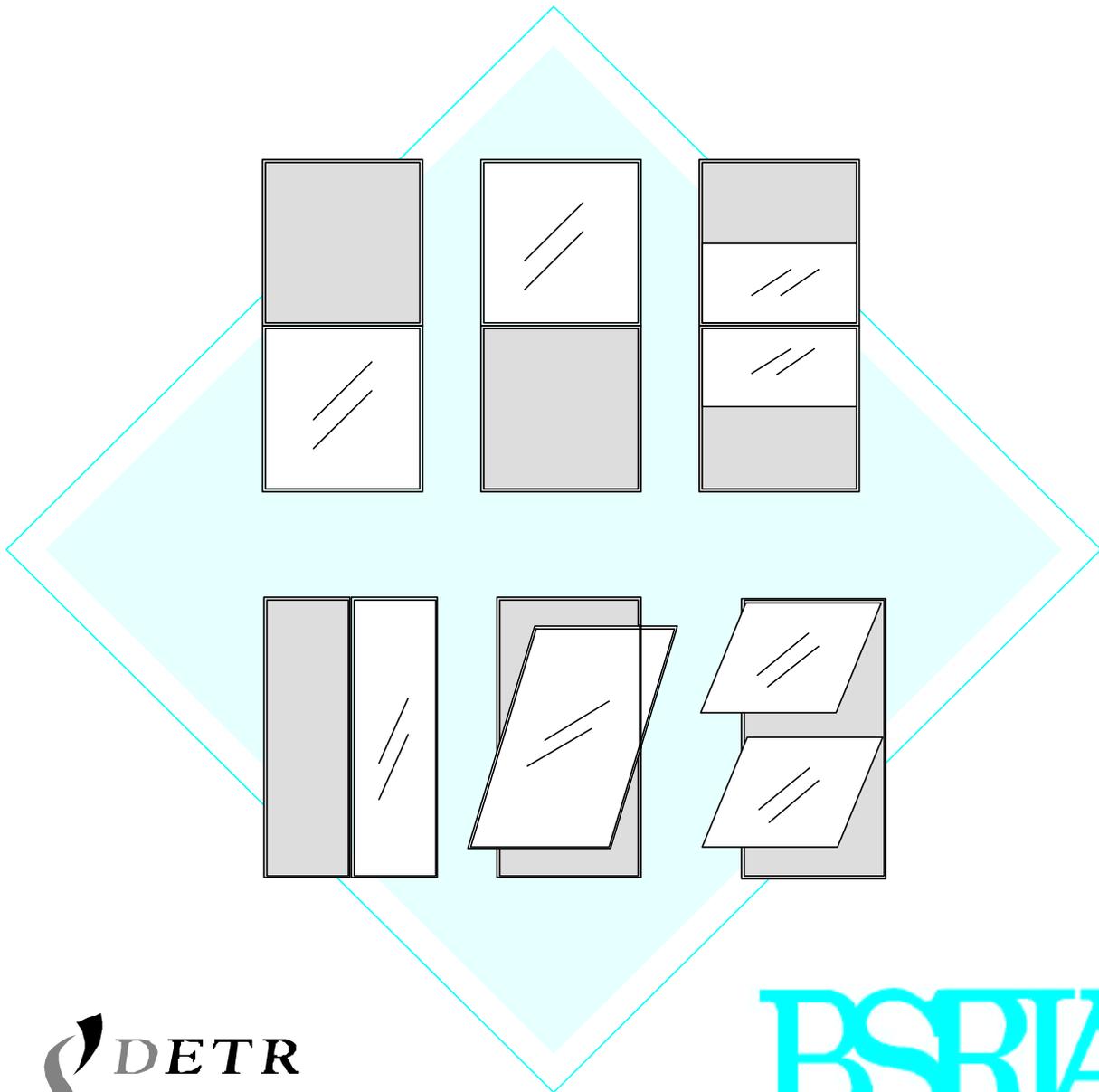




AIR DISTRIBUTION IN NATURALLY VENTILATED OFFICES

P J Jackman



**AIR DISTRIBUTION IN NATURALLY
VENTILATED OFFICES**

**Report 77880
January 1999
DETR Ref: CI 38/6/96**

A Group Sponsorship Project

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No. of pages: 16 of text

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ACKNOWLEDGEMENTS

This work was part-funded by the Department of the Environment, Transport and the Regions (DETR), under the Partners in Innovation scheme. BSRIA acknowledges the financial support of the DETR and would like to thank the following sponsors for their contribution which has led to the production of this Technical Note.



Department of the Environment, Transport and the Regions.

BBC Environmental Services
Flomerics Ltd
Greenwood Airvac
HGa Consulting Engineers
Rybka Battle UK Ltd
Schüco International

The research project was undertaken under the guidance of a project steering group. The steering group contributors were:

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Further thanks is given to Dr R Cohen, who acted as a Project Assessor.

This publication is issued with the agreement of the DETR and every opportunity has been taken to incorporate the views of the steering group but final editorial control of this document rests with BSRIA.

CONTENTS

1 INTRODUCTION	1
2 DESIGN GUIDELINES	3
3 RESEARCH RESULTS	4
3.1 Ventilation rates.....	4
3.2 Internal temperatures	4
3.3 Thermal comfort	4
3.4 Ventilation air flow pattern.....	6
3.5 Depth of ventilation	6
3.6 Window type.....	8
3.7 Variation between floors.....	10
3.8 Required window opening	12
4 THE STUDY	14
5 REFERENCES	16

LIST OF TABLES

Table 1 Physical and Thermal Characteristics of the offices	14
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LIST OF FIGURES

Figure 1 Typical variation of ventilation rate with window opening.....	5
Figure 2 Typical variation of room air temperature with window opening	5
Figure 3 Typical variation of perceived discomfort with window opening.....	5
Figure 4 Typical variation of local ventilation rate with distance from window.....	6
Figure 5 Typical variation of room air temperature with distance from window.....	6
