

Locating Fire Engineering Information

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QUESTIONS TO BE ANSWERED



Have you spent a lot of time trying to answer questions similar to these: Where are there a few good journal articles on wooden trusses? Who wrote the book *Fire*? When was the Third Interna-

tional Conference on Fire Safety Science held? Is there a published bibliography covering the cone calorimeter? Who has written the most recent article on fire and death statistics in the United States? Where is John Bryan located?

These questions could be answered by calling or faxing a minimum of one colleague, by contacting your company, university or public librarian, or by plowing through your personal files. Of course, there is another way which is quicker. If you have a computer and a modem available, you can search a wealth of information from your desk.

THE INFORMATION RESOURCES

Today the computer has brought an abundance of information to the user. It comes in all types (numeric, bibliographic, graphic) and in many languages. The *access* to the information may be free, it may have a modest cost attached to it, or it could be extremely expensive. Obtaining a copy of the reference that is cited in a computerized bibliographic database, a journal article, or a book may be more illusive than identifying the reference.

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In the United States that are national libraries devoted to unique subject areas. The medical community has the National Library of Medicine located in Bethesda, MD. The agriculture community has the National Agriculture Library in Beltsville, MD. To serve the needs in much broader subject areas, we have the concept of an information clearinghouse. The Federal government has three such organizations. The defense community has the Defense Technical Information Center located in Alexandria, VA. It makes available, to qualified users, current and archival unclassified and classified reports. The National Technical Information Service in Springfield, VA, sells all unclassified government reports, primarily by government agencies and their contractors.

The Government Printing Office in Washington, DC, also sells technical and non-technical publications. However, when the useful life of a publication has been reached, the decision is made whether or not to include it in the National Technical Information Service collection for archival purposes. All of these disciplines have very large organizations obtaining information and making it available to their user communities. The libraries are part of a large information exchange network under the Interlibrary Loan Program. The user may obtain references from these institutions free or for a nominal charge. Some organizations also use information brokers to obtain copies of articles, perform bibliographic searches, etc. As a by-product, of course, the information is made available to the rest of the world via catalogs, specially designed reports, and online bibliographic databases.

ENGINEERING INFORMATION

The engineering professions have no national library to house their literature and to develop databases to disseminate the knowledge. However, over time Engineering Information, Inc., has filled this role as it scans the significant technical engineering literature. This information is available in paper format as *Engineering Index*² and through several information data systems such as Dialog or INFOPRO/ORBIT. Some large libraries make the database available on CD-ROM (compact disk-read only memory).

² Use of a trade name or vendor in this publication does not imply endorsement.

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FIRE PROTECTION ENGINEERING INFORMATION

What options are available to the fire protection engineer? Fire science crosses many academic disciplines, for example: chemistry, fluid dynamics, forensic science, combustion. We have discussed *Engineering Index* to address general engineering needs. In addition, there are many excellent resources that also should be investigated, for example: Chemical Abstracts, NTIS, INSPEC. Which resource an engineer uses depends upon the question. Every publication and database has certain limitations, and the user needs to be aware of what they are. We would look for information on Neil Simon, a famous playwright, in the *Magazine Index*. On the other hand, if you wanted information on Professor Howard Emmons you would use *American Men & Women of Science*. However, if you wanted to know what Professor Emmons has published recently, you would use a different approach.

Currently there are two online bibliographic databases in the fire science discipline. FIREDOC is the online bibliographic database of the National Institute of Standards and Technology /Building and Fire Research Laboratory (NIST/BFRL), Gaithersburg, MD USA. The other database is FLAIR. It is created and maintained by the Fire Research Station, Borehamwood, England. It is not the purpose of this article to discuss the differences between the two databases. They address approximately the same audience with a similar philosophy of document acquisition. Both databases have all of their institution's older reports and they both include the world's fire research literature. FLAIR scans a few more European and construction journals than FIREDOC[1].³ FIREDOC is updated instantly; FLAIR is updated monthly.

HOW TO ACCESS THE FIRE DATABASES

FIREDOC can be accessed by anyone with a personal computer and a modem. The cost to the user is the cost of the telephone call to the computer in Gaithersburg, MD. It is available 23 hours daily (computer maintenance occurs from 8:00 a.m. to

9:00 a.m. Eastern time) and 24 hours on the weekend. An identifier, password, and manual are necessary; to obtain these contact the author by telephone (301/975-6862) or by FAX (301/975-4052). The computer will be upgraded to a Sun work station in the near future. At that time access will be available up to 9600 baud, and as a minimum a 286 computer is recommended. Access via Internet also is available. It still will be necessary to have a FIREDOC identifier and password.

