

TENTATIVE TECHNICAL PROGRAM



Seventh Symposium on the Durability of Building and Construction Sealants and Adhesives

Sponsored by ASTM Committee C24 on Building Seals and Sealants

June 15-16, 2022
Hyatt Regency Seattle
Seattle, WA

Symposium Chair: Christopher White
NIST
Gaithersburg, MD USA

Symposium Co-Chair: Hiroyuki Miyauchi
Building Research Institute
Ibaraki, Japan

This symposium will unite the global standards community to present current research and discuss and identify research needs, standards development needs and new opportunities for standards development in the building and construction sealants and adhesives industry.

Topics include all aspects of sealant durability, including outdoor exposure; characterization; monitoring of critical properties; development of accelerated testing; accelerated testing as it relates to in-service performance; and modeling of sealant durability.

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WEDNESDAY, JUNE 15, 2022

8:00 AM **Welcome and Introduction**
C. White, Symposium Chair and H. Miyauchi, Symposium Co-Chair

SESSION 1: OVERVIEW OF SEALANT DURABILITY

Session Chairs: C. Sass
Wiss Janney Elstner Assoc. Inc
Highland, MI, USA

H. Miyauch
Building Research Institute
Ibaraki, Japan

8:30 AM **A Review of Structural Glazing Installations from the 1970s and 1980s**
E. Bull and G. Dorman, Momentive Performance Materials, Waterford, NY, USA

9:00 AM **A Comprehensive Assessment of Modern Weathering Standards Used in the Testing of Sealants and Adhesives and Their Applicability for Screening and Service Life Estimations**
S. Fowler and J. Quill, Q-Lab Corporation, Westlake, OH, USA

9:30 AM **Impact of Outdoor Exposure on the Performance of Insulating Glass Unit Primary Sealant**
K. R. Hoigard, R. R. Booth and D. K. Johnson, Raths, Raths & Johnson, Inc., Willowbrook, IL, USA; and J. M. Klosowski, Klosowski Scientific Inc., Bay City, MI, USA

10:00 AM **BREAK**

10:15 AM **Evaluation Method and Results of Analysis Regarding Structural Bonding Durability of SSG System on Actual Facade**
H. Ishii, LIXIL Corporation Research and Development, Tokyo, Japan

10:45 AM **Case Study in Design: Distribution of Stress in a 4-Sided Structural Glazed Hot Bent Curved Glass**
J. Kimberlain, Dow Corning Corporation, Elizabethtown, KY, USA; R. Green, FRONT, Inc., Seattle, WA, USA; and F. Worm, Oldcastle Building Envelope, Concord, ON, Canada

11:15 AM **Evaluation of Structural Performance of Aged Structural Glazing Sealant**
J. Y. S. Guan, Dow Corning Asia, Hong Kong, Hong Kong

11:45 AM **LUNCH (On your own)**

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SESSION 2: MOVEMENT AND DURABILITY

Session Chairs: E. Bull
Momentive Performance Materials
Waterford, NY, USA

G. Johnson
Emerald Kalama Chemical
Kalama, WA, USA

- 1:30 PM **Implementing ASTM C1735 into Conventional Methods for Assessing Durability of Sealants**
K. M. Allore, L. D. Carbary, Dow Corning Corporation, Midland, MI, USA; and
C. C. White, NIST, Gaithersburg, MD, USA
- 2:00 PM **Comparison of Cyclic Movement Testing According to ISO 19862 and Two-Year Outdoor Weathering with Cyