SFPE Handbook of Fire Protection Engineering

Morgan J. Hurley
Editor-in-Chief

SFPE Handbook of Fire Protection Engineering

Fifth Edition

Volume I

Springer

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This edition of the SFPE Handbook of Fire Protection Engineering is dedicated to Philip DiNenno, who was the editor in chief for the first four editions of this handbook. In the mid-1980s, Phil DiNenno, Jack Watts, Doug Walton, Craig Beyler, and Dick Custer had an idea to create a collection of calculation methods for fire protection engineering. From this idea emerged the SFPE Handbook of Fire Protection Engineering, which was first published in 1988.

No other single event had as significant an impact on establishing the profession of fire protection engineering as the publication of this handbook. As Vyto Babrauskas said: "The field [of fire protection engineering] has made very gratifying progress in these last four decades. . .. The most remarkable positive achievement I think has been the SFPE Handbook, published first in 1988. . . . [W]ith the publication of the first edition of the SFPE Handbook in 1988, all of a sudden we could properly describe this as a science-based profession." [Babrauskas, V. "Some Neglected Areas in Fire Safety Engineering," Fire Science and Technology Vol. 32 No. 1 (2013) pp. 35–48.]

When they began creating the first edition, Phil and his colleagues had no model other than handbooks used in other professions. Phil contributed the leadership, vision, and motivation necessary to develop the handbook, and he did so using entirely volunteer resources. This would be an incredible accomplishment for anyone. Phil did it before he turned 35.

Foreword

This edition marks a passing of the torch for the *SFPE Handbook of Fire Protection Engineering*. All of the editors of the prior editions except for two (Jack Watts and John Hall) have retired, and a new editorial team has taken their place. Additionally, Springer has assumed the role of publisher beginning with this edition.

For the first four editions, the *SFPE Handbook of Fire Protection Engineering* was published by the National Fire Protection Association. The Society of Fire Protection Engineers owes a debt of gratitude to NFPA. Without their encouragement and confidence, this handbook might never have existed.

With a new editorial team emerge many changes. The chapters relevant to human behavior in fire have been significantly refocused and augmented. The fundamental engineering chapters have been revised to provide a better foundation for the chapters that follow. Many new chapters related to fire protection system selection and design have been added. The chapters associated with fire resistance design have been modified to reflect advances over the last decade. And, this edition includes several new chapters pertinent to industrial fire protection.

The editors owe a debt of gratitude to those whom they follow. Continuing a successful endeavor is much easier than launching it.

Acknowledgment of Past Authors

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Metrication

The editors of the *SFPE Handbook of Fire Protection Engineering* have worked toward the expanded use of SI units for this fifth edition. In some instances, however, US customary units have been retained. For example, when equations, correlations, or design methodologies have input variables or constants that have been developed from data originally in US customary units, those units are retained. This is also the case for certain tables, charts, and nomographs. Where equations employing US customary units are used in worked examples, the results are presented as SI units as well.

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