



INTERNATIONAL ENERGY AGENCY
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community systems programme

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A subject analysis of the AIC's
bibliographic database - AIRBASE
(2nd edition)



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Air Infiltration Centre

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Annex V Air Infiltration Centre

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PREFACE

International Energy Agency

In order to strengthen cooperation in the vital area of energy policy, an Agreement on an International Energy Program was formulated among a number of industrialised countries in November 1974. The International Energy Agency (IEA) was established as an autonomous body within the Organisation for Economic Cooperation and Development (OECD) to administer that agreement. Twenty-one countries are currently members of the IEA, with the Commission of the European Communities participating under a special arrangement.

As one element of the International Energy Program, the Participants undertake cooperative activities in energy research, development, and demonstration. A number of new and improved energy technologies which have the potential of making significant contributions to our energy needs were identified for collaborative efforts. The IEA Committee on Energy Research and Development (CRD), assisted by a small Secretariat staff, coordinates the energy research, development, and demonstration programme.

Energy Conservation in Buildings and Community Systems

The International Energy Agency 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 programmes, building monitoring, comparison of calculation methods, etc. The difference and similarities among these comparisons have told us much about the state of the art in building analysis and have led to further IEA sponsored research.

Annex V Air Infiltration Centre

The IEA Executive Committee (Buildings and Community Systems) has highlighted areas where the level of knowledge is unsatisfactory and there was unanimous agreement 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 to 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 ground-work the experts group recommended to their executive the formation of an Air Infiltration 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 a firm basis for future research, in the Participating Countries.

The Participants in this task are Canada, Denmark, Italy, Netherlands, Sweden, Switzerland, United Kingdom and the United States.

INTRODUCTION

The Air Infiltration Centre's database, *AIRBASE*, contains full bibliographic details and concise, informative abstracts in English of published papers covering air infiltration in buildings and related subjects.

The main content relates to the prediction, measurement and reduction of air infiltration and leakage rates in buildings. However, *AIRBASE* also includes abstracts of papers on indoor pollutants and air quality, natural and mechanical ventilation, the character of wind and its influence on buildings, wind tunnel studies and energy-saving measures such as the use of air-to-air heat exchangers. The coverage of these related subjects is not, as yet, comprehensive but it is growing rapidly, especially in the area of air quality.

AIRBASE can be searched by a free-text retrieval system, restricted to language or date of publication if necessary, to find papers on a particular subject. In addition, the AIC will provide photocopies of particular papers, subject to the usual photocopy restrictions.

AIRBASE became fully operational in July 1980, when it contained 567 entries. This figure has now grown to 875 and is increasing at the rate of more than 20 articles a month. Abstracts of these articles are produced in a bi-monthly bulletin 'Recent Additions to *AIRBASE*', which is circulated to organisations in participating countries. This growth in *AIRBASE* reflects the rapid expansion in literature relating to air infiltration; Table 1 (displaying the number of references in *AIRBASE* by year of publication) shows that three quarters of the relevant literature has been published in the last 10 years.

Table 2 analyses the entries in *AIRBASE* by language. This includes references to translations as well as the original language of publication. References to translations held by AIC are added to the bibliographic details of the original papers.

This report consists of a subject analysis of *AIRBASE* in two parts. The analysis itself is presented in Section 1 in tabular form. References are made from each subject to the index numbers of related articles. Section 2 consists of a numerical listing of author, title and bibliographic details of all articles. Section 1 can thus be used as an index to Section 2.