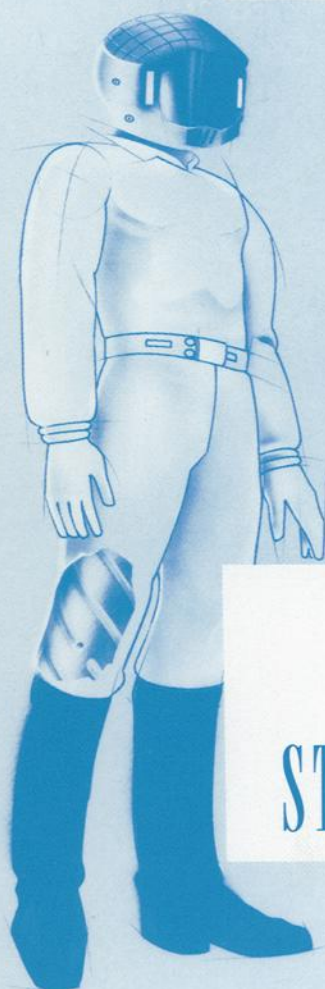


Performance of Protective Clothing: Fourth Volume

McBriarty/Henry, editors



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James P. McBriarty and Norman W. Henry, editors

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Each paper published in this volume was evaluated by three peer reviewers. The authors addressed all of the reviewers' comments to the satisfaction of both the technical editor(s) and the ASTM Committee on Publications.

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 these peer reviewers. The ASTM Committee on Publications acknowledges with appreciation their dedication and contribution to time and effort on behalf of ASTM.

Foreword

This publication, *Performance of Protective Clothing: Fourth Volume*, contains papers presented at the symposium titled, Performance of Protective Clothing: Challenges for Developing Protective Clothing for the 1990s. The symposium was held in Montreal, Quebec, Canada on 18–20 June, 1991. The symposium was sponsored by ASTM Committee F-23 on Protective Clothing and in cooperation with The Institut de Recherche en Sante et en Securite du Travail de Quebec (IRSST). James P. McBriarty of ICI Americas in West Deptford, NJ and Norman W. Henry, III of E. I. du Pont de Nemours in Newark, DE presided as symposium chairman and co-chairman, respectively, and are both editors of the resulting publication.

About the Cover

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Overview

The Fourth International Symposium on the Performance of Protective Clothing is now past. This symposium was truly international in that presentations representing ten different countries were given, and for the first time it was held outside of the United States. Special thanks should be given to our Canadian friends and members of The Institut de Recherche en Santé et en Sécurité de Travail de Québec (IRSSI) for co-hosting the symposium and arranging the special events. Thanks should also be extended to all reviewers who helped select the papers contained in this Special Technical Publication (STP).

Approximately 270 attendees were registered for this three-day symposium that featured keynote speakers, a banquet dinner, boat cruise, and an international fireworks competition. One hundred and twenty presentations were given on all aspects of protective clothing including its evaluation and use against physical, chemical, and biological hazards. Also, for the first time, a poster session was held so that an informal exchange of information could take place between attendees and those not interested in making a platform presentation. Overall, both the platform presentations and poster session were well received.

Previous symposia focused on protective clothing standards development over the last ten years; while this symposium's theme was "Challenges for Developing Protective Clothing for the 1990s and Beyond." Indeed, many of the presentations and posters reported on new developments and novel approaches for evaluating the performance of protective clothing. Other presentations addressed protective clothing programs and physiological stresses associated with wearing clothing in extreme environments. One new area of testing on biological resistance clothing for health care workers was recognized by having a separate session in which papers were presented on evaluating clothing materials to biological liquids and viruses. Another separate session was devoted to international standards development, since issues pertaining to European standardization, as well as international acceptance of performance standards, need to be considered in our global economy today. Representatives from European and Asian countries gave an update on their progress in protective clothing standards development.

The papers in this STP have been organized and are presented according to areas of special interest. The first area has papers that cover methods for determining resistance of clothing materials to specific hazards. Aerosol, physical, biological, chemical, pesticide, thermal, and heat resistance are among the topics discussed. New and improved test methods for evaluating resistance of clothing to these hazards focused attention on some of the challenging problems users may encounter while wearing protective clothing. The next area contains papers describing field test methods and other new methods for evaluating garment design, comfort, dexterity, physiological stresses, and effective performance. From the user's perspective, this area is one of the most important, since it addressed concerns about the effectiveness of clothing in practical situations where flexibility and durability are needed. Also included in this area are several papers on decontamination. The next area contains papers that addressed protective clothing programs, selection, risk assessment, and strategies. Examples of an ideal protective clothing program are reported. These examples provide a decision logic for the selection, care, and service life of clothing. Also included is a paper describing a computer-based system. The final area contains papers describing current efforts for international standardization of protective clothing. Papers by representatives from the European, Scandinavian, and Asian countries are reported. These papers describe standards

development and the need for international cooperation as we enter the 1990s and the global market.

While there are many challenges ahead, international standardization of protective clothing in our global market is certainly one of the most difficult issues. Another issue is a question raised by one of the keynote speakers, "Can we survive in protective clothing?" Answers to these can only be resolved by cooperative efforts between standard setting organizations such as ASTM, ISO, and others that allow for the opportunity to exchange information by sponsoring symposia such as this one. Other symposia will follow that will provide the forum for open communication between all our international friends. Clothing is one of man's basic needs, and as our technology and business needs change so will our standards for protective clothing performance. So now that the events and acquaintances that we enjoyed and made at the symposia are past, let's focus on the future direction of standards development in protective clothing. Hopefully, the thoughts and ideas captured and published in this STP will lead us in the right direction. Remember that many of the accomplishments of man would not be possible without protective clothing.

Norman W. Henry, III,

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Newark, DE, co-chairman and editor.

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