\>INSTALL B E <*Enter*>

NOTE: The first drive specified is the floppy disk drive (either A or B). The second drive specified is the HARD Disk drive you wish AIRBASE to reside on (C,D,E,F etc.).

(iv). AIRBASE will then be installed onto the specified Hard disk (C,D,E,F etc), and in a directory called AIRBASE.

The Installation file will prompt you for the first and further diskettes until AIRBASE is completely installed, then will ask you to insert the disk with the batch file again (the INSTALLATION disk), and press < Enter >.

3. How to Enter AIRBASE

Once the installation procedure has been completed AIRBASE can be entered by typing AIRBASE < Enter > at the DOS prompt.

(i.e. C:\AIRBASE > AIRBASE \ < Enter > . The screen will change, as indicated below, enter the number that corresponds to the database you wish to access and press \ < Enter > again. The example used throughout this manual is AIRBASE.

After exiting from the database you will return to this menu, enter the number of the next database you wish to use or zero to leave the menu and return to DOS.

THE AIR INFILTRATION AND VENTILATION CENTRE

Welcome to the AIVC's suite of Databases

1 AIRBASE

2 SURVEY91

3 AIRGLOSS

0 EXIT

Enter the number of the Database you wish

to open, and press < Enter > ?

Figure 1

The screen will change to reveal the contents of the previous HIT LIST (or Found List), as indicated and explained in figure 2, overleaf. The basic format for the AIRBASE suite of databases is the same, only varying slightly according to the nature of information contained within each database. Idealist is menu driven, and is exceptionally straight forward to use. At the top of the screen several drop-down menus are available.

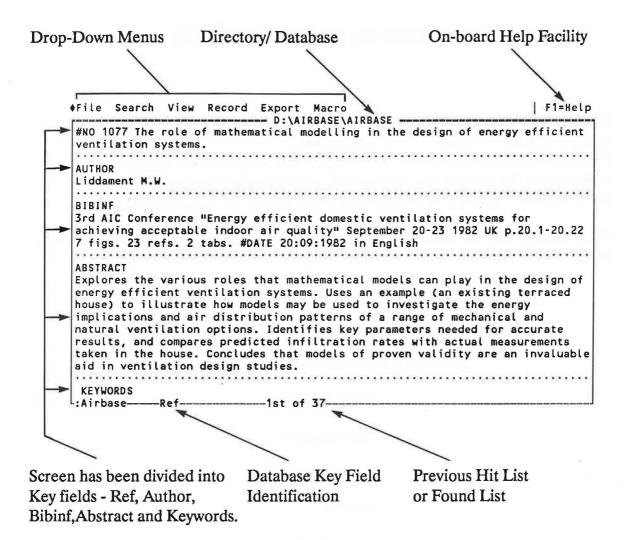


Figure 2 (a)

Abstract number

Unique identification of database entry.

Bibliographic information

Details of source of article.

Date of publication

AIRBASE contains references from 1920 onwards and searching can be restricted to a range of dates.

Abstract

Each entry is accompanied by an informative English language abstract. The AIVC's free text retrieval system can search for significant words in the abstract.

 #NO 3588 Air infiltration in Canadian homes – a decade of change

AUTHOR Riley M, Lawton M

BIBINF in: UK, AIVC, 10th AIVC Conference, held as Espoo, Finland, 25-28 September 1989, Volume 2, February 1990, pp253-267, 25 refs. #DATE 00:02:1990 in English

ABSTRACT This paper explores the results of air infiltration and ventilation research carried out in Canada over the last decade and specifically examines its application to low-rise residential buildings. With Canada's cold climate, the reduction of space heating costs by dealing with air infiltration and ventilation issues in residential buildings, is particularly important and has been the subject of government and industry initiatives. The results over the last decade have been gratifying. Not only has there been a large number of "innovative" houses built with exceptionally good control of air infiltration heating costs, but this information has been transferred to the general building industry. Current Canadian new house construction is showing significant improvement from the construction of ten years ago. This paper outlines how this change has been brought about and how it is expected to continue.

KEYWORDS low-rise building, space heating, energy consumption

Titles

Titles are given in both the principal language and English.

Language

AIRBASE currently covers 15 different languages and English translations of some papers are held by the AIVC's library.

Highlighting

A search on 'infiltration' would produce a list of records including this sample, Most original articles are available from the AIVC's library.

Keywords

Keywords from a thesaurus of terms have been added to each entry to improve the accuracy of searches.

Figure 2 (b)

(I) To perform a simple search.

To enter the search drop-down menu, press the $\langle ALT \rangle$ key while at the same time selecting the S key. The search drop-down menu will appear, as shown in figure 3 below.

d F5 len/or F6 row/and F7 lude/not F8	atical modelling in the design of energy efficient
	ter i a la company de la compa
t synonyms ort hit terms	efficient domestic ventilation systems for air quality" September 20-23 1982 UK p.20.1-20.22 ATE 20:09:1982 in English
icient ventilati illustrate how mons and air distrentilation option and compares predicted he house. Conclustilation design	that mathematical models can play in the design of on systems. Uses an example (an existing terraced models may be used to investigate the energy ibution patterns of a range of mechanical and s. Identifies key parameters needed for accurate licted infiltration rates with actual measurements des that models of proven validity are an invaluable studies.
	icient ventilati illustrate how m ns and air distr ntilation option nd compares pred he house. Conclu tilation design

Figure 3

Using the drop-down menu, and either the arrow curser keys or mouse if installed, highlight and select the FIND option. This option must be selected before any of the other options can be activated, including the WIDEN and NARROW options.

To use the mouse centre the curser over the find option and select using the mouse keys.

To select using the arrow keys simply move the highlighted bar up or down until the desired function is highlighted then press < Enter >.

When you become more familiar with AIRBASE the function keys can be used directly instead of entering the drop-down menus first.

Idealist will then prompt you to identify a search term, as shown in figures 4(a) and 4(b). Single and multi word searching can be performed by entering the word or words into the pop-up dialogue box that appears in the centre of the screen.

File Search View Record Export Macro	F1=Help
#NO 1077 The role of mathematical modelling in the design of energy ventilation systems.	y efficient
AUTHOR Liddament M.W.	nanthura walaar a iir ee a
BIBINF 3rd AIC Conference "Energy efficient domestic ventilation systems achi Find (F1=Index)? 7 fi Energy ABST	
energy efficient ventilation systems. Uses an example (an existing house) to illustrate how models may be used to investigate the end implications and air distribution patterns of a range of mechanica natural ventilation options. Identifies key parameters needed for results, and compares predicted infiltration rates with actual meataken in the house. Concludes that models of proven validity are a aid in ventilation design studies. KEYWORDS	rgy l and accurate surements

Figure 4(a)

File Search View Record Export Macro	- 1	F1=Help
#NO 1077 The role of mathematical modelling in the design of energy ventilation systems.	y ef	ficient
AUTHOR		
iddament M.W.		
	• • • •	• • • • • • •
BIBINF		
3rd AIC Conference "Energy efficient domestic ventilation systems		
achi Find (F1=Index)?		22
7 fi		
··· Energy efficiency		* * * *
ABST		
Expl Landing to the state of th		of
energy efficient ventilation systems. Uses an example (an existing nouse) to illustrate how models may be used to investigate the ene	ter	raced
implications and air distribution patterns of a range of mechanica natural ventilation options. Identifies key parameters needed for results, and compares predicted infiltration rates with actual mea	i and accu sure	rate ments
taken in the house. Concludes that models of proven validity are a aid in ventilation design studies.	חוחי	valuable
	• • • •	
KEYWORDS		
	ι—	

Figure 4(b)

A further feature of the multi word search facility enables Hyphenated words such as Demand-Controlled to be included.

An alternative to entering a search term via the key board is to chose a word from the Index list. By pressing the $\langle F1 \rangle$ function key while the Find dialogue box is in the centre of the screen allows the you to view the indexed words can be viewed.

Any word can be chosen from the indexed list, by using the arrow keys on the keyboard the list can be scrolled up or down, when the required word is highlighted press < Enter > . The word moves into the pop-up dialogue box, press < Enter > once again and the retrieved list will appear with the searched word, highlighted in each record.

File Search View Record Ex		F1=Help
ventilation systems.	ical modelling in	the design of energy efficient
AUTHOR Liddament M.W. BIBINF	aberg abernathy aberporth abertridwr	
3rd AIC Conference "Energy ef achi 7 fi ABST Expl	abgasschachten abhandlungen abhangigkeit abhangigskeit abhangingkeit abilities	tilation systems for .22
energy efficient ventilation house) to illustrate how mode implications and air distribu natural ventilation options. results, and compares predict taken in the house. Concludes	ability abitativo ablakainak abluft- abnormal	mple (an existing terraced vestigate the energy ange of mechanical and eters needed for accurate s with actual measurements en validity are an invaluable
aid in ventilation design stud KEYWORDS T, 1, Home, End, PgUp,		nter=select, Esc=cancel

Figure 5(a)

File Search View Record Export Macro	F1=Help
#NO 1077 The role of mathematical modelling in the design of energon the design of energy the energy the design of energy the design of energy the energy the energy the design of energy the energy	y efficient
AUTHOR Liddament M.W.	
BIBINF	
3rd AIC Conference "Energy efficient domestic ventilation systems achi Find (F1=Index)? 7 fi	
ABST Expl	of
each energy efficient ventilation systems. Uses an example (an existing nouse) to illustrate how models may be used to investigate the eneimplications and air distribution patterns of a range of mechanica natural ventilation options. Identifies key parameters needed for results, and compares predicted infiltration rates with actual meataken in the house. Concludes that models of proven validity are a aid in ventilation design studies.	terraced ergy al and accurate asurements
KEYWORDS 	

Figure 5(b)

(II) To Narrow a search.

Once the initial search has been performed, it may contain too many abstracts relevant to the general search term(s). If the To Narrow option is chosen the found list will be searched for an additional term, and the abstracts uncovered will then form the new found list. Those that do not contain the term will be dropped from the new found list.

Enter the Search drop-down menu again, highlight the Narrow....F7 option, and press $\langle Enter \rangle$. Idealist will prompt you for a search term, enter the search term(s) and press $\langle Enter \rangle$.

The pop-up dialouge box can be called by pressing the < F7 > function key, instead of entering the Search drop-down menu.

For example, if the original search term was pollutants, but radon was of specific importance, by narrowing the search the resulting list would then contain those articles that not only contained the word pollutants but also radon.

File Search View Record Export Macro	F1=Help
#NO 69 Indoor air quality in energy-efficient buildings.	

AUTHOR	
Hollowell, C.D. et. al.	
BIBINF	
2nd International C.I.B. Symposium on Energy Conservation in the	
Built Environment, Copenhagen, May 28 - June 1, 1979. preprints	
- se Narrow (F1=Index)?	
Engl	
···· radon	****
ABST	A SANTAGE I
Desc	
designed specifically for studies of indoor air quality and	
energy use in buildings before and after energy conservation	
retrofits and in new buildings incorporating energy-efficient	
designs. Among parameters measured are infiltration rate,	
content of CO, CO2, NO, NO2 SO2, O3, formaldehyde, radon, etc.	
Results of initial phase of program indicate that concentrations	
of some air pollutants in the built environment are higher than	
outdoor levels and in some cases exceed recommended health and	
comfort criteria.	A

Figure 6

A review of the indexed words of AIRBASE by pressing $\langle F1 \rangle$ while the pop-up dialouge box is in the centre of the screen is also available with the Narrow and Widen Options, as well as the multi and hyphenated word searching facilities.

(III) To Widen a search.

Once the initial search has been performed, it may contain too few abstracts relevant to the general search term(s). If the To Widen option is chosen the rest of the database will be searched for an additional term, and the abstracts uncovered will be added to the original found list.

Enter the Search drop-down menu again (<ALT>S), highlight the Widen......F6 option, and press <Enter>. Idealist will prompt you for a search term or terms, enter the desired search term(s) in to the dialogue box and press <Enter>.

The < F6 > function key can alternatively be used to access the pop-up dialogue box.

For example, if the original search term was pollutants, but Indoor Air Quality was the general topic, by Widening the search the resulting list would then contain those articles that not only contained the word pollutants but also Indoor Air Quality.