FLAIR may be accessed jointly with BRIX (the construction database of the Building Research Establishment, Garston, England) or separately as one of the European Space Agency-Information Retrieval Service databases. The cost depends upon the cost of the telephone call to London and other connect charges. For additional information contact: Mr. R. Kitley, European Space Agency, IRS-DIALTECH, London, Telephone: 44-71-323-7951; FAX: 44-71-323-7954.

There are other fire databases, but these are the only two fire databases available to the general public via computer modem.

WHAT IS FIREDOC

FIREDOC is the computerized access to the literature in the Fire Research Information Services (FRIS) [aka fire library] at NIST. The literature collection, containing reports, journal articles, books, conference proceedings and audiovisual items, reflects the programmatic interests of the fire research effort at NIST. The references are from the leading fire research organizations worldwide; although FIREDOC is primarily an English-based collection, there are publications in German, Japanese, French, Chinese, or in essence those countries involved in fire protection engineering, fire research, fire testing. NIST has been doing fire research since 1914[2], and all of these publications are cited in FIREDOC, in addition to other older technical works. All of the references in FIREDOC are located in FRIS. However, not all publications are in the database. When FIREDOC began in 1985 it was decided to have three thrusts: one was for all current acquisitions; one was retrospective input; all NIST fire-related work from the beginning. For general guidelines, FIREDOC's strengths are 35,000 references covering the years from 1975 to the present, including all NIST fire publications from 1914.

³ The number(s) within the brackets refer to the references at the end of the article.

HOW TO SEARCH FIREDOC

When you contact the author, you will be sent an Identifier and a Password, the *FIREDOC Users Manual* [3], and the *FIREDOC Vocabulary List 3rd Edition* [4]. You must have the software to set up your computer so that you can communicate with FIREDOC's host computer. The *Manual* gives guidance on how to set up the software and how to structure a search. The *List* provides you with a list of synonyms to be used in your search strategy.

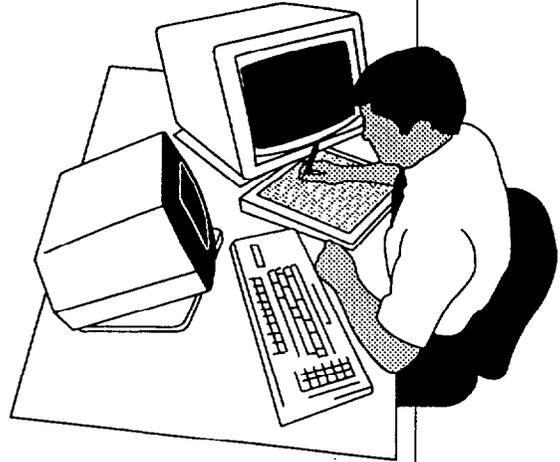
Usually you will search FIREDOC (or any other bibliographic database) when you start a project, to provide new insight when you are stuck in a project, or to be sure that there is not something that you have overlooked. You can search under broad concepts or very precise ones. However, when using FIREDOC you need to keep in mind that we do not have professional abstractors and indexers, and you should not be too specific unless you know that a particular topic is covered. Let me give you an example of a recent request:

I received a telephone call requesting information about any publications discussing wood trusses. One instantly thinks of Frank Brannigan's excellent book on this topic [5]; however, the caller did not have this book. So I went to the computer and searched FIREDOC. The first search strategy was too specific, as I asked for wood trusses. (I did not truncate for the singular and plural format of the word.) Next, I searched under Frank Brannigan's name to see if he had written any articles on the topic and, of course, he had. It was possible to combine these references with the original inquiry for wood trusses. There were over 15 journal articles that the caller had immediate access to, either in his personal collection or in a colleague's collection.

FIREDOC does not have full text of an article. It may have an abstract, and the number of keywords (controlled vocabulary) depends upon the article. However, uncontrolled vocabulary is found in the Identifier field. To enhance your search, the computer automatically searches the title field, the abstract, the keywords, and the identifiers. In this way you do not need to specify a word in a title if you do not know it is not in the title; in fact, this may result in a failure to locate an article.

