

Performance of Protective Clothing

Issues and Priorities for the 21st Century



Seventh Volume

Cherilyn N. Nelson
Norman W. Henry

Editors

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***Performance of
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for the 21st Century:
Seventh Volume***

C. N. Nelson and N. W. Henry III, editors

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To make technical information available as quickly as possible, the peer-reviewed papers in this publication were prepared "camera-ready" as submitted by the authors.

The quality of the papers in this publication reflects not only the obvious efforts of the authors and the technical editor(s), but also the work of the peer reviewers. In keeping with long-standing publication practices, ASTM maintains the anonymity of the peer reviewers. The ASTM Committee on Publications acknowledges with appreciation their dedication and contribution of time and effort on behalf of ASTM.

Foreword

This publication, *Performance of Protective Clothing: Issues and Priorities for the 21st Century: Seventh Volume*, contains papers presented at the symposium of the same name held in Seattle, Washington, on 28–30 June 1999. The symposium was sponsored by ASTM Committee F23 on Protective Clothing. The symposium co-chairpersons were Cherilyn N. Nelson, Ansell Perry, and Norman W. Henry III, E. I. Du Pont de Nemours and Company.

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Overview

This volume is a compilation of 40 peer-reviewed papers from the Seventh International Symposium on Protective Clothing held June 28–30, 1999 in Seattle Washington. It represents a continuation of two decades of symposia sponsored by ASTM Committee F23 on Protective Clothing. The theme of the seventh symposium, “Issues and Priorities for the 21st Century,” provided a venue for discussions of developments in protective clothing and standards that will influence worker safety in the year 2000 and beyond.

The symposium opened with an excellent keynote address on the use of hardsuits for submarine rescue missions, an unique underwater workplace environment with extreme pressures and cold temperatures. Presenters of session papers and posters came from several European countries as well as the United States of America. Their contributions to the symposium reflected emerging technologies and concerns in the following topic areas:

- New developments in protective clothing materials and finishes.
- Prediction of performance or useful lifetime of protective clothing.
- Thermal protective assessment as determined by bench and manikin techniques.
- Barrier properties of protective clothing materials against biological hazards.
- The effect of use factors such as compression on protective properties.
- Heat stress and comfort in thermal protective clothing.

Several presentations reflected issues resulting from the global perspective of contemporary life. One issue, the international development of standards, has been addressed by ASTM F23 through the establishment of liaison representation on ISO and CEN technical committees. In addition to contributing to standard test method development, ASTM contributes to the development of standard specifications, an area of increasing importance in the global marketplace.

The second issue resulting from the global perspective of contemporary life, the potential threat of chemical, biological or radiological warfare, emphasized the importance of protective clothing as perhaps a ‘last line of defense’ for survival. The performance of protective clothing is critical in such situations, as is the training and education of protective clothing users.

The symposium was preceded by four training courses designed to provide information on current issues in worker safety including: regulatory standards and recommendations governing protective clothing selection and use; an overview of international test methods for measuring heat and flame performance of protective clothing; applications of biological test methods; and protective clothing protection for nuclear, biological, and chemical agents.

A combination poster session and reception provided an opportunity for attendees to visit with presenters in an informal setting. Throughout the symposium, new friendships and new ideas were established that will enable the continuation of efforts in collaborative standards development. The symposium reemphasized the importance of protective clothing to enable workers to accomplish those tasks that would otherwise be impossible.

All ASTM symposia would not be possible without the efforts and help of committee members, ASTM staff, and friends. Both symposium co-chairs, Cheryl Nelson and Norman Henry, extend thanks and appreciation to all those contributing to the success of the symposium. It is hoped that this volume will serve as a reminder, not only of the enjoyable

moments in Seattle, but also of the important work that must continue in the area of protective clothing for workers.

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FIG. 1—Co-Chairpersons, Norman W. Henry III, *E. I. Du Pont de Nemours and Company*, Newark, Delaware, USA and Cheryl N. Nelson, *Asnell Perry*, Massillon, Ohio, USA



FIG. 2(a-f)—*These figures depict various illustrations of events of the Symposium.*



FIG. 2—*Continued*



FIG. 2—Continued

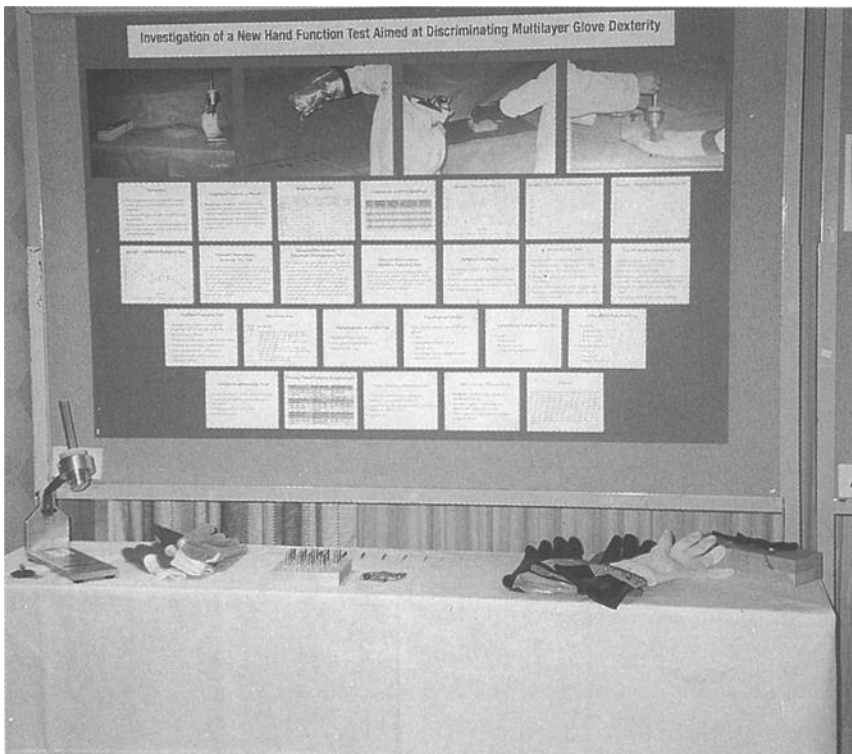


FIG. 2—Continued



FIG. 2—*Continued*



FIG. 2—*Continued*

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