Figure 6 Ventilation air flow pattern - 6m office	7
Figure 7 Ventilation air flow pattern - 12 m office.....	7
Figure 8 Comparative effectiveness of window types.....	8
Figure 9 Window types.....	9
Figure 10 Ventilation rates per floor with window opening ratio of 0.077 and room heat load of 14 W/m ²	11
Figure 11 Average air temperature per floor with window opening ratio of 0.077 and room heat load of 14 W/m ²	11
Figure 12 Percentage dissatisfied per floor with window opening ratio of 0.077 and room heat load of 14 W/m ²	11
Figure 13 Minimum open are ratio required for centre-pivoted windows.....	13
Figure 14 Minimum open are ratio required for top-hung windows.....	13
Figure 15 Elevation and plan of simulated office.....	15

1 INTRODUCTION

Natural ventilation is widely used to provide a supply of outdoor air into buildings. In winter-time the main requirement is to provide sufficient air exchange to dilute and remove airborne pollutants such as carbon dioxide and body odour emitted by people and any impurities released into the air from other sources. Maintaining acceptable moisture content of the indoor air may also be an important criterion. In summer-time there is an additional requirement to ventilate sufficiently to limit the increase of indoor temperature to an acceptably comfortable level

This publication focuses on the summer-time condition and presents results from a BSRIA study [1], part-funded by the Department of Environment, Transport and the Regions (ref: 38/6/96) under the Partners in Technology scheme (now Partners in Innovation). The main purpose of this study was to provide guidelines on the factors required to achieve successful natural ventilation in offices in summer by the use of openable windows.

A combination of physical and computer modelling was used to examine the limiting conditions for natural ventilation through one external facade to be effective in providing a comfortable and healthy indoor environment on a still, warm summer day.

The first section of this document contains the design guidelines. Subsequent sections summarise the research and the findings from which the guidelines were compiled.