There are the traditional ways of searching FIREDOC (and other computerized bibliographic databases).

You can search for an author's name, you can search for a word(s) in the title of an article, you can search for a keyword (from the *List*). The search results can be reduced by limiting the search by year(s) or by a language.



A few not-as-traditional methods of searching involve searching for word(s) in a conference proceedings, where the author(s) works (i.e., the corporate source field), and by document type.

If you plan to attend the next annual National Fire Protection Association conference in May, please stop at the NIST/BFRL booth for an online demonstration. If you are visiting NIST, visit FRIS for a few moments to have some hands-on action. Last but not least, and perhaps the most fun, contact the author and experience the challenges of searching FIREDOC in the privacy of the office or home.

OBTAINING THE REFERENCES

Each reference in FIREDOC is as complete as possible. You have all of the information to locate the information in your personal collection. For example, in a journal reference you have the author, the title, the corporate source (important if your library cannot locate the journal, you can then write to the first author of the article), the name of the journal, volume number, part or issue number, pages, and date of publication. For the report literature, the first part of the reference is the same. However, the report number is provided; if it is a government report it will say where you may obtain it (e.g., the National Technical Information Service) and usually an order number. Book and conference proceeding references contain the publisher in the event that you cannot obtain it on interlibrary loan. If your organization belongs to inFIRE (international network for Fire and Information Reference Exchange), sponsored by the Society of Fire Protection Engineers, your

representative has unique loan privileges amongst the fire libraries worldwide.

EXPLORE THE INFORMATION WORLD

FIREDOC and other online bibliographic databases are not the total information picture. However, it is not possible in the scope of this article to go beyond this point. If you have not yet indulged, I encourage you to use this article as a starting point to explore the information scene in your university, corporate or public library, on Internet, and at professional chapter and annual meetings.

REFERENCES

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2. Gross, D., "Fire Research at NBS: The First 75 Years. Fire Safety Science," *Proceedings of the Third International Symposium*, New York, Elsevier, pp. 119-133, 1991.
3. Jason, N. H., *FIREDOC Users Manual, 2nd Edition*, NISTIR 4526, Gaithersburg, MD, National Institute of Standards and Technology, March 1991, 35 pp.
4. Jason, N. H., *FIREDOC Vocabulary List, 3rd Edition*, NIST Special Publication 779, Gaithersburg, MD, National Institute of Standards and Technology, February 1990, 104 pp.
5. Brannigan, F. L., *Building Construction for the Fire Service, 3rd Edition*, Boston, MA, National Fire Protection Association, 1992, 691 pp.

TriData has published *International Concepts in Fire Protection: New Ideas from Europe*. A major point of the report is that each nation must adopt a package of fire prevention methods and must consider its strategic balance between prevention and suppression.

Issue No. 67 of the *Fire Research News*, published by the National Research Council (Canada)/Institute for Research in Construction, included a paper by G. Loughheed and J. Mawhinney on "Automatic Sprinkler Protection for Compact Mobile Shelving." In Issue No. 68 is a paper by J. Mawhinney on "Effects of Automatic Sprinkler Protection on a Smoke Control System." The next issue includes "Degrees of Combustibility" by Yoshio Tsuchiya. For more information contact Dr. G.V. Hadjisophocleous, Editor, *Fire Research News*, Institute for Research in Construction, National Research Council of Canada, Ottawa, Ontario K1A 0R6; telephone 613-993-2204.

"Small-Scale Testing Saves Time, Material and Money" is published in Volume 7, Number 1, of the *FMRC Update*, published by Factory Mutual Engineering and Research. For more information, contact editor Pat Sullivan, Publications Department, Factory Mutual Engineering and Research, 1151 Boston-Providence Turnpike, Norwood, MA 02062.

New from the United States Coast Guard are *Fire Endurance Testing of Fiberglass Piping* (MF&SRB Report No. 89) by David E. Beene, Jr., and *Smoke Control Systems Analyses -- Balancing Ducts Versus Door Vents in Class B Bulkheads* (MF&SRB Report No. 84) by William (Mark) D. Cumings. Both are available from the National Technical Information Service, Springfield, VA 22161.

Recent issues of *The Point* include articles on "Fire Testing Valves," "Our Litigious Society," and "Measuring in Meters." *The Point* is published by Omega Point Laboratories, Inc., 6868 Alamo Dons Parkway, San Antonio, TX 78238; telephone 800-966-5253.

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