



ASTM INTERNATIONAL
Selected Technical Papers

Performance of Protective Clothing and Equipment

Innovative Solutions to Evolving Challenges

STP 1624

Editors:
Karen Lehtonen | Brian Shiels | Bryan Ormond



ASTM INTERNATIONAL

SELECTED TECHNICAL PAPERS

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Performance of Protective Clothing and Equipment: 11th Volume, Innovative Solutions to Evolving Challenges

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Foreword

THIS COMPILATION OF Selected Technical Papers, STP1624, *Performance of Protective Clothing and Equipment: 11th Volume, Innovative Solutions to Evolving Challenges*, contains peer-reviewed papers that were presented at a symposium held June 6–7, 2019, in Denver, CO, USA. The symposium was sponsored by ASTM International Committee F23 on Personal Protective Clothing and Equipment.

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Overview

This volume contains a collection of 17 peer-reviewed papers from the Eleventh Symposium on Performance of Protective Clothing and Equipment held June 6–7, 2019, in Denver, CO, USA. The event was the eleventh in an ongoing series of ASTM International Committee F23 symposia that has spanned well over 30 years. The symposium theme, “Innovative Solutions to Evolving Challenges,” drew academic and industrial researchers alike with a common goal to increase protection for the users of all varieties of protective clothing and equipment.

The symposium was preceded by two very full days of standards development during a biannual meeting of Committee F23 on Personal Protective Clothing and Equipment. To open the event, the symposium co-chairs invited Division Chief Jeremy Metz of the West Metro Fire Rescue to deliver a welcome speech. The Chief’s talk touched on his service both as Division Chief of Emergency Medical Services and as Chair of the NFPA Technical Committee on Special Operations Protective Clothing and Equipment. In both capacities, Chief Metz relies heavily on ASTM innovation and research involving Committee F23’s PPE Standards.

The overall objective of the symposium was to provide a forum for discussing the current state and future of the Personal Protective Clothing and Equipment industry. Specific objectives included:

- Showcase current research and advances in personal protective clothing and equipment,
- Define and discuss challenges facing those developing, testing, and using personal protective clothing and equipment,
- Promote communication and information sharing between researchers, manufacturers, users, and government agencies, and
- Assess the need for new and/or revised standards.

A broad range of topics was covered in this symposium, spanning areas covered by most of the F23 subcommittees. Several discussions covered the impacts of soiling and repeated laundering on protective clothing. Physiological impact of PPE was also a focus of several presentations. The topics covered industry, first responder, and military PPE. The symposium co-chairs were proud to welcome end user participation on the agenda, a critical part of the standards development process.

The symposium co-chairs express their gratitude to ASTM staff for all their contributions to planning throughout the many months preceding the symposium. Furthermore, this STP would not have been possible without the attentiveness and countless hours volunteered by our peer reviewers to ensure that all of the following manuscripts were fit for publication. It is our sincere hope that these selected technical papers contribute significantly to the further advancement of personal protective equipment.

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