File Search View Record Export Macro	F1=Help
#NO 69 Indoor air quality in energy-efficient buildings.	
AUTHOR	
Hollowell, C.D. et. al.	
BIBINF	
2nd International C.I.B. Symposium on Energy Conservation in the Built Environment, Copenhagen, May 28 - June 1, 1979. preprints	
- se Widen (F1=Index)?	
Engl indoor air quality	0000000000
ABST	.001100000
Desc L	
designed specifically for studies of indoor air quality and	
energy use in buildings before and after energy conservation retrofits and in new buildings incorporating energy-efficient	
designs. Among parameters measured are infiltration rate,	
content of CO, CO2, NO, NO2 SO2, O3, formaldehyde, radon, etc.	
Results of initial phase of program indicate that concentrations	
of some air pollutants in the built environment are higher than outdoor levels and in some cases exceed recommended health and	
comfort criteria.	

Figure 7

A review of the indexed words of AIRBASE by pressing $\langle F1 \rangle$ while the pop-up dialouge box is in the centre of the screen is also available with the Narrow and Widen Options, as well as the multi and hyphenated word searching facilities.

(IV) To search specified KEY FIELDS.

AIRBASE records have been separated into key fields (REFerence; AUTHOR; BIBINF; ABSTRACT and KEYWORDS), to allow key field searching. This facility allows individual fields to be searched independently, resulting in a more accurate search. While this facility is available, free text searching still remains an option.

The example in figure 8 (a,b), shows the format of the field separation, and how searching a specific field is achieved. This option is available with all the other databases provided alongside AIRBASE, although the key field names may vary. (See Appendix B for a list of the key field names). These can alternatively be seen in the status line at the bottom of the screen, as the curser moves up and down the abstract.

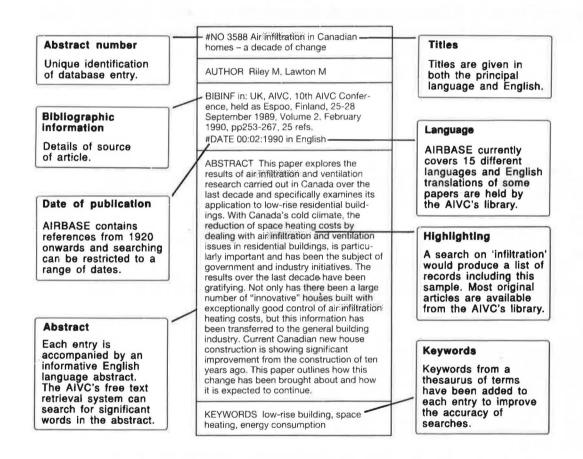


Figure 8(a)

To search a specific field activate one of the Find, Narrow or Widen options, and when prompted for a search term enter the field you wish to confine your search to, followed by a equals sign (=) and then by the term or terms. There must be no spaces between the characters. Then press < Enter>. Searching will commence in the usual way.

File Search View Record Export Macro	F1=Help
D:\AIRBASE\AIRBASE	
#NO 69 Indoor air quality in energy-efficient buildings.	

AUTHOR	
Hollowell, C.D. et. al.	
	· · · · · · · · · · · · · · · · · · ·
BIBINF	
2nd International C.I.B. Symposium on Energy Conservation in the	9
Built Environment, Copenhagen, May 28 - June 1, 1979. preprints	
- se Narrow (F1=Index)?	
Engl	
···· KEYWORDS=energy	••••
ABST	
Desc L	
designed specifically for studies of indoor air quality and	
energy use in buildings before and after energy conservation	
retrofits and in new buildings incorporating energy-efficient	
designs. Among parameters measured are infiltration rate,	
content of CO, CO2, NO, NO2 SO2, O3, formaldehyde, radon, etc.	
Results of initial phase of program indicate that concentrations	3
of some air pollutants in the built environment are higher than	
outdoor levels and in some cases exceed recommended health and	
comfort criteria.	
	ncel

Figure 8(b)

(V) Searching using the ROOT EXPANDER

The ROOT EXPANDER (*) can be used to expand a search term to cover most derivations of that term. Where words are referenced under several words, such as compute; computer; computed, etc. the root expander can be used, to locate all similar words. This facility can be used when widening and narrowing as well as during the initial search. However it can only be used for single and hyphenated word searching. Multi-word searching using the root expander will retrieve no records.

To use the root expander simply enter the search term or part of the term immediately followed by an asterisk (*), as indicated in the example below. Then press < Enter > and the search will commence incorporating the required term, and all derivatives of that term.

File Search View Record Export Macro	F1=Help
#NO 69 Indoor air quality in energy-efficient buildings.	
AUTHOR	
Hollowell, C.D. et. al.	
BIBINF	
2nd International C.I.B. Symposium on Energy Conservation in the Built Environment, Copenhagen, May 28 - June 1, 1979. preprints - se Find (F1=Index)?	
Engl energ* ABST	••••
Desc	
designed specifically for studies of indoor air quality and	
energy use in buildings before and after energy conservation	
retrofits and in new buildings incorporating energy-efficient	
designs. Among parameters measured are infiltration rate,	
content of CO, CO2, NO, NO2 SO2, O3, formaldehyde, radon, etc.	
Results of initial phase of program indicate that concentrations	
of some air pollutants in the built environment are higher than	
outdoor levels and in some cases exceed recommended health and	
comfort criteria.	i

Figure 9

(VI) Fuzzy searching

Fuzzy searching will scan the entire database for words which sound like or are lexically similar to the term you specify in the search command. Fuzzy searching is triggered by enclosing the term in double quotes. This facility is available with single, multi and hyphenated word searches. The following example illustrates this.

File Search View Record Export Macro	F1=Help
#NO 69 Indoor air quality in energy-efficient buildings.	
AUTHOR	
Hollowell, C.D. et. al.	
BIBINF	
2nd International C.I.B. Symposium on Energy Conservation in the	he
Built Environment, Copenhagen, May 28 - June 1, 1979, preprints	
- ser Find (F1=Index)?	
Engl	
···· "energy"	
ABST	
Desc L	
designed specifically for studies of indoor air quality and	
energy use in buildings before and after energy conservation	
retrofits and in new buildings incorporating energy-efficient	
designs. Among parameters measured are infiltration rate,	
content of CO, CO2, NO, NO2 SO2, O3, formaldehyde, radon, etc.	
Results of initial phase of program indicate that concentration	าร
of some air pollutants in the built environment are higher than	1
outdoor levels and in some cases exceed recommended health and	
comfort criteria.	
	ancel

Figure 10

This is a very useful feature when searching for names or possible mis-spellings, although it is rather slow when compared to direct searching for simple terms. Fuzzy searching can be combined with wild card searching, for example "energ*" could be a valid search term.

(VII) To Scan the found list

After the initial search (Activated by the Find option), AIRBASE will have found a number of articles that contain the required search term. This is the found list. To scan this list use the <+> and <-> keys located in the numeric key pad to move forwards or backwards through the found list.

- (a) < + > Scans the found list in a clockwise direction (Forwards).
- (b) <-> Scans the found list in an anti clockwise direction (Backwards).

(VIII) To GOTO a specific record within the found list.

The Go To command allows you to move directly to a specific record in the found list. The goto command is found in the View drop-down menu.

<ALT> V......Go To. Scan the drop down menu using the arrow keys and select the Go To option by pressing <Enter> or by using the mouse. Enter the location of the required record within the found list, not the records' Hash number. The number should be between 1 and the total number of records found.

(IX) Dropping Records from the found list.

As the found list is scanned, records can be dropped if they are not relevant. This can be achieved in three ways.

- (1) < F8 >Exclude/Not. By pressing the < F8 > function key or by entering the Search drop-down menu < ALT > S and selecting the Exclude function. This function selectively drops those records that CONTAIN a given term, to be decided by the user.
- (2) By entering the Record drop-down menu $\langle ALT \rangle$ R and selecting the **Drop** facility the particular record on the screen will be dropped.
- (3) A selection of records can be marked, as the records are scanned. To mark a record enter the Record Drop-down menu, $\langle ALT \rangle$ R and select the mark option. The drop down menu will disappear and the record on the screen will be marked. This will be indicated in the Status line at the bottom of the screen.

To drop records, re-enter the Record Drop-down menu $\langle ALT \rangle$ R and either select to drop all of the Marked records, or alternatively drop all of the Unmarked records. Select the desired action using the arrow keys and pressing $\langle Enter \rangle$, or by using the mouse.

Dropped records are not deleted from the database, only dropped from the found list.

(X) Recording a search.

Selecting this option, will save all of the search terms incorporated in a complicated search, including FIND, WIDEN and NARROW options etc.

To use this function enter the search drop-down menu $\langle ALT \rangle$ S, and select the record search option before performing your search.

When prompted for a file name to store the search in, enter the desired file name into the dialogue box in the centre of the screen. This must be a new name or you will be advised that the file already exists and asked if you wish to Append (A) it or Overwrite (O) it. The specified file will appear in the AIRBASE directory, and will have the suffix SCH to signify a recorded search file. (For example ENERGY.SCH)

Once you have selected the file name, press < Enter >. You may now perform your search, including Find, Widen, Narrow, and Drop, in fact any of the commands normally available. To de-activate the recorded search mode, enter the Search drop-down menu again and select the record search option again. The little tick now beside the option will disappear.

If a search is complicated or one that is used frequently it may be recorded before entering AIRBASE. This is done by using the built in editor, (TED.EXE) as shown in the example below:

- (1) $C:>\CD\setminus AIRBASE$
- (2) C:\>AIRBASE\ED ?????.SCH

NOTE?????.SCH can be any name chosen by the user, but must be suffixed by .SCH

Each line of the file should contain a search term, which is prefixed by a character shown below, to define its function.

No space should appear between the search character and the search term, an example is given below.

?building |school &absenteeism ^USA

(3) < Ctrl> K D ($^{\sim}$ KD) saves the file ?????.SCH

To execute the search select the REPLAY.....option as you would to replay a normal recorded search.

(XI) REPLAYING a recorded search.

The recorded search may be replayed by activating the replay option. Select the Replay function, a pop-up dialogue box will appear in the centre of the screen, this identifies the directory the recorded search is stored in. Press < Enter > for the default directory. A list of available searches will appear, (those files suffixed by .SCH) select the required search by pressing < Enter > or using the mouse. The recorded search will be replayed.

(XII) Overviewing a found list

This facility enables a specified key field of records within the found list to be viewed at the same time. To evoke this facility enter the View drop-down menu, and select the Overview facility, either by using the mouse of arrow keys.

A pop-up dialogue box will appear in the centre of the screen, enter the key field you wish to view and press < Enter >, If you do not specify a key field the default will be assumed and the first 39 characters of the Ref field will appear in a next pop-up dialogue box. This list can be scrolled up and down using the Arrow keys on the Numeric keypad.

		iew Record			a se vener-o	9	F1=Help
			D:\AI	RBASE\AIRE	BASE		
#NO 6	9 Indo∳r a	ir quality i	n energy	-efficient	: buildings.		
				• • • • • • • • • •			
AUTHO							
Hollo	well, C.D.	et. al.					
BIBIN	-	- None are rough and					
		al C.I.B. Sy					
		nt, Copenhag					
		Ove	rview fi	eld (Enter	=default)?		1
Engl				200000000000000000000000000000000000000			
• • • •	Transparent Company						• • •
ABST							
Desc							
		ically for s					
		uildings bef					
		n new buildi					
		parameters m					
		CO2, NO, NO2					
		ial phase of					
		lutants in t					
		and in some	cases ex	ceed recom	mended heal	th and	
	rt criteri						
	T, l,	→, Home, End	, Del, I	ns, ´Y; Er	ter=accept,	Esc=cancel	

Figure 11 (a)

	r quality in energy-efficient buildings.	
	Hit list overview	•
ollowell, C.D.	#NO 69 Indoor air quality in energy-effi 1	
	#NO 96 Impact of reduced infiltration an 2	
IBINF	#NO 279 Calculation of gas and particle 3	
nd Internationa	#NO 283 Halogenated compounds as gaseous 4	he
uilt Environmen	#NO 330 Health aspects related to indoor 5	s
session 1, 151	#NO 356 A study of indoor air quality. 6	in
nglish	#NO 358 A preliminary evaluation of gas 7 #NO 440 Indoor/outdoor air quality relat 8	
	#NO 440 Indoor/outdoor air quality relat 8	
BSTRACT	#NO 470 Exposure to pollutants in enclos 9	
escribes invest		у
esigned specifi	#NO 529 Heating system-generated indoor 11	ľ
nergy use in bu	#NO 535 Outdoor sources of indoor air po 12	
etrofits and in	#NO 579 Indoor air quality measurements 13	
esigns. Among p	#NO 580 Combustion-generated indoor air 14	
ontent of CO, C	#NO 593 The decontamination by air filtr 15	
esults of initi	#NO 607 Indoor air quality as a criterio 16	ns
f some air poll		n

Figure 11 (b)

In the AIRBASE database the Ref key field is the default, since the structure of the data means that the Title and Hash number are overviewed. If another field is specified, only AUTHOR, or KEYWORDS will appear in the second pop-up dialogue box. Due to the present structure of the database this facility is of little value in overviewing most key fields.

