

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.

Contents

Overview	ix
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NEW DEVELOPMENTS IN PROTECTIVE CLOTHING

New Heat Protective Garments with Phase Change Material—B. H. PAUSE	3
Methods for Determining the Thermodynamic Character of Sun Protective Clothing and UV-Protective Chemical Treatments for Clothing— C. A. COBBS	14
Measuring the Thermal Energy Stored in Firefighter Protective Clothing— R. BARKER, C. GUERTH, W. BEHNKE, AND M. BENDER	33
Simulate Field Spraying Conditions and Its Use in Comparing the Barrier Resistance of Fabrics to Liquid Sprays of Atrazine in Capillary and Pressure Penetration Tests—M. DEVER, T. C. MUELLER, J. F. SCHNEIDER AND A. R. WOMAC	45
ANSI/ISEA Draft 103—A Modern Success Story for ASTM—T. R. CARROLL	62
Testing the Cut and Puncture Resistance of Firefighter Safety Shoes—J. LARA, S. MASSÉ, R. DAIGLE, AND D. TURCOT	74

PREDICTING PRODUCT PERFORMANCE

Comfort and Barrier Effectiveness of Microporous Films and Laminates— M. G. MCCORD, J. Z. BROWN, A. S. DEATON, AND R. L. BARKER	87
Revising the Definition of Satisfactory Performance for Chemical Protection for Agricultural Workers—R. H. MCQUEEN, R. M. LAING, B. E. NIVEN, AND J. WEBSTER	102
Development of Methods to Evaluate the Useful Lifetime of Firefighters' Protective Clothing—D. A. TORVI AND G. V. HADJISOPHOCLEOUS	117

Development of an Online Direct Method for Assessing the Barrier Effectiveness of Fabrics to Particle Penetration: Preliminary Studies with Aerosolized Crystalline Silica Particles— D. B. WARHEIT, M. A. HARTSKY, AND K. L. REED	130
Assessments of the Barrier Effectiveness of Protective Clothing Fabrics to Aerosols of Chrysotile Asbestos Fibers— M. A. HARTSKY, K. L. REED, AND D. B. WARHEIT	141
Protective Textile Particulate Penetration Screening— I. SHALEV, R. L. BARKER, M. G. McCORD, P. A. TUCKER, AND B. R. LISK	155
Investigation of a New Hand Function Test Aimed at Discriminating Multi-layer Glove Dexterity— C. R. DODGEN, D. J. GOHLKE, J. O. STULL, AND M. WILLIAMS	162

BIOLOGICAL HAZARD

A Comparison of ASTM F 1670 and F 1819 Standards for Measuring the Barrier Properties of Protective Clothing Using Synthetic Blood— E. A. McCULLOUGH, P. W. JOHNSON, AND H. SHIM	181
Polyurethane Membranes for Surgical Gown Applications— P. O. UKPABI AND S. K. OBENDORF	190

THERMAL PROTECTIVE ASSESSMENT: MANIKIN AND SWEATING HOT PLATE

Manikin Testing of Protecting Clothing—A Survey— T. ZIMMERLI	203
Assessment of Radiant Heat Protection of Firefighters' Jackets with a Manikin— R. M. ROSSI AND W. P. BOLLI	212
Predicting the Impact of a Design Change from Modern to Modified Modern Firefighting Uniforms on Burn Injuries Using Manikin Fire Tests— D. J. PREZANT, R. L. BARKER, M. BENDER, AND K. J. KELLY	224
Static and Dynamic Insulation Values for Cold Weather Protective Clothing— C. S. KIM AND E. A. McCULLOUGH	233

POSTER SESSION PAPERS

Retention of <i>Aspergillus Niger</i> Spores on Textiles— B. L. DART AND S. K. OBENDORF	251
--	-----

Pesticide Residue Distribution on Protective Clothing Fabrics as Determined by SEM Micrographs and Their Image Analyses— S. M. TAYLOR, C. J. KIM, J. LOMBARDI, AND S. M. LEA	269
Effects of Abrasion on Liquid Barrier Properties of Selected Nonwoven Fabrics— L. CHEN AND R. M. CLOUD	282
The Relationship Between Porosity and Barrier Effectiveness of Some Shell Fabrics Used in Protective Apparel— M. G. McCORD, K. BIRLA, AND R. L. BARKER	297
Comparative Thermal Insulative Performance of Reinforced Knee Areas of Firefighter Protective Clothing— J. O. STULL	312
Trichlorethylene Vapor Adsorption by Nonwovens that Contain Activated Carbon— M. DEVER, D. TU, AND W. T. DAVIS	329
Protective Clothing and Application Control for Pesticide Applicators in India: A Field Study— A. SHAW, R. NOMULA, AND B. PATEL	342
Reduction of Terbufos and Tefluthrin Contamination in Glove Materials by Laundering— C. GUO, J. F. STONE, H. M. STAHR, AND M. C. SHELLEY	354
History of Chemical Permeation Test Cells— N. W. HENRY III	365
Volumetric and Swelling Techniques for Studying the Permeation of Protective Gloves to Solvents— G. PERRON, T. N. BANH, L. PELLETIER, J. E. DESNOYERS, AND J. LARA	377

