Lund University • Sweden
Lund Institute of Technology
Department of Building Science
Report TABK--98/3054

Glazing and Sunshades

Strategies and Building Codes for Cold Climates

Marie-Claude Dubois

Building Science

Lund University

Lund University, with eight faculties and a number of research centres and specialized institutes, is the largest establishment for research and higher education in Scandinavia. The main part of the University is situated in the small city of Lund which has about 97 600 inhabitants. A number of departments for research and education are, however, located in Malmö. Lund University was founded in 1666 and has today a total staff of 5 800 employees and 42 000 students attending 55 degree programmes and 850 subject courses offered by 170 departments.

Department of Building Science

The Department of Building Science is part of the School of Architecture within the Faculty of Technology. The Department has two professorial chairs, Building Science and Building Services. Research at the Department is concentrated on energy management, climatic control and moisture problems. The main areas of research are:

- design and preformance of new low-energy buildings
- energy conservation in existing buildings
- utilization of solar heat
- climatic control
- climatic control in foreign climates
- moisture research

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Foreword

This report contains the following articles:

I The Impact of the Design and Management of Seasonal Awnings on Energy Use in a Cold Climate

II Awnings and Solar-protective Glazing for Efficient Energy Use in Cold Climates

III The New Model National Energy Code of Canada for Buildings 1997: A Step Forward and One to Go

These articles are part of the thesis "Solar Control for Energy-efficient Buildings in Cold Climates" (Dubois, 1998a).

The first (I) article will be proposed for publication in a scientific journal before the end of 1998. The second article (II) has already been presented at an international conference and published in the conference proceedings (Dubois, 1998c). This article is a short version of the report "Solar-Protective Glazing for Cold Climates: A Parametric Study of Energy Use in Offices" (Dubois, 1998b). However, it contains a small comparison between the impact of awnings and solar-protective glazing on energy use, which is not included in the report. Finally, the last article (III) will be published in a non-scientific journal (The Canadian Architect) in the January 1999 issue under the theme "Green Buildings". This study has been carried out apart from my main research activities. I decided to include it here because the subject was related to the main topic of my thesis.

Contents

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