(XIII) Sorting records in the found list.

This feature is activated by entering the View drop-down menu ($\langle ALT \rangle$ V), and selecting the Sort option. The sort command allows you to sort the records in the found list according to the details contained within a specified key field.

A dialogue box will appear once the sort function has been selected. Enter the key field you wish to sort the records by, for example, Ref sorts the records in Numeric order, according to the hash number. While Author will sort the records in alphabetic order according to the Authors name. Enter the key field, press < Enter > and the records will be sorted.

(XIV) Cross Reference searching

This facility allows specified words to be cross referenced with the entire database. To activate this facility, centre the cursor over the specified word, (such as an authors name) and enter the View drop down menu (<ALT> V) highlight and select the Cross-reference facility.

Alternatively centre the cursor over the specified word and press the < F9 > function key.

The performed search will appear on the screen. The Cross referenced facility can be performed up to a maximum of 99 times. Each time a cross reference is made it is recorded in the Status line at the bottom of the screen (i.e. Level 1, Level 2 etc).

To Back-track and return to the initial searches or previous cross referenced levels, enter the View drop down menu, and select the Back track option. You will return to the previous indicated level, or if only one cross reference was performed to the initial found list.

Alternatively the < F10 > function key will perform the back track operation, instead of entering the View drop-down menu.

(XV) Using Macros

The Macros facility allows keystrokes to be recorded and assigned to a letter or Function key, so when they are pressed the recorded macro will be replayed. Recorded macros are stored in the file MACRO.LST in the AIRBASE directory.

This facility can be is useful by allowing all of your own publications contained within AIRBASE to be accessed by pressing one key, or by recording a complicated search that is constantly being repeated, by pressing one key the search can be replayed and the relevant records retrieved quickly. This facility is similar to the Record Search and Replay facility contained within the Search drop-down menu.

To activate this facility enter the Macro drop-down menu $\langle ALT \rangle$ M where three options are available:

(a) To Run a previously recorded Marco < F3 >

Enter the Macro drop-down menu <ALT>M, or press the <F3> function key. A pop-up dialogue box will appear in the centre of the screen. Enter the required macro and press <Enter>. To obtain a list of saved macros, simply enter a question mark (?) in the dialogue box and press <Enter>. A list of saved macros will appear in the centre of the screen, highlight and select the required marco. It will then run automatically.

(b) To Record a macro.

Enter the Marco Drop-down menu $\langle ALT \rangle$ M, (using the mouse or arrow keys), select the record function. The pop-up menu will disappear.

Perform your search, for example, press the < F5 > function key, enter the desired search term into the dialogue box, e.g. Liddament. Re-enter the MARCO drop down menu using the mouse and re-select the record function, the little tick now disappears. You will be asked to specify a key or word that will initiate the search. Enter the required Key such as < Ctrl > < F2 > or just < F2 > to save the macro.

Note the specified key should appear between two brackets <...>

Once the specified key is activated while in AIRBASE the recorded search will be performed.

(c) To Edit a macro

To Edit the Marco.lst file simply enter the Marco drop-down menu select the Edit function, which will automatically evoke the TED.EXE editor.

Press < Enter > and the file Marco.lst will appear on the screen. You can now proceed to edit the file. To save any edits, simply press the Escape key and then < Enter >.

The file will save and return to AIRBASE automatically.

4. How to Export a search to a printer.

(i) To change the Printer Drivers.

The AIRBASE software comes with Epson compatible, Postscript and HP Laser-Jet printer drivers.

- (1) AIRBASE is supplied with an EPSON compatible printer driver by default. If you have a LASER printer or postscript printer, the default will not print correctly.
- (2) To change the printer driver evoke the TED editor supplied with Idealist, While in the AIRBASE directory. (C:\AIRBASE > TED IDEALIST.INI)

WARNING - BEFORE ATTEMPTING TO EDIT THIS FILE MAKE SEVERAL COPIES

(i.e., C:\AIRBASE > Copy Idealist.ini oranges.ini < Enter >)

Enter the AIRBASE directory, (C:\>CD\AIRBASE < Enter>)

Evoke the editor, and specify the file to be edited (Idealist.ini) (C:\>TED IDEALIST.INI < Enter>)

Press < Enter > again and you are now free to edit this file. (Make sure you have copied it before attempting to edit it).

To change the specified printer driver add semi-colons (;) before each line of the active printer driver, this deactivates that printer.

Remove any semi colons at the beginning of the printer driver command lines you now wish to activate.

```
TermChars
           = #0123456789
; PostScript
;Printer=PostScript
;FN=AvantGarde-Demi;
;FS=12;
;LM=60;
; MT=40;
;MB=40;
; IBM QuietWriter III
PrinterOn = 27 58 27 67 9
;page length in lines is 27 67 n
; HP-LaserJet series 2 (NOT 2 Plus)
;Printer=Line
;PrinterOn=
;PrinterOff=
;BoldOn=27, 40, 115, 51, 66
;BoldOff=27, 40, 115, 48, 66
;ItalicOn=27, 40, 115, 49, 83
;ItalicOff=27, 40, 115, 48, 83
;UnderOn=27, 38, 100, 48, 68
;UnderOff=27, 38, 100, 64
: HP-LaserJet series 2 Plus
;Printer=Line
;PrinterOn=27, 38, 107, 50, 71
;PrinterOff=27, 69
;BoldOn=27, 40, 115, 51, 66
;BoldOff=27, 40, 115, 48, 66
;ItalicOn=27, 40, 115, 49, 83
;ItalicOff=27, 40, 115, 48, 83
;UnderOn=27, 38, 100, 48, 68
;UnderOff=27, 38, 100, 64
DateFormat =
                European
LeftMargin
RightMargin =
                66
Editor
                Ted
TextColor
            white on blue
HitColor
            white on blue
ExportWhat=Current record
OutputMargin=60
```

Figure 12

To save this file press $\langle Esc \rangle$ followed by $\langle Enter \rangle$

You will now return to the AIRBASE directory.

Enter AIRBASE at the DOS Prompt (C:\AIRBASE > AIRBASE < Enter >) to initiate the database. Select the required number corresponding to the database (for example, select 1 to enter AIRBASE). The screen will change to display the previous hit list, you are now in AIRBASE.

(II) Obtaining a print-out of a search.

After a given search has been performed you may wish to print out the list of useful abstracts.

- (1) Enter the eXport drop-down menu, (<ALT> X) or by using the mouse to highlight the eXPORT menu, as shown in figure 13, below.
- (2) Highlight and select the Print to Printer option using the key board or mouse. Once this option has been selected a tick will appear to signify that this option has been chosen.

File Search View Record	Export Macro	F1=Help
#NO 69 Indoor air quality i	Formatted Natural	uildings.
Hollowell, C.D. et. al. BIBINF 2nd International C.I.B. Sy		nservation in the
Built Environment, Copenhag - session 1, 151-162, 5 fig English ABSTRACT		- 1979. preprints ATE 28:05:1979 in
Describes investigations in designed specifically for s		obile laboratory quality and
energy use in buildings bef retrofits and in new buildi	Options	conservation ergy-efficient
designs. Among parameters me content of CO, CO2, NO, NO2 Results of initial phase of of some air pollutants in the outdoor levels and in some comfort criteria.	SO2, O3, formaldeh program indicate t ne built environmen	yde, radon, etc. hat concentrations at are higher than hended health and

Figure 13

(4) You can choose to print out the Current record, a range of records from the found list, the entire found list or all of the records within the database.

Current record.....If the Current record option is highlighted then one record will then be printed, that record currently on the screen.

Range.....You can print out a range of records from the found list (for example, from a list of 100, numbers 20 to 60 may be exported).

Hit list......If the Hit list option is selected the entire found list will be exported.

All......The entire database will be exported. WARNING....there are over 5000 records in AIRBASE..Printing them all will take a long time. If this is selected by accident, press the ESC key, you will be asked if you wish to abort the printing procedure. Select Yes.

Highlight and select the desired option.

(5) The records can be exported either as they appear on the screen (Natural format) or via a specified export format (Formatted).

To export records via the natural format, simply select this option and the required number of records will be exported to the printer as they appear on the screen, as seen in figure 14 below.

```
:Airbase
#NO 69 Indoor air quality in energy-efficient buildings.
Hollowell, C.D. et. al.
BIBINE
2nd International C.I.B. Symposium on Energy Conservation in the
Built Environment, Copenhagen, May 28 - June 1, 1979. preprints - session 1, 151-162, 5 figs, 1 tab, 5 refs. #DATE 28:05:1979 in
English
ABSTRACT
Describes investigations in California with a mobile laboratory
designed specifically for studies of indoor air quality and energy use in buildings before and after energy conservation
retrofits and in new buildings incorporating energy-efficient
designs. Among parameters measured are infiltration rate,
content of CO, CO2, NO, NO2 SO2, O3, formaldehyde, radon, etc.
Results of initial phase of program indicate that concentrations
of some air pollutants in the built environment are higher than
outdoor levels and in some cases exceed recommended health and
comfort criteria.
KEYWORDS
air quality, retrofit, energy conservation, radon, formaldehyde.
```

Figure 14

To format the records before exporting, select the formatted option. You will be prompted to select the directory where the formatted files are kept. Pressing <*Enter*> selects the default directory (AIRBASE).

A list of available formats will appear in the centre of the screen, (For example AIRBASE.EXP) highlight and select the required format.

The file containing the format is suffixed by .EXP and can be edited from within AIRBASE, enabling Key fields to be exported in a different order or omitted as necessary.

WARNING..... BEFORE EDITING EXPORT FORMATS MAKE COPIES OF THE ORIGINAL FORMATS.

For example, C:\>COPY AIRBASE.EXP APPLES.EXP < Enter>

To edit the export format, select the edit format option. A dialogue box will appear in the centre of the screen. Press < Enter > to see the choice of export formats. Select the required format to be edited.

The on-board editor will be evoked (TED.EXE), press < Enter > to edit.

Once the export format has been edited, press the $\langle Esc \rangle$ key, which saves the file, then $\langle Enter \rangle$, you will return to AIRBASE, or which ever database you where previously using.

Enter the eXport menu once again and resume the eXport process. Examples of different export formats appear in Appendix D.

The nature of the output can further be edited by selecting the Options facility within the eXport menu. Enter the required margins and press < *Enter* > .

Once all variables have been selected highlight the formatted option and press < *Enter* >the records will be then printed, An example of the possible output is given in figure 15 overleaf.

1. #NO 69 Indoor air quality in energy-efficient buildings.

AUTHOR Hollowell, C.D. et. al.

BIBINF 2nd International C.I.B. Symposium on Energy Conservation in the Built Environment, Copenhagen, May 28 -June 1, 1979. preprints - session 1, 151-162, 5 figs, 1 tab, 5 refs. #DATE 28:05:1979 in English

ABSTRACT Describes investigations in California with a mobile laboratory designed specifically for studies of indoor air quality and energy use in buildings before and after energy conservation retrofits and in new buildings incorporating energy-efficient designs. Among parameters measured are infiltration rate, content of CO, CO2, NO, NO2 SO2, O3, formaldehyde, radon, etc. Results of initial phase of program indicate that concentrations of some air pollutants in the built environment are higher than outdoor levels and in some cases exceed recommended health and comfort criteria.

KEYWORDS air quality, retrofit, energy conservation, radon, formaldehyde.

Figure 15

5. To EXPORT a search to a file.

To save the performed search to a file, which can either be printed at some later date, or further edited by a word processor.

(1) Enter the eXport Drop-Down menu (by pressing $\langle ALT \rangle$ X) or by using the mouse, and select the print to file option, a TICK will appear by the desired method of output.

Follow the same procedure as above to edit the format of the output, and the quantity of records. Once all of the options have been selected highlight the formatted or natural export format and press < *Enter* > .

If you choose to export the records in Natural format, you will be asked to identify a file to hold the exported records. Enter a file name and press < *Enter*>. An example can be seen in figure 16 below.

File Search View Record Export Macro	F1=Help
#NO 69 Indoor air quality in energy-efficient buildings.	
AUTHOR Hollowell, C.D. et. al.	
BIBINF 2nd International C.I.B. Symposium on Energy Conservation in the Built Environment, Copenhagen, May 28 - June 1, 1979. preprints - se Export to? Engl filename	
ABST Desc designed specifically for studies of indoor air quality and energy use in buildings before and after energy conservation retrofits and in new buildings incorporating energy-efficient	
designs. Among parameters measured are infiltration rate, content of CO, CO2, NO, NO2 SO2, O3, formaldehyde, radon, etc. Results of initial phase of program indicate that concentrations	
of some air pollutants in the built environment are higher than outdoor levels and in some cases exceed recommended health and comfort criteria.	