FLAMMABILITY

A Study of Geometry Effects on Testing Single Layer Fabrics for Thermal Protection— J. D. DALE, M. ACKERMAN, B. M. CROWN, D. HESS, R. TUCKER, AND E. BITNER	393
--	-----

CHEMICAL HAZARD

Sensitive Procedures for Determining the Permeation Resistance of Chlorinated Polyethylene Against Liquid Propellants— J. M. WALLER AND J. H. WILLIAMS	409
Liquid Penetration Pressures for Fabrics Tested in Compression— M. G. McCORD, A. S. DEATON, AND R. L. BARKER	423
Moisture Effects on Isobutylene-Isoprene Copolymer-Based Composite Barrier: II. Static Mechanical Properties— T. W. YANG, B. L. LEE, H. T. HAHN, AND E. WILUSZ	437

Liquid Breakthrough in Fabrics: Effects of Fiber Content and Surfactant Concentration—	M. RAHEEL AND G. X. DAI	464
THERMAL PROTECTION—HEAT STRESS AND COMFORT		
Field Evaluation of Protective Clothing Effects on Fire Fighter Physiology: Predictive Capability of Total Heat Loss Test—	J. O. STULL AND R. M. DUFFY	481
Thermal Protective Performance and Comfort of Wildland Firefighter Clothing: The Transport Properties of Multilayer Fabric Systems—	H. S. YOO, G. SUN, AND N. PAN	504
Effect of Measured Heat Loss through Turnout Material on Firefighter Comfort and Heat Stress. Part I: Performance in a Mild Environment—	R. BARKER, L. MYHRE, B. SCRUGGS, I. SHALEV, C. PRAHSARN, AND T. MISZKO	519
Effect of Measured Heat Loss through Turnout Material on Firefighter Comfort and Heat Stress. Part II: Performance in a Warm Environment—	L. MYHRE, R. BARKER, B. SCRUGGS, I. SHALEV, C. PRAHSARN, AND T. MISZKO	535
Evaluation of Standard and Prototype Protective Garments for Wildland Firefighters—	M. RUCKER, E. ANDERSON, AND A. KANGAS	546
The Effect of Moisture on Firefighter Protective Clothing Thermal Insulation: A Review of Industry Research—	J. O. STULL	557
Author Index		577
Subject Index		579

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.

Cherilyn N. Nelson

Ansell Perry

Massillon, OH

symposium co-chairperson and editor

Norman W. Henry III

E.I. Du Pont de Nemours and Company

Newark, DE

symposium co-chairperson and editor



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

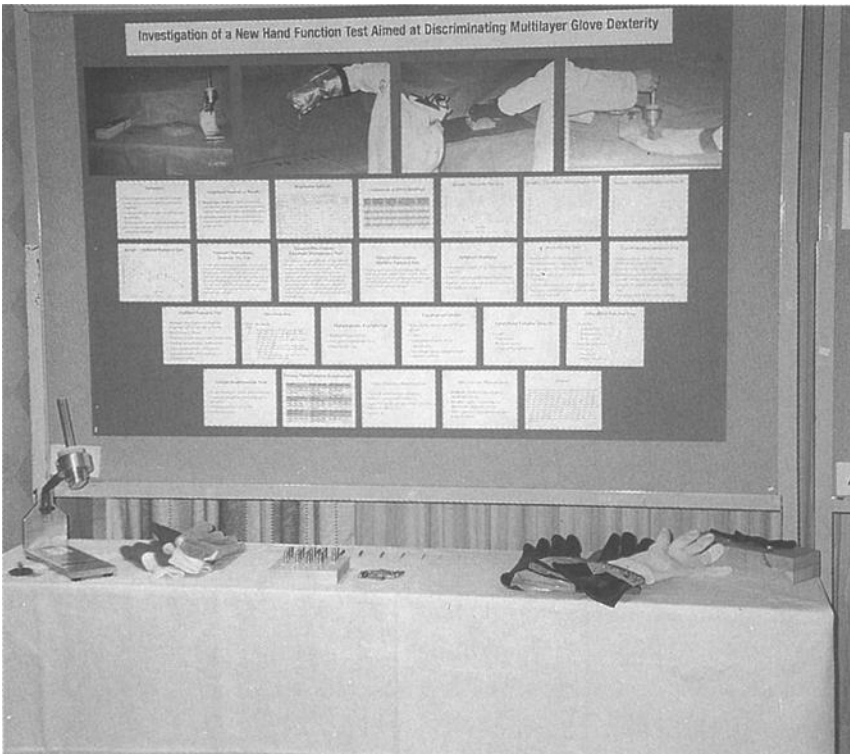


FIG. 2—Continued



FIG. 2—Continued



FIG. 2—Continued

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