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Foreword

THIS COMPILATION OF THE JOURNAL OF ASTM INTERNATIONAL (JAI), STP1538, Roofing Research and Standards Development: 7th Volume contains only the papers published in JAI that were presented at a symposium on Roofing Research and Standards Development held during December 4-5, 2011 in Tampa, FL, USA. The Symposium was sponsored by ASTM Committee D08 on Roofing and Waterproofing.

The Symposium Chairman and JAI Guest Editor is Dr. Walter J. Rossiter, Guest Researcher, National Institute for Standards, Gaithersburg, MD, USA.
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Overview

These Proceedings mark the 25th Anniversary of the Symposium Series on Roofing Research and Standards Development. In 1986, ASTM Technical Committee D08 on Roofing and Waterproofing hosted a technical symposium that occurred immediately following its fall task group and subcommittee meetings. That symposium, like the one described in these Proceedings, was entitled Roofing Research and Standards Development. The 1986 participants considered the first symposium to be quite informative and successful. Acknowledging the success, the D08 leadership at that time recommended that plans be made for a follow-up symposium on the same subject. A second symposium took place in 1990, leading to the birth of the D08-sponsored symposium series that bears the same general title and that survives to this day. These symposia have occurred about every four years.


ASTM International Technical Committee D08 on Roofing and Waterproofing is the focal point in North America for the development of standards for low-sloped and steep roofing, and also waterproofing. The extent of its activities stretches across the typical categories of ASTM standards including specifications, test methods, practices, and guides. Fortunately, D08 members bring a broad variety of necessary expertise and backgrounds to cover these activities. The importance of having such broad expertise today cannot be underestimated, since issues addressed in D08’s standards deliberations range from the practical to the fundamental. Moreover, the materials and components that comprise roofing and waterproofing systems cover a myriad of synthetic and natural materials used either alone or in combination with each other. The bottom line is that, when all D08 standards are considered collectively, their development represents an enormous effort; in contrast, taken individually, it is a tedious one. The symposia in the D08 series are
just one small, yet vitally important, task supporting these standards development efforts.

Consistent with the broad range of D08 standards activities, the symposium papers assembled in these current Proceedings range from the practical to the fundamental and include:

- Performance of thermoplastic polyolefin (TPO) roof membranes.
- Development of a sustainability standard for flexible single-ply roofing.
- Rheological properties of asphalts and their specifying using dynamic shear rheometry (DSR).
- Principles of design and installation of below-grade and building deck waterproofing.
- Protected membrane roof (PMR) systems revisited.
- Practical lessons learned from field studies of foam-adhered rigid roof insulation boards.
- Advantages and constraints of electrical conductance methods for locating leaks in roofing and waterproof membranes.
- A proposed test using light and heat for heat transfer through low-sloped roof assemblies.
- Metal roof performance and durability.

These papers represent a significant contribution to D08's commitment to expanding the knowledge base that supports successful roof performance. From a practical point of view, the availability of data can help accelerate the standards development process as decisions can be made on fact and not opinion. In announcing this symposium, authors were informed that its primary emphasis would be on current research and standards development work. Consistent with the title of the symposium series, in many cases, the authors have made recommendations for development of new ASTM standards or improvement of those already issued. As chair of this symposium, I hope that the D08 members will review, digest, and critique these recommendations and, as appropriate, initiate task group activities to consider them in the D08 standards development process.

As in the past, these Proceedings are dedicated to the members of ASTM Committee D08 who give unselfishly of their time and energy to improve the performance of roofing and waterproofing systems. I express my sincere thanks and appreciation to those many individuals who participated in the organization and conduct of the symposium:

- **D08 Committee Members**: Cary Black, Rene Dupuis, Mark Graham, Tom Hutchinson, Bill Kirn, Mason Knowles, Larry Meyers, Ted Michelsen, Mike Franks, Ralph Paroli, George Smith, Tom Smith, Jim Strong, and Dick Wallace. These D08 members comprised the steering committee. One of their primary responsibilities was the objective evaluation of the abstracts received in response to the call-for-papers issued in developing the symposium.
• **ASTM Headquarters Staff**: Dorothy Fitzpatrick (now retired), Joseph Hugo, Mary Mikolajewski, Susan Reilly, and Hannah Sparks. These industrious ASTM staff provided for the symposium arrangements and assisted with the development of the Proceedings.

• **JAI Editorial Personnel**: Leslie Struble and Linda Boniello. Leslie Struble was the Journal of ASTM International (JAI) editor responsible for the symposium papers. Linda Boniello, at the JAI Editorial Office, American Institute of Physics, directed the review and finalization of the papers. She was my guardian angel and guiding light during the paper reviews, never failing to take time out to answer my redundant questions whenever I called for emergency aid. Her cheerful commitment to moving the draft papers through the review process at a pace to have the reviews completed well before the symposium took place is deeply appreciated.

• **The Authors and Reviewers**: Above all, specials thanks are given to the authors and reviewers of the papers without whose outstanding efforts in writing and reviewing, respectively, the symposium and Proceedings would not have been possible.

Finally, I note with sadness the loss of D08 member and past symposium co-chair, Tom Wallace, in May 2009. As mentioned above, between 1990 and 2007 five well acclaimed symposia were developed under Tom’s outstanding co-chairmanship. His contributions to the D08 symposium series are well evidenced by recognition received from his peers. In 1995 and in 2009, the ASTM Committee on Publications presented him with its “Award for Excellence in Symposium and Publication Management” for the 1994 and 2007 symposia, respectively. In 1998 and 2003 after completion of the symposia, D08 recognized Tom’s outstanding contributions by presenting him Plaques of Appreciation. In his professional life, Tom worked for many years for the U.S. Naval Facilities Engineering Command (NAVFAC). At the time of his retirement, he held the title of “The Navy Roof Consultant.” This position required that he be well versed in the practical aspects of successful roof performance. The experiences gained in that position certainly contributed to his long-term success in guiding the D08 symposium series. During manuscript reviews, Tom examined and judged them for their practical benefits to the industry. That is, in developing the symposia, Tom was the voice for those who perhaps in the long-term best benefit by the symposia—the in-the-field practitioners. D08 members and symposium authors should long remember with thanks Tom’s contributions. The symposium series has lost a great colleague and friend; Tom will be missed.

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