Figure 16

The required number of records will be exported to the file as they appear in the original database, (or on the screen).

If you choose to export the records as Formatted, you will be first prompted to identify the directory containing the format export file. The default directory is AIRBASE. Press < Enter > .

You will then be asked to identify an export format from the list. Highlight and select the required format.

A dialogue box will appear in the centre of the screen, enter the name of the required file you wish to export to, and press < *Enter*>.

If the file already exists you will be asked whether you wish to append (A) the file or overwrite (O) it. Select the appropriate option by entering either A or O, the newly exported records will either be added to the specified file or overwrite its previous contents.

The required number of records will be exported according to the chosen format.

AIRBASE exports the abstracts in **ASCII** format and can be imported into many word processing packages. This facility enables abstracts to be included in reports and research papers.

6. Other features of AIRBASE on Idealist

(I) MS DOS-SHELL

By selecting the File drop-down menu (<ALT> F), you can temporarily escape from AIRBASE using DOS-Shell. This facility allows you to return to the operating system, while keeping AIRBASE in memory. To return to AIRBASE, type EXIT at the DOS prompt. (e.g C:\EXIT <Enter>).

(II) To leave AIRBASE

To leave AIRBASE enter the File drop-down menu (<ALT>F) and select the EXIT option, you will return to the initial menu seen in figure 1. Access another database, by selecting the required number and pressing <Enter>. By selecting 0 (zero)and then <Enter> you will return the operating system of your computer.

(III) To edit Synonyms

This facility allows several associated search terms to be automatically included when one word is searched for. The synonym list can be edited by entering the Search drop-down menu (<ALT>S) and selecting the Edit synonyms option. The on board editor (TED.EXE) will be invoked, Press <Enter>, to edit.

To define synonyms simply enter the search term that will act as a trigger term, followed directly by and equals sign (=) followed directly by the terms that will also be searched for when the trigger term is used.

For example, if the desired field of interest is tracer gas studies, by editing the synonyms list to include:

Tracer = SF6 PFT DECAY EMISSION

Then whenever tracer is searched for, records containing SF6, PFT, DECAY, and EMISSION will be accessed.

To leave the editor, press $\langle Esc \rangle$ followed by $\langle Enter \rangle$, you will return to AIRBASE, now perform your search.

(IV) Report Hit Terms

By entering the Search drop-down menu (<ALT>>S) the Report Hit Terms facility can be activated. This option allows all searched terms to be reported, displaying the searched term in a pop-up box on the screen, following each search.

To select this option enter the Search drop-down menu $\langle ALT \rangle$ S, highlight and select the Report hit terms option, press $\langle Enter \rangle$, a tick will now appear in the drop-down menu. Press $\langle Esc \rangle$.

From now on every search term will appear on the screen after each search, To remove the pop-up box in the centre of the screen, press the $\langle Esc \rangle$ key.

To de-activate this option, enter the search drop down menu again $<\!\!ALT\!\!> S$, highlight and re-select this option. The tick should now disappear, deactivating this facility.

7. UPDATING AIRBASE.

Updates to the AIRBASE suite of databases are available from the AIVC on a quarterly basis, by request. For further details contact the AIVC.

8. HELP....(The on-board Help facility)

<F1>......HELP. Help is always at hand, by pressing the <F1> function key, you can call up the built-in help facility, as indicated below.

Help is available in two ways - either highlight the function that you require HELP with, and press the <F1> Function key, or press the <F1> function key from anywhere within AIRBASE and a list of functions are displayed. The on-board help facility contains information on each of the terms contained within the scroll box. Simply highlight and select the appropriate term. A pop-up dialogue box will appear in the centre of the screen. To return to the list of available help options press <*Enter*> once again. <*Esc*> returns to AIRBASE.

#NO 69 Indoor air quali	ty in energy-efficient buildings	
	·····	••••••
AUTHOR	Kelp	_
Hollowell, C.D. et. al.	Autoexec mecro	1
	Backing up	
BIBINF	Blackwell	
2nd International C.I.B	Block editor commands	n in the
Built Environment, Cope	Characters that make up a term	eprints
session 1, 151-162, 5	Clipboard	:1979 in
nglish	Command line options	
	Commands	
BSTRACT	Configuring idealist	
escribes investigation	Creating a new database	oratory
esigned specifically f	Cross-referencing	and
nergy use in buildings	DOS commands	tion
etrofits and in new bu	Date searching	cient
esigns. Among paramete	Defining record types	
ontent of CO, CO2, NO,	Editor commands	, etc.
esults of initial phas	Escape characters	trations
some air pollutants		er than
omfort criteria.	ome cases exceed recommended hea	lth and

Figure 17(a)

Figure 17(b)

10. THE AIVC'S HELP LINE

HELP LINE....If you have any problems in restoring the software or searching AIRBASE then help can be obtained from the AIVC in Coventry, UK, at the address below:

AIR INFILTRATION AND VENTILATION CENTRE

University of Warwick Science Park Sovereign Court Sir William Lyons Road COVENTRY CV4 7EZ GREAT BRITAIN

Telephone +44 (0)203 692050 Fax +44 (0)203 416306

AIRBASE THESAURUS

Contents

- 1. Buildings
 - 1.1 Rooms
 - 1.2 Building components
- 2. Ventilation
 - 2.1 Tracer gas
 - 2.2 Pressurization
 - 2.3 Ventilation needs
 - 2.4 Retrofitting
- 3. Energy
- 4. Climate
- 5. Instruments
- 6. Radioactivity
- 7. Miscellaneous

KEY

UF - used for

BT - broader term

NT - narrower term

RT - related term

THESAURUS OF TERMS

1. buildings

large building residential building u.f.dwelling house townhouse terraced house rented house detached house testing house multifamily building high occupancy spaces passive solar building passive solar house passive solar design tight house envelope house low energy house apartment building multi-storey building mobile home bungalow garage

nondomestic building

industrial building factory

commercial building office building bank hotel supermarket department store enclosed shopping mall auction hall animal house stables cattle greenhouse atrium conservatory hangar aircraft hangars public building sports building museum hospital school university library laboratory

theatre

auditorium stage shaft opera house

high rise building low rise building

building design

problem buildings sick building sick building syndrome

1.1 rooms

attic
basement
kitchen
bedroom
bathroom
cold room
elevator shaft
computer room
cleanroom
workplace
work room
underfloor crawlspace

1.2 building components

wall building envelope building shape cavity wall cavity party walls metal stud walls porous wall facade wood frame floor floor coverings ceiling porous ceiling roof roof space ridge vent open ridge baffles window double glazing single glazing triple glazing storm window

shutter blind roller blind door storm door doorway chimney spires flue fume hood duct boiler construction detail cavity barrier vapour barrier air barrier air-vapour barrier ioint soffit grating insulation superinsulation foundation air inlets vent air vent supply vent extract vent extract ventilation extractor fan

building material brick

stone
wood
concrete
paint
plaster
chipboard
asbestos
pipe

installation techniques maintenance structural fault

2. ventilation

air change rate air change natural ventilation passive ventilation stack stack effect

stack pressure stack ventilation neutral pressure level neutral zone air infiltration infiltration rate crack crack length openings draughts mechanical ventilation controlled ventilation demand control demand-controlled ventilation user control active ventilation air conditioning filtration air cleaning displacement ventilation mixing ventilation cross ventilation ventilation air ventilation effectiveness ventilation efficiency ventilation heat loss ventilation rate minimum ventilation rate ventilation requirements ventilation strategy ventilation system integrated ventilation gravitational ventilation

2.1 tracer gas

tracer gas measurements
environmental chamber
multi chamber
testing chamber
testing unit
decay rate
constant concentration
constant emission
mixing

argon krypton xenon sulphur hexafluoride oxygen perfluorocarbon methane helium hydrogen
coal gas
chlorothene
ethane
freon
ammonia
carbon dioxide
carbon monoxide
nitrous oxide

2.2 pressurization

air leakage leakage area leakage path component leakage air tightness air velocity air pressure internal pressure pressurization correlation pressurization testing overpressure fan depressurization house depressurization component pressurization alternating pressure thermography thermogram sound performance testing

2.3 ventilation needs

indoor climate air movement smoke movement thermal comfort health disease cancer lung cancer carcinogen allergies irritation irritant infection respiratory illness hygiene passive smoking air quality indoor air quality outdoor air outdoor air quality environment pollution pollution pollutant biological pollutant organic compound hydrocarbon microbiology bacteria particle mould chemical pollutant toxic gas smoke tobacco smoke particulate dust odour body odour aerosol sulphur dioxide nitrogen dioxide nitrogen oxides nitric oxide formaldehyde pentachlorphenol ozone thoron combustion product

2.4 retrofitting

retrofit u.f. weatherization weatherstripping draughtproofing draughtstripping terrain effects shielding shelter belt windbreak shade vegetation trees fence hedge sealing caulking sealant mastic house doctor

3. energy

energy conservation energy consumption

water consumption energy losses energy audit energy balance energy efficiency energy needs energy policy energy saving USE energy conservation

heat transfer heat loss heat recovery heat storage heating passive heating heating system space heating air heating floor heating combustion heating radiator heating needs electric heating gas gas heating gas appliance gas cooking gas stove stove solar solar heating furnace

4. climate

hot climate desert climate cold climate dry climate

weather sun rain frosting

moisture water water vapour damp humidity humidity control condensation interstitial condensation surface condensation

air flow dry air wind wind speed mean wind speed wind direction wind pressure wind effect turbulence turbulence intensity turbulent air flow flow turbulent flow laminar flow convection temperature temperature difference cooling pressure pressure difference pressure distribution pressure fluctuation pressure coefficient mean pressure coefficient pressure differential pressure drop pressure testing induced pressure testing surface pressure

5. instruments

instrumentation measurement measurement technique automatic equipment blower blower door fan anemometer manometer transducer permeameter chromatograph concentration meter stroboscope katharometer probe computer data logger microprocessor

heat exchanger air-to-air heat exchanger thermal wheel heat pump

air curtain air lock sample bag sample bottle filter scintillation counter wind tunnel wind tunnel testing roughness fetch boundary layer shear layer humidifier humidification dehumidifier dehumidification hot box electrostatic precipitator sampler passive sampler passive sampling personal monitors sensor

6. radioactivity

radioactive
radiation
background radiation
alpha particle
beta radiation
gamma rays
radon
radon daughter
soil
emanation

7. miscellaneous

modelling model theoretical modelling numerical modelling empirical models mathematical model mathematical modelling calculation techniques correlation prediction computer model nomogram ageing diffusion porosity permeability

design simulation validation standard building code patent

market study questionnaire

review cost effectiveness economic analysis

occupancy effects
occupant
occupant behaviour
occupant control
occupant reaction
window opening
door opening
open window
comfort
human comfort

thermal analysis
thermal conductivity
thermal efficiency
thermal gradient
thermal insulation
thermal mass
thermal performance
thermal requirements
thermal resistance

testing

FULL INDEX TO AIRBASE THESAURUS

A	BT instruments (5)
active ventilation	
BT controlled ventilation	air exchange USE air change rate
RT demand control	
demand-controlled ventilation user control	air exchange rate USE air change rate
passive ventilation	air flow
F. C.	BT climate (4)
aerosol	NT dry air
BT chemical pollutant	wind
2 2 Challand Possadian	wind speed
ageing	wind direction
-BB	wind pressure
air barrier	wind effect
BT construction detail	turbulence
RT cavity barrier	convection
vapour barrier	RT air movement
air-vapour barrier	air leakage
wind barrier	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
air leakage	air heating
air infiltration	BT heating
building envelope	RT passive heating
insulation	heating system
	space heating
air change	combustion heating
BT air change rate	
21 un onungo ruto	air infiltration
air change rate	BT ventilation (2)
UF air exchange	NT infiltration rate
air renewal	crack
air recirculation rate	crack length
BT ventilation (2)	openings
NT air change	RT air change rate
RT natural ventilation	natural ventilation
air infiltration	draughts
draughts	
mechanical ventilation	air inlets
ventilation rate	BT construction detail
infiltration rate	RT vent
air cleaning	air leakage
BT air conditioning	air infiltration
RT filtration	
filter	air leakage
	BT pressurization (2.2)
air conditioning	NT leakage area
BT ventilation (2)	leakage path
NT filtration	component leakage
air cleaning	air tightness
RT air change rate	air velocity
natural ventilation	air pressure
air infiltration	internal pressure
draughts	RT pressurization correlation
mechanical ventilation	pressurization testing
	overpressure

fan depressurization

air curtain

house depressurization component pressurization alternating pressure thermography performance testing

air lock

BT instruments (5)

air movement

BT ventilation needs (2.3)
NT smoke movement
RT indoor climate
thermal comfort
air quality
draughts
air velocity
air flow

air infiltration

air leakage

air permeability USE permeability

air pollution USE pollution

air pressure

BT air leakage
RT leakage area
leakage path
component leakage
air tightness
air velocity
internal pressure

air quality

BT ventilation needs (2.3)
NT indoor air quality
outdoor air outdoor air quality
environment pollution
RT indoor climate

health

air quality sensors USE sensor + air quality

air recirculation rate USE air change rate

air renewal USE air change rate

air speed USE air velocity

air tightness

BT air leakage RT leakage area leakage path component leakage air velocity air pressure internal pressure tight house

air velocity

BT air leakage RT leakage area leakage path component leakage air tightness air pressure internal pressure wind speed

air vent BT vent

NT supply vent extract vent

RT air inlets

air-to-air heat exchanger BT heat exchanger RT thermal wheel

air-vapour barrier

BT construction detail
RT cavity barrier
vapour barrier
air barrier
wind barrier
air leakage
air infiltration
building envelope
insulation

aircraft hangars

BT hangar

RT large building

airflow windows USE window

allergic disease USE allergies

allergies

UF allergic disease BT health RT disease irritation

respiratory illness hygiene

passive smoking

alpha particle

BT radioactivity (6)	RT conservatory
RT radioactive	solar
radiation	Solar
beta radiation	
gamma rays	attic
radon	UF loft
soil	BT rooms (1.1)
emanation	RT basement
	roof
alternating pressure	
BT pressurization (2.2)	auction hall
RT air leakage	BT commercial building
pressurization correlation	RT office building
component pressurization	bank
overpressure	hotel
thermography	supermarket
sound	department store
performance testing	enclosed shopping mall
ammonia	auditorium
BT tracer gas (2.1)	BT theatre
	NT stage shaft
anemometer	RT opera house
BT instruments (5)	
	automatic equipment
animal house	BT measurement technique
BT commercial building	
NT stables	В
cattle	background radiation
	BT radiation
apartment building	
BT residential building	bacteria
RT flat	BT biological pollutant
house	RT organic compound
multi-storey building	microbiology
high occupancy spaces	particle
	mould
argon	1 00
BT tracer gas (2.1)	baffles BT roof
array	RT roof space
- 1	ridge vent
asbestos	bank
BT building material RT brick	BT commercial building
	RT office building
stone	hotel
wood	supermarket
concrete	department store
chipboard	enclosed shopping mall
pollutant air quality	auction hall
health	aucton nun
neann	basement
atrium	BT rooms (1.1)
BT greenhouse	RT underfloor crawlspace
T Recuironse	Ter understoor viamapaoo

foundation	fume hood
bathroom	boundary layer
BT rooms (1.1)	BT wind tunnel
RT kitchen	RT wind tunnel testing
bedroom	roughness fetch
ocaroom	shear layer
bedroom	Shour layer
BT rooms (1.1)	brick
RT kitchen	BT building material
bathroom	RT stone
	wood
beta radiation	concrete
BT radioactivity (6)	chipboard
RT radioactive	asbestos
radiation	
alpha particle	building code
gamma rays	RT standard
radon	patent
soil	P
emanation	building component (1.2)
	NT wall
biological pollutant	floor
BT pollutant	ceiling
RT organic compound	roof
microbiology	window
bacteria	door
particle	doorway
chemical pollutant	chimney
mould	spires
moura	flue
blind	fume hood
BT window	duct
NT roller blind	boiler
RT storm window	construction detail
shutter	
Shuttor	building design
blower	BT buildings (1)
BT instruments (5)	RT problem buildings
NT blower door	building envelope
RT fan	building shape
pressurization testing	design
air leakage	dosig.
un lounago	building envelope
blower door	BT wall
BT blower	RT building shape
DI Glower	cavity wall
blower door tests USE blower door + testing	tight house
Diones door tests Cold blower door + testing	insulation
body odour	I I I I I I I I I I I I I I I I I I I
BT odour	building material
DI Odoui	BT building component (1.2)
boiler	NT brick
BT building component (1.2)	stone
A L DUMMING WILLDWING 11.41	. DEGREE

wood

RT flue

concrete chipboard asbestos pipe RT construction detail maintenance structural fault building shape BT wall RT building envelope building design buildings (1) NT large building residential building nondomestic building commercial building public building bungalow BT residential building RT house flat apartment building multi-storey building mobile home C calculation USE calculation techniques calculation methods USE calculation techniques calculation techniques UF calculation calculation methods RT modelling model theoretical modelling numerical modelling empirical models mathematical model mathematical modelling correlation prediction computer model nomogram cancer BT disease NT lung cancer

carcinogen

carbon dioxide BT tracer gas (2.1) carbon monoxide BT tracer gas (2.1) RT pollutant carcinogen BT cancer RT lung cancer carpet USE floor coverings cattle BT animal house RT stables caulking BT retrofitting (2.4) NT sealant mastic RT sealing weatherstripping shielding house doctor cavity BT cavity wall cavity barrier BT construction detail RT vapour barrier air barrier air-vapour barrier insulation cavity wall BT wall NT cavity RT building envelope building shape party walls metal stud wall porous wall facade cavity barrier insulation ceiling BT building component (1.2) NT porous ceiling RT roof

1 - 2 - 1 - 11-44	cold store USE cold room
chemical pollutant	cold store USE cold room
BT pollutant RT biological pollutant	combustion heating
particle	BT heating
particie	RT passive heating
chimney	heating system
BT building component (1.2)	space heating
RT roof	air heating
flue	floor heating
fume hood	noor nearing
duct	combustion product
duct	BT chemical pollutant
chipboard	DI chemical politicale
BT building material	comfort
RT brick	BT occupancy effect
stone	NT human comfort
wood	RT occupant reaction
concrete	thermal comfort
asbestos	
formaldehyde	commercial building
Tormaldenyde	BT buildings (1)
chlorothene	NT office building
BT tracer gas (2.1)	bank
BI tracer gas (2.1)	hotel
chromatograph	supermarket
BT instruments (5)	department store
DI Instruments (5)	enclosed shopping mall
cleanroom	auction hall
UF clean room	animal house
BT rooms (1.1)	greenhouse
RT computer room	hangar
laboratory	RT large building
Mooratory	residential building
clean room USE cleanroom	nondomestic building
cicum room con con	industrial building
climate (4)	public building
NT hot climate	high rise building
cold climate	low rise building
dry climate	building design
weather	problem buildings
air flow	P
temperature	component leakage
pressure	BT air leakage
Product	RT leakage area
coal gas	leakage path
BT tracer gas (2.1)	air tightness
cold climate	air velocity
BT climate (4)	air pressure
RT hot climate	internal pressure
dry climate	E
,	component pressurization
cold room	BT pressurization (2.2)
UF cold store	RT air leakage
BT rooms (1.1)	pressurization correlation
` '	pressurization testing

fan depressurization house depressurization alternating pressure thermography sound performance testing overpressure component leakage computer BT instruments (5) NT data logger microprocessor RT computer model computer room computer model joint BT modelling soffit RT model theoretical modelling numerical modelling empirical modelling mathematical modelling vent mathematical model calculation techniques correlation prediction monogram computer computer room computer room BT rooms (1.1) RT cleanroom convection concentration meter RT BT instruments (5) concrete BT building material RT brick stone wood chipboard cooling asbestos condensation BT moisture correlation NT interstitial condensation surface condensation RT model RT water humidity mould

conservatory

BT greenhouse

RT atrium constant concentration BT tracer gas (2.1) RT constant emission constant emission BT tracer gas (2.1) RT constant concentration construction detail BT building component (1.2) NT cavity barrier vapour barrier air-vapour barrier grating insulation foundation air inlets contaminant USE pollutant controlled ventilation BT mechanical ventilation NT demand control demand-controlled ventilation user control active ventilation RT occupant control BT air flow wind wind speed wind direction wind pressure wind effect turbulence BT temperature RT temperature difference BT modelling theoretical modelling numerical modelling empirical models mathematical modelling mathematical model

calculation techniques

prediction computer model nomogram

cost effectiveness

RT economic analysis energy conservation energy audit energy efficiency

crack

BT air infiltration RT infiltration rate crack length openings

crack length

BT air infiltration RT infiltration rate crack

openings cross ventilation

BT ventilation (2)

RT natural ventilation
mechanical ventilation
displacement ventilation
mixing ventilation
gravitational ventilation

D damp

> BT water RT water vapour moisture humidity

> > condensation

data logger

BT computer RT microprocessor decay rate

UF rate of decay

BT tracer gas (2.1)

dehumidification

BT dehumidifier RT humidification

dehumidifier

BT instruments (5)
NT dehumidification
RT humidifier
humidity

dry air

demand control

BT controlled ventilation

RT demand-controlled ventilation

user control active ventilation occupant control

demand-controlled ventilation

BT controlled ventilation

RT demand control
user control
active ventilation
occupant control

department store

BT commercial building

RT office building

bank hotel supermarket

enclosed shopping mall

auction hall

desert climate

BT hot climate

design

RT modelling simulation validation building design

detached house

BT house

RT townhouse

terraced house

rented house

testing house

multifamily building

bungalow

diffusion

disease

BT health

NT cancer

RT allergies

irritation

respiratory illness

hygiene

passive smoking

displacement ventilation

BT ventilation (2)

RT natural ventilation mechanical ventilation

mixing ventilation

cross ventilation	RT hot climate
gravitational ventilation	cold climate dry air
door	
BT building component (1.2)	duct
NT storm door	BT building component (1.2)
RT wall	RT chimney
floor	flue
roof	fume hood
window	pipe
doorway	P-P-
blower door	dust
door opening	BT particulate
door opening	DI particulate
BT occupancy effects	dwelling USE residential building
• •	dwelling OSE residential building
RT occupants	
occupant behaviour	77
occupant control	E
occupant reaction	economic analysis
window opening	RT standard
door	building code
doorway	patent
	market study
doorway	questionnaire
BT building component (1.2)	review
RT door	cost effectiveness
door opening	energy audit
double glazing	electric heating
BT window	BT heating
RT single glazing	RT heating system
triple glazing	space heating
storm window	air heating
DECEMBER WALLED W	floor heating
draughtproofing	combustion heating
BT weatherstripping	radiator
RT retrofitting (2.4)	heating needs
	gas heating
draughts	solar heating
	solar heating
draughts	1. 4. 4.4
BT ventilation (2)	electrostatic precipitator
RT air change rate	BT instruments (5)
natural ventilation	
air infiltration	elevator shaft
mechanical ventilation	UF lift shaft
air conditioning	BT rooms (1.1)
	RT stage shaft
draughtstripping	duct
BT draughtproofing	
dry air	emanation
BT air flow	BT radioactivity (6)
RT humidifier	RT radioactive
	radiation
dry climate	alpha particle
BT climate (4)	beta radiation

gamma rays radon soil empirical models BT modelling RT model theoretical modelling numerical modelling mathematical modelling mathematical model calculation techniques correlation prediction computer model nomogram enclosed shopping mall BT commercial building RT office building bank hotel supermarket department store auction hall energy (3) SEE THESAURUS energy audit BT energy (3) energy balance BT energy (3) energy conservation UF energy saving energy economy BT energy (3) energy consumption BT energy (3) energy economy USE energy conservation OR energy efficiency energy efficiency BT energy (3) RT ventilation efficiency energy losses BT energy (3) energy needs BT energy (3)

energy policy BT energy (3) energy saving USE energy conservation envelope house BT tight house environment pollution BT air quality NT pollution RT indoor air quality outdoor air outdoor air quality environmental chamber BT tracer gas (2.1) ethane BT tracer gas (2.1) extract vent BT air vent NT extract ventilation RT supply vent extract ventilation BT extract vent NT extractor fan RT ventilation (2) air conditioning extractor fan BT extract ventilation F facade BT wall RT building shape building envelope cavity wall wood frame factory BT industrial building fan BT instruments (5) RT blower fan depressurization fan pressurization method extractor fan fan depressurization

BT pressurization (2.2)

RT air leakage

pressurization correlation	turbulent air flow
pressurization testing	turbulent flow
•	laminar flow
house depressurization	lamilar now
component pressurization	G
alternating pressure	flue
thermography	BT building component (1.2)
sound	RT chimney
performance testing	fume hood
overpressure	duct
fan	pipe
	vent
fence	formaldehyde
BT shielding	BT chemical pollutant
RT shelter belt	Dr onomiour ponutum
windbreak	foundation
	BT construction detail
vegetation	FEET STATE SECTION STATE SECTION STATE SECTION
trees	RT basement
hedge	underfloor crawlspace
filter	freon
BT instruments (5)	BT tracer gas (2.1)
RT filtration	
	frosting
filtration	BT weather
BT air conditioning	B1 weather
•	fume hood
RT air cleaning	
filter	BT building component (1.2)
	RT chimney
flat	flue
BT residential building	duct
RT apartment building	
house	furnace
multi-storey building	BT energy (3)
bungalow	
anguo w	G
floor	gamma rays
101 10	BT radioactivity (6)
BT building component (1.2)	
NT floor coverings	RT radioactive
RT floor heating	radiation
	alpha particle
floor coverings	beta radiation
UF carpet	radon
BT floor	soil
	emanation
floor heating	
BT heating	garage
RT passive heating	BT residential building
	RT multi-storey building
heating system	K i muiti-storey building
space heating	
air heating	gas
combustion heating	BT energy (3)
	RT gas heating
flow	gas appliance
BT turbulence	
RT turbulence intensity	gas appliance

BT gas heating NT gas cooking gas stove gas cooking BT gas appliance RT gas stove heat exchanger gas heating BT energy (3) NT gas appliance RT energy consumption energy needs heat loss heating heating needs electric heating gas stove solar heating heat pump gas stove BT gas appliance RT gas cooking heat recovery stove grating BT construction detail RT joint soffit air inlets heat storage vent gravitational ventilation BT ventilation (2) RT natural ventilation heat transfer mechanical ventilation displacement ventilation mixing ventilation cross ventilation greenhouse BT commercial building NT atrium conservatory RT passive solar building heating H hangar BT commercial building NT aircraft hangars

RT large building

NT disease

BT ventilation needs (2.3)

health

allergies irritation respiratory illness hygiene passive smoking RT air quality BT instruments (5) NT air-to-air heat exchanger thermal wheel BT heat transfer RT heat recovery heat storage energy losses ventilation heat loss BT instruments (5) BT heat transfer RT heat loss heat storage heat pump heat exchanger BT heat transfer RT heat loss heat recovery BT energy (3) NT heat loss heat recovery heat storage RT energy losses heat exchanger heater USE heating system OR radiator BT energy (3) NT passive heating heating system space heating air heating floor heating combustion heating RT energy consumption

radiator

heating needs

electric heating gas heating solar heating heating needs hotel BT energy (3) RT energy consumption heating radiator electric heating gas heating solar heating heating system BT heating RT passive heating space heating air heating floor heating combustion heating hedge BT shielding RT shelter belt windbreak vegetation trees fence helium BT tracer gas (2.1) high-occupancy spaces BT multifamily building high rise building BT buildings (1) RT low rise building hospital BT public building RT museum sports building school university library laboratory theatre opera house hotbox UF hot box BT instruments (5) hot box USE hotbox

hot climate

BT climate (4) NT desert climate RT cold climate dry climate BT commercial building RT office building bank supermarket department store enclosed shopping mall auction hall house BT residential building NT townhouse terraced house rented house testing house multifamily building passive solar building tight house RT flat apartment building multi-storey building mobile home bungalow garage house depressurization BT pressurization (2.2) RT air leakage pressurization correlation pressurization testing overpressure fan depressurization component pressurization alternating pressure thermography sound performance testing house doctor BT retrofitting (2.4) RT weatherstripping sealing caulking human comfort BT comfort humidification BT humidifier

RT dehumidification

humidifier	· indoor environment USE indoor climate
	7
BT instruments (5)	induced pressure test USE induced pressure test
NT humidification	ing
RT dehumidifier	induced pressure testing
humidity	BT pressure testing
dry air	
	industrial building
humidity	BT buildings (1)
BT moisture	NT factory
NT humidity control	RT large building
RT water	residential building
water vapour	nondomestic building
damp	commercial building
condensation	public building
humidifier	
dehumidifier	infection
	BT health
humidity control	RT disease
BT humidity	allergies
	irritation
hydrocarbon	respiratory illness
BT biological pollutant	hygiene
RT organic compound	passive smoking
microbiology	air quality
bacteria	
particle	infiltration rate
mould	BT air infiltration
	RT crack
hydrogen	crack length
BT tracer gas (2.1)	openings
DI trucci gus (2.1)	air change rate
hygiene	ventilation rate
BT health	installation techniques
RT disease	BT building component (1.2)
allergies	RT maintenance
irritation	7
infection	instrumentation
respiratory illness	BT instruments (5)
passive smoking	,
passive smoking	instruments (5) SEE THESAURUS
I	insulation
indoor air quality	BT construction detail
BT air quality	NT superinsulation
RT outdoor air	RT cavity barrier
	vapour barrier
outdoor air quality	air barrier
environment pollution	air-vapour barrier
1 1 1	joint
indoor climate	retrofit
BT ventilation needs (2.3)	
RT air movement	tight house
thermal comfort	building envelope
health	air tightness
air quality	energy conservation

thermal comfort BT public building thermal insulation RT hospital school integrated ventilation university BT ventilation system clean room internal pressure computer room BT air leakage RT leakage area laminar flow leakage path BT turbulence RT turbulence intensity component leakage turbulent air flow air tightness air velocity flow turbulent flow air pressure large building interstitial condensation BT condensation BT buildings (1) RT surface condensation RT industrial building multifamily building cavity wall high occupancy spaces multi-storey building irritant commercial building BT irritation irritation BT health leakage area BT air leakage NT irritant RT disease RT leakage path component leakage allergies air tightness respiratory illness hygiene air velocity air pressure passive smoking internal pressure ioint leakage path BT air leakage BT construction detail RT leakage area RT soffit component leakage grating insulation air tightness air velocity retrofit air pressure internal pressure K library katharometer BT public building BT instruments (5) RT museum school kitchen university **BT** rooms (1.1) RT bedroom theatre bathroom lift shaft USE elevator shaft krypton loft USE attic BT tracer gas (2.1) low energy housing USE low energy house L laboratory buildings USE laboratory low energy house UF low energy housing laboratory

correlation BT house prediction RT townhouse computer model terraced house nomogram rented house detached house mean pressure coefficient testing house multifamily building BT pressure coefficient passive solar building mean wind speed tight house BT wind speed low rise building measurement BT buildings (1) BT instruments (5) RT high rise building RT measurement technique lung cancer measurement methods USE measurement tech-BT cancer nique RT carcinogen measurement technique UF measurement methods BT instruments (5) M NT automatic equipment maintenance RT measurement BT building component (1.2) RT installation techniques mechanical ventilation manometer BT ventilation (2) BT instruments (5) NT controlled ventilation RT air change rate market study natural ventilation RT questionnaire air infiltration review air conditioning economic analysis displacement ventilation mixing ventilation mastic cross ventilation BT caulking ventilation air RT sealant ventilation effectiveness ventilation efficiency mathematical model ventilation heat loss BT modelling ventilation rate RT model ventilation requirements theoretical modelling ventilation strategy numerical modelling ventilation system empirical models gravitational ventilation mathematical modelling metal stud walls calculation techniques BT wall correlation RT building envelope prediction cavity wall computer model party walls nomogram porous wall facade mathematical modelling wood frame BT modelling

RT model

theoretical modelling

numerical modelling

mathematical model

empirical models

methane

microbiology

BT tracer gas (2.1)

BT biological pollutant

RT organic compound

bacteria RT ageing diffusion particle porosity mould permeability microprocessor design BT computer simulation RT data logger validation minimum ventilation rate moisture BT ventilation rate NT water humidity mixing condensation BT tracer gas (2.1) RT mould RT mixing ventilation mixing ventilation mould BT biological pollutant BT ventilation (2) RT organic compound RT natural ventilation microbiology mechanical ventilation bacteria displacement ventilation cross ventilation particle humidity gravitational ventilation mixing multi-chamber BT tracer gas (2.1) mobile home RT environmental chamber BT residential building testing chamber RT house flat multifamily building apartment building UF multifamily house multi-storey building BT house bungalow NT high occupancy spaces model RT townhouse BT modelling terraced house RT theoretical modelling numerical modelling rented house detached house empirical models testing house mathematical modelling passive solar building mathematical model apartment building calculation techniques correlation multifamily house USE multifamily building prediction computer model multi-storey building nomogram BT residential building RT house modelling flat NT model apartment building theoretical modelling mobile home numerical modelling bungalow empirical models garage mathematical modelling mathematical model museum calculation techniques

BT public building

RT library

correlation

prediction computer model

nomogram

theatre sports building hospital school university laboratory opera house

N

natural ventilation BT ventilation (2)

NT passive ventilation

stack stack effect

stack effect stack pressure

stack ventilation

neutral pressure level

RT mechanical ventilation

air change rate air infiltration draughts

displacement ventilation

neutral pressure level

BT natural ventilation

RT stack

stack effect stack pressure

stack ventilation

neutral zone

neutral zone

BT natural ventilation

RT passive ventilation

stack

stack effect

stack pressure

stack ventilation

neutral pressure level

wind pressure

nitric oxide

BT chemical pollutant

nitrogen dioxide

BT chemical pollutant

nitrogen oxides

BT chemical pollutant

nitrous oxide

BT tracer gas (2.1)

nomogram

BT modelling

RT model

theoretical modelling numerical modelling

empirical models

mathematical modelling

mathematical model

calculation techniques

correlation

prediction

computer

nondomestic building

BT buildings (1)

RT large buildings residential building industrial building

commercial building

public building

low rise building

problem buildings

numerical modelling

BT modelling

RT model

theoretical modelling

empirical models

mathematical modelling

mathematical model calculation techniques

correlation

prediction

computer model

nomogram

O

occupancy effects

NT occupants

occupant behaviour

occupant control occupant reaction

occupant reaction

window opening

door opening

open window

comfort

occupant

BT occupancy effects

RT occupant behaviour occupant control occupant reaction

window opening

open window

comfort

BT occupancy effects occupant behaviour RT window window opening BT occupancy effects RT occupants door opening occupant control openings occupant reaction BT air infiltration window opening RT infiltration rate door opening crack open window crack length comfort occupant control opera house BT public building BT occupancy effects 'RT occupants RT museum school occupant behaviour university occupant reaction library window opening theatre door opening comfort organic compound controlled ventilation BT pollutant occupant reaction RT microbiology biological pollutant BT occupancy effects bacteria RT occupants particle occupant behaviour occupant control organic substance USE organic compound window opening door opening outdoor air open window BT air quality comfort RT indoor air quality outdoor air quality odour environment pollution BT air quality NT body odour outdoor air quality RT indoor air quality BT air quality pollution RT indoor air quality mould outdoor air environment pollution office outdoor temperature USE outdoor air + temoffice building perature BT commercial building RT bank overpressure hotel BT pressurization (2.2) supermarket oxygen department store BT tracer gas (2.1) enclosed shopping mall auction hall ozone animal house BT chemical pollutant greenhouse hangar P open ridge paint BT ridge vent

open window

BT concrete

RT plaster	pollution
	tobacco
particle	particulate
BT biological pollutant	odour
RT organic compound	carbon dioxide
microbiology	carbon monoxide
bacteria	toxic gas
mould	
smoke	passive solar building
particulate	BT house
aerosol	NT passive solar house
	RT testing house
particulate	tight house
BT air quality	low energy house
NT dust	solar heating
RT indoor air quality	greenhouse
environment pollution	
pollution	passive solar design
smoke	BT passive solar house
combustion product	RT solar heating
combustion product	greenhouse
party walls	design
BT wall	uesign
RT cavity wall	passive solar house
metal stud wall	BT passive solar building
	NT passive solar design
porous wall facade	RT solar
wood frame	solar heating
wood frame	greenhouse
	greennouse
passive heating	nassiva vantilation
BT heating	passive ventilation BT natural ventilation
RT heating system	RT stack
space heating	
air heating	stack effect
floor heating	stack pressure
combustion heating	stack ventilation
	neutral pressure level
passive sampler	active ventilation
BT instruments (5)	neutral zone
NT passive sampling	
RT sampler	patent
sampling	RT standard
sample bag	building code
sample bottle	
	pentachlorphenol
passive sampling	BT chemical pollutant
BT passive sampler	
	perfluorocarbon
passive smoking	BT tracer gas (2.1)
BT health	
RT cancer	performance test USE performance testing
disease	
allergies	performance testing
irritation	UF performance test
respiratory illness	BT pressurization (2.2)

permeability RT porosity permeameter permeameter BT instruments (5) RT permeability personal monitors BT instruments (5) pipe BT building material RT brick stone wood concrete chipboard asbestos duct plaster building material BT pollutant UF contaminant BT pollution NT biological pollutant chemical pollutant pollution BT air quality NT pollutant porosity RT permeability porous wall porous ceiling porous ceiling BT ceiling RT porosity porous wall porous wall BT wall RT building envelope cavity party walls

metal stud wall

porous ceiling

facade

porosity

prediction BT modelling RT theoretical modelling numerical modelling empirical models mathematical modelling mathematical model calculation techniques correlation computer model nomogram pressure BT climate (4) NT pressure difference pressure distribution pressure fluctuation pressure coefficient pressure differential pressure drop pressure testing surface pressure RT pressurization (2.2) wind pressure pressure coefficient BT pressure NT mean pressure coefficient RT pressure difference pressure distribution pressure fluctuation pressure differential pressure drop pressure testing surface pressure pressure difference BT pressure RT pressure distribution pressure fluctuation pressure coefficient pressure differential pressure drop pressure testing surface pressure pressure differential BT pressure RT pressure difference pressure distribution pressure fluctuation pressure coefficient pressure drop

pressure testing

surface pressure

overpressure pressure distribution RT pressure BT pressure RT pressure difference pressure fluctuation pressurization correlation BT pressurization (2.2) pressure coefficient RT air leakage pressure differential component pressurization pressure drop pressurization testing pressure testing fan depressurization surface pressure house depressurization alternating pressure pressure drop thermography BT pressure RT pressure difference sound performance testing pressure distribution pressure fluctuation overpressure pressure coefficient pressurization testing pressure differential pressure testing BT pressurization (2.2) RT air leakage surface pressure pressurization correlation pressure fluctuation fan depressurization house depressurization BT pressure component pressurization RT pressure difference pressure distribution alternating pressure thermography pressure coefficient pressure differential sound performance testing pressure drop overpressure pressure testing surface pressure pressure testing probe pressure testing BT instruments (5) BT pressure NT induced pressure testing problem buildings BT buildings (1) RT pressure difference NT sick building pressure distribution pressure fluctuation RT health pressure coefficient pressure differential public building BT buildings (1) pressure drop NT sports building pressurization testing house depressurization museum surface pressure hospital school university pressurization (2.2) NT air leakage library pressurization correlation laboratory pressurization testing theatre fan depressurization opera house house depressurization RT residential building component pressurization industrial building alternating pressure commercial building thermography sound

questionnaire

performance testing

RT market study review radon daughter economic analysis UF radon decay products BT radon R radon decay products USE radon daughter radiation BT radioactivity (6) rain NT background radiation BT weather RT radioactive RT sun alpha particle moisture beta radiation water gamma rays frosting radon soil rate of decay USE decay rate emanation rented house radiator BT house BT energy (3) RT townhouse RT energy consumption terraced house heating detached house heating needs testing house electric heating multifamily building gas heating solar heating residential building UF dwelling radioactive BT buildings (1) BT radioactivity (6) NT house RT radiation alpha particle apartment building beta radiation multi-storey building gamma rays mobile home radon bungalow soil garage emanation RT nondomestic building industrial building radioactivity (6) commercial building NT radioactive public building radiation high rise building alpha particle low rise building beta radiation building design gamma rays problem buildings radon soil respiratory disease USE respiratory illness emanation respiratory illness UF respiratory disease radon BT radioactivity (6) BT health NT radon daughter NT disease allergies RT radiation irritation alpha particle hygiene beta radiation passive smoking gamma rays soil

emanation

retrofit

UF weatherization	bathroom
BT retrofitting (2.4)	cold room
NT weatherstripping	elevator shaft
terrain effects	computer room
shielding	cleanroom
sealing	workplace
caulking	work room
house doctor	underfloor crawlspace
retrofitting (2.4)	roughness fetch
NT retrofit	BT wind tunnel
RT weatherstripping	RT wind tunnel testing
shielding	boundary layer
sealing	shear layer
caulking	
house doctor	
	S
review	sample bag
RT standard	BT instruments (5)
building code	RT sample bottle
patent	sampling
market study	passive sampler
questionnaire	passive sampling
economic analysis	
	sampler
ridge vent	BT instruments (5)
BT roof	RT passive sampler
NT open ridge	passive sampling
RT roof space	sample bag
baffles	sample bottle
roller blind	1- h-441-
BT blind	sample bottle
roof	BT instruments (5)
BT building component (1.2)	RT sample bag
NT roof space	sampling
ridge vent	passive sampler
baffles RT wall	passive sampling
	- complied
floor	sampling BT sample bettle
ceiling window	RT sample bottle sample bag
door	passive sampler
chimney	passive sampling
•	passive sampling
spires	school
roof space	BT public building
BT roof	RT sports building
RT ridge vent	university
baffles	library
Outlied	10141
rooms (1.1)	scintillation counter
NT attic	BT instruments (5)
basement	Dr mattamonta (5)
kitchen	sealant
bedroom	BT caulking
oodi ooni	DI Cauking

RT mastic	RT modelling
	design
sealing	validation
BT retrofitting (2.4)	testing
NT sealant	S
mastic	single glazing
RT weatherstripping	BT window
terrain effects	RT double glazing
shielding	
	triple glazing
caulking house doctor	storm window
nouse doctor	
11 1 770 11	smoke
sealing layers USE sealing	BT air quality
	NT tobacco smoke
sensor	RT indoor air quality
BT instruments (5)	environment pollution
	pollution
shade	toxic gas
BT windbreak	particulate
	odour
shear layer	carbon dioxide
BT wind tunnel	carbon monoxide
RT wind tunnel testing	nitrogen dioxide
roughness fetch	combustion product
boundary layer	
shelter belt	smoke movement
BT shielding	BT air movement
RT windbreak	RT smoke
vegetation	
trees	smoke sensor USE smoke + sensor
fence	
hedge	soffit
shielding	BT construction detail
BT retrofitting (2.4)	RT joint
NT shelter belt	grating
windbreak	grating
vegetation	soil
trees	BT radioactivity (6)
fence	RT radon
hedge	emanation
shutter	solar
BT window	BT energy (3)
RT storm window	RT solar heating
blind	passive solar building
	passive solar design
sick building	greenhouse
BT problem buildings	g. comouso
NT sick building syndrome	solar heating
RT health	solar heating
VI HEART	BT energy (3)
-2-1-1-9-19	RT solar
sick building syndrome	passive solar building
BT sick building	passive solar design
	greenhouse
simulation	
	1

stack effect sound stack ventilation BT pressurization (2.2) neutral pressure level neutral zone space heating BT heating stack ventilation RT passive heating BT natural ventilation heating system RT passive ventilation air heating stack floor heating combustion heating stack effect stack pressure neutral pressure level spires neutral zone BT building component (1.2) RT building shape roof stage shaft BT auditorium chimney RT elevator shaft modelling sports building standard BT public building RT building code RT museum patent hospital school stone university BT building material RT brick library laboratory wood concrete theatre chipboard opera house asbestos stables pipe BT animal house RT cattle storm door BT door RT storm window stack BT natural ventilation RT passive ventilation storm window stack effect BT window stack pressure RT storm door stack ventilation double glazing neutral pressure level shutter blind neutral zone stack effect stove BT natural ventilation BT energy (3) RT passive ventilation RT gas stove stack stack pressure stroboscope stack ventilation BT instruments (5) neutral pressure level neutral zone structural fault BT building component (1.2) stack pressure RT installation techniques BT natural ventilation maintenance RT passive ventilation building material construction detail

stack

thermal gradient sulphur dioxide stack effect BT chemical pollutant terraced house BT house sulphur hexafluoride BT tracer gas (2.1) RT townhouse rented house detached house sun testing house BT weather multifamily building RT rain passive solar building solar tight house low energy house superinsulation BT insulation flat apartment building RT tight house mobile home sealing retrofit bungalow terrain effects supermarket BT retrofit RT weatherstripping BT commercial building shielding RT office building bank sealing caulking hotel house doctor department store enclosed shopping mall auction hall test chamber USE testing chamber testing UF test supply vent BT air vent tests RT extract vent RT testing chamber testing house surface condensation testing unit BT condensation pressurization testing pressure testing RT interstitial condensation performance testing wind tunnel testing surface pressure BT pressure RT pressure difference pressure distribution testing chamber UF test chamber pressure fluctuation BT tracer gas (2.1) pressure coefficient RT environmental chamber pressure differential multi chamber pressure drop testing unit pressure testing test house USE testing house T test unit USE testing unit temperature BT climate (4) testing unit NT temperature difference UF test unit cooling BT tracer gas (2.1) RT testing chamber temperature difference testing house BT temperature

RT cooling

testing

testing house

UF test house

BT house

RT testing unit

testing

testing chamber

passive solar building

tight house

low energy house

theatre

BT public building

NT auditorium

RT opera house

theoretical modelling

BT modelling

RT model

numerical modelling

empirical models

mathematical modelling

mathematical model

calculation techniques

correlation

prediction

computer model

nomogram

thermal analysis

RT thermal conductivity

thermal efficiency

.1 1 1

thermal gradient thermal insulation

thermal mass

thermal performance

thermal requirements

thermal resistance

thermal comfort

BT ventilation needs (2.3)

RT indoor climate

air movement

air quality

thermal insulation

thermal requirements

heating

thermal efficiency

thermal performance

thermal conductivity

RT thermal analysis

thermal efficiency

thermal gradient

thermal insulation

thermal mass thermal performance

thermal requirements

thermal resistance

thermal efficiency

RT thermal analysis

thermal insulation

thermal performance

thermal requirements

ventilation efficiency

energy efficiency

thermal gradient

RT thermal analysis

thermal conductivity

thermal efficiency thermal insulation

thermal mass

thermal performance

thermal requirements

thermal resistance

stack

thermal insulation

RT thermal efficiency

thermal performance thermal requirements

insulation

thermal mass

RT thermal analysis

thermal conductivity

thermal efficiency

thermal gradient

thermal insulation

thermal performance

thermal requirements

thermal resistance

thermal performance

RT thermal analysis

thermal conductivity thermal efficiency

thermal gradient

thermal insulation

thermal mass

thermal requirements

thermal resistance

thermal requirements

RT thermal analysis

thermal conductivity

thermal efficiency

thermal gradient

thermal insulation

thermal mass thermal performance thermal resistance ventilation requirements

thermal resistance

RT thermal analysis thermal conductivity thermal efficiency thermal gradient thermal insulation thermal mass thermal performance thermal requirements

thermal wheel

BT heat exchanger RT air-to-air heat exchanger

thermogram BT thermography

thermography

BT pressurization (2.2)

NT thermogram

RT air leakage

pressurization correlation component pressurization pressurization testing fan depressurization house depressurization alternating pressure sound performance testing overpressure

thoron

BT chemical pollutant

RT radon

tight house

BT house

NT envelope house

RT testing house

passive solar building low energy house air tightness

tobacco smoke

BT smoke

townhouse

BT house

RT terraced house rented house

multifamily building apartment building multi-storey building

toxic gas

BT chemical pollutant

tracer gas (2.1) SEE THESAURUS

tracer gas measurements BT tracer gas (2.1)

transducer

BT instruments (5)

trees

BT shielding RT shelter belt windbreak vegetation trees

fence hedge

triple glazing

BT window

RT double glazing single glazing storm window

turbulence

BT air flow

NT turbulence intensity turbulent air flow

flow

turbulent flow

laminar flow

RT dry air

wind

wind speed

wind direction

wind pressure

wind effect

convection

turbulence intensity BT turbulence

turbulent air flow

BT turbulence

RT turbulence intensity

flow

turbulent flow

laminar flow

hedge turbulent flow BT turbulence RT turbulence intensity vent BT construction detail turbulent air flow NT air vent flow RT air inlets laminar flow ventilation (2) U NT air change rate natural ventilation UK underfloor crawlspace air infiltration draughts BT rooms (1.1) mechanical ventilation RT basement elevator shaft air conditioning air cleaning floor displacement ventilation university mixing ventilation BT public building ventilation air RT sports building ventilation effectiveness school ventilation efficiency library ventilation heat loss laboratory ventilation rate theatre ventilation requirements vetnilation strategy user control BT controlled ventilation ventilation system gravitational ventilation RT demand control neutral zone demand-controlled ventilation RT stack ventilation active ventilation occupant control ventilation air BT ventilation (2) validation ventilation effectiveness BT ventilation (2) RT modeling RT ventilation efficiency design ventilation requirements simulation testing ventilation efficiency BT ventilation (2) vapour barrier RT ventilation effectiveness BT construction detail ventilation requirements RT cavity barrier air barrier air-vapour barrier ventilation heat loss BT ventilation (2) wind barrier RT ventilation effectiveness air leakage air infiltration ventilation efficiency building envelope energy losses insulation ventilation needs (2.3) NT indoor climate vegetation air movement BT shielding RT shelter belt thermal comfort windbreak health

air quality

trees

fence

ventilation rate water consumption BT ventilation (2) BT energy (3) NT minimum ventilation rate water vapour BT water RT air change rate infiltration rate RT damp humidity moisture ventilation requirements condensation BT ventilation (2) RT ventilation strategy weather ventilation system ventilation needs (2.3) BT climate (4) NT sun rain ventilation strategy BT ventilation (2) water RT ventilation effectiveness frosting ventilation efficiency ventilation requirements weatherization USE retrofit ventilation system weathersealing USE weatherstripping ventilation needs (2.3) ventilation system weatherstrip BT weatherstripping BT ventilation (2) RT mechanical ventilation RT draughtproofing ventilation effectiveness ventilation efficiency weatherstripping UF weathersealing ventilation requirements BT retrofit ventilation strategy NT weatherstrip heating system draughtproofing RT terrain effects shielding W sealing wall BT building component (1.2) caulking house doctor NT building envelope insulation building shape cavity air infiltration party walls metal stud wall wind porous wall BT air flow facade RT wind speed wood frame wind direction wind pressure RT floor wind effect ceiling roof turbulence convection window wind barrier door cavity barrier wind barrier RT wind water BT moisture wind direction NT water vapour BT air flow damp RT dry air RT humidity wind condensation

wind speed

RT shelter belt wind pressure vegetation wind effect turbulence trees fence convection hedge wind effect BT air flow window BT building component (1.2) RT dry air wind NT double glazing single glazing wind speed wind direction triple glazing storm window wind pressure shutter turbulence convection blind window opening RT open window wind pressure BT air flow RT dry air window opening BT occupancy effects wind RT occupants wind speed wind direction occupant behaviour wind effect occupant control door opening turbulence open window convection comfort wind speed user control BT air flow NT mean wind speed wood BT building material RT dry air wind RT chipboard asbestos wind direction wood frame wind pressure windeffect formaldehyde turbulence convection wood frame BT wall RT building envelope wind tunnel BT instruments (5) building shape NT wind tunnel testing cavity wall party walls roughness fetch metal stud walls boundary layer shear layer porous wall facade wood wind tunnel test USE wind tunnel testing wind tunnel testing work room UF wind tunnel test BT rooms (1.1) RT workplace BT wind tunnel RT roughness fetch workplace boundary layer shear layer BT rooms (1.1) RT work room industrial building windbreak

commercial building

BT shielding

NT shade

```
X
xenon
BT tracer gas (2.1)
Y
Z
```

SHORT INDEX TO AIRBASE THESAURUS

bank A basement active ventilation bathroom bedroom aerosol beta radiation ageing air barrier biological pollutant blind air change blower air change rate air cleaning blower door body odour air conditioning boiler air curtain boundary layer air exchange rate USE air change rate brick air flow building code air heating building component (1.2) air infiltration building design air inlets building envelope air leakage building material air lock building shape air movement air permeability USE permeability buildings (1) bungalow air pressure air quality C air quality sensors USE sensor + air quality air recirculation rate USE air change rate calculation USE calculation techniques air renewal USE air change rate calculation methods USE calculation techniques air speed USE air velocity calculation techniques air tightness cancer air velocity carbon dioxide air vent carbon monoxide air-to-air heat exchanger carcinogen air-vapour barrier carpet USE floor coverings aircraft hangars airflow windows USE window cattle cavity allergic disease USE allergies caulking allergies cavity barrier alpha particle ceiling alternating pressure chemical pollutant ammonia chimney anemometer chipboard animal house chlorothene apartment building chromatograph argon cleanroom array clean room asbestos climate (4) atria coal gas attic cold climate auction hall cold room auditorium combustion heating automatic equipment combustion product comfort B commercial building component leakage

component pressurization

computer

background radiation

bacteria

baffles

computer model computer room concentration meter concrete condensation conservatory constant concentration constant emission construction detail contaminant USE pollutant controlled ventilation convection cooling . correlation cost effectiveness crack crack length cross ventilation

D

damp data logger decay rate dehumidification dehumidifier demand control demand-controlled ventilation department store desert climate design detached house diffusion disease displacement ventilation door door opening doorway double glazing draughtproofing draughts dry air dry climate duct dwelling USE residential building

E

economic analysis
electric heating
electrostatic precipitator
elevator shaft
emanation
empirical models

enclosed shopping mall energy (3) energy audit energy balance energy conservation energy consumption energy economy USE energy saving OR energy conservation OR energy efficiency energy efficiency energy losses energy needs energy policy energy saving envelope house environment pollution environmental chamber ethane extract vent extract ventilation extractor fan

F

facade factory fan fan depressurization fan pressurization method fence filter filtration flat floor floor coverings floor heating flue formaldehyde foundation freon frosting fume hood furnace

G

gamma rays
garage
gas
gas appliance
gas cooking
gas heating
gas stove
grating
gravitational ventilation

greenhouse

H

hangar health heat exchanger heat loss heat pump heat recovery heat storage heat transfer heater USE heating system OR radiator heating heating needs heating system hedge helium high-occupancy spaces high rise building hospital hot box hot climate hotel house house depressurization house doctor human comfort

I

humidification humidifier

humidity control

hydrocarbon

humidity

hydrogen

hygiene

indoor air quality indoor climate indoor environment USE indoor climate induced pressure testing industrial building infection infiltration rate installation techniques instrumentation instruments (5) insulation integrated ventilation internal pressure interstitial condensation irritant irritation

J

joint

K

katharometer krypton kitchen

L

laboratory laboratory laboratory laminar flow fire large building infiltration USE large building large building leakage area leakage path library low energy housing USE low energy house low rise building lung cancer

M

maintenance

manometer market study mastic mathematical model mathematical modelling exhaust fan measured technique USE measurement technique measurement measurement methods USE measurement technique measurement technique energy use in buildings measuring technique USE measurement technique mechanical ventilation metal stud walls methane microbiology microprocessor minimum ventilation rate mixing mixing ventilation mobile home model modelling

moisture
mould
multi-chamber
multifamily building
multifamily house USE multifamily building
multi-storey building
museum

N

natural ventilation neutral pressure level neutral zone nitric oxide nitrogen dioxide nitrogen oxides nitrous oxide nomogram nondomestic building numerical modelling

0

occupancy effects occupant occupant behaviour occupant control occupant reaction odour office office building open ridge open window openings opera house organic compound organic substance USE organic compound outdoor air outdoor air quality outdoor temperature USE outdoor air + temperature overpressure oxygen ozone

P

paint
particle
particulate
party walls
passive heating
passive sampler
passive sampling
passive smoking

passive solar building passive solar design passive solar house passive ventilation patent pentachlorphenol perfluorocarbon performance testing permeability permeameter personal monitors pipe plaster pollutant pollution porosity porous ceiling porous wall prediction pressure pressure coefficient pressure difference pressure differential pressure distribution pressure drop pressure fluctuation pressure testing pressurization (2.2) pressurization correlation pressurization testing probe problem buildings public building

Q

questionnaire

R

radiation
radiator
radioactive
radioactivity (6)
radon
radon daughter
radon decay products USE radon daughter
rain
rate of decay USE decay rate
rented house
residential building
respiratory disease USE respiratory illness
respiratory illness
retrofit
retrofitting (2.4)

review
ridge vent
roller blind
roof
roof space
rooms (1.1)
roughness fetch

S

sample bag sample bottle sampling school scintillation counter sealant sealing sealing layers USE sealing sensor shade shear layer shelter belt shielding shutter sick building sick building syndrome simulation single glazing smoke smoke movement soffit soil solar solar heating sound space heating spires sports building stables stack stack effect stack pressure stack ventilation stage shaft standard stone storm door storm window stove stroboscope structural fault sulphur dioxide sulphur hexafluoride sun superinsulation

supermarket supply vent surface condensation surface pressure

T

temperature temperature difference terraced house terrain effects testing testing chamber testing house testing unit testing theatre theoretical modelling thermal analysis thermal comfort thermal conductivity thermal efficiency thermal gradient thermal insulation thermal mass thermal performance thermal requirements thermal resistance thermal wheel thermogram thermography thoron tight house tobacco smoke townhouse toxic gas tracer gas (2.1) tracer gas measurements transducer trees triple glazing turbulence turbulence intensity turbulent air flow turbulent flow

U

underfloor crawlspace university user control

V

validation
vapour barrier
vegetation
vent
ventilation (2)
ventilation air
ventilation effectiveness
ventilation efficiency
ventilation heat loss
ventilation needs (2.3)
ventilation rate
ventilation rate
ventilation strategy
ventilation system

W

wall
water
water consumption
water vapour
weather
weatherization USE retrofit
weathersealing USE weatherstripping

weatherstrip weatherstripping wind wind barrier wind direction wind effect wind pressure wind speed wind tunnel wind tunnel testing windbreak window window opening wood wood frame work room workplace

X

xenon

Y

Appendix A

Literature Request Form

Literature Request Form

Air Infiltration and Ventilation Centre University of Warwick Science Park Barclays Venture Centre Sir William Lyons Road, Coventry CV4 7EZ Great Britain



Telephone: (0203) 692050 Fax: (0203) 416306 Telex: 312401 sciprk g

#NO	AUTHOR AND TITLE
4	
	Y and the second
	Airbase Search Request Form
Subject of	search (Please be as specific as possible)
# # # # # # # # # # # # # # # # # # #	
Date (Lam	not interested in papers published before)
	(I am only interested in the following original languages)
Language	(1 am only like ested in the rollowing original languages)
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or private study Signature:	/Date:
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Appendix B

Key fields

AIRBASE

AIRGLOSS

REF

WORD

Author

DEFINITION

Bibinf

SEEALSO

Abstract

Keywords

SURVEY

REF

TITLE

CONTACT

ADDRESS

TEL

EMAIL

SPECIFIC

PROJECT

BUILDING

PARAMETERS

STARTDATE

ENDATE

KEYWORDS

SELECTED

Appendix C

Editor Command Set

The complete set of editor commands for the stand alone editor TED.EXE Supplied with AIRBASE are given below:

Left Arrow Left one character

Right Arrow Right one character

Ctrl + Left Arrow Left one word

Ctrl + Right Arrow Right one word

Up Arrow Up one line in the record/file

Down Arrow Down one line in the record/file

Home Beginning of line

End End of line

PgUp Scroll up 12 lines in record/file

PgDn Scroll up 12 lines in record/file

Ctrl + Home To top of record/file

Ctrl + End To bottom of record/file

Enter/Return Split line at cursor: create new line

Ins Toggle insert/overwrite mode

Tab Tab

Shift-Tab Move the cursor back one tap stop

Del, Ctrl + G Delete character at cursor

Backspace Delete character to left of cursor

^B Reform paragraph/field

^L Find text within record again

^T Delete word to the right of the cursor

^Y Delete line

^KB Mark beginning of block

^KC Copy block to cursor

^ KD Exit, saving changes

- ^KK mark end of block
- ^KQ Exit, without saving changes
- ^KV Move block to cursor
- ^KY Delete block
- ^OI Set tab width...
- ^OL Set left margin at cursor
- ^OR Set right margin at cursor
- ^OW Toggle word-wrap

Appendix D

Examples of different formats for printers

```
Ins--
                                      -airbase.exp-
ichar=.
schar=\0
dchar=,
:Airbase
#.\n⊜Ref⊜
  \nAuthor
  \nBibinf\n
 \nAbstract\n
\n>Keywords>\n\n\n
:Survey
\nREF
\nTITLE
\nCONTACT
\nADDRESS
:Glossary
\nWORD
\nDefinition
\nSeeAlso
```

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Blacknell J (1989), A Subject Analysis of the AIVC's Bibiographic Database - AIRBASE. (6th Ed).pp159-194. Air Infiltration and Ventilation Centre. Technical Note 25. UK.

THE AIR INFILTRATION AND VENTILATION CENTRE was inaugurated through the International Energy Agency and is funded by the following thirteen countries:

Belgium, Canada, Denmark, Germany, Finland, France, Italy, Netherlands, New Zealand, Norway, Sweden, Switzerland, United Kingdom and United States of America.

The Air Infiltration and Ventilation Centre provides technical support to those engaged in the study and prediction of air leakage and the consequential losses of energy in buildings. The aim is to promote the understanding of the complex air infiltration processes and to advance the effective application of energy saving measures in both the design of new buildings and the improvement of existing building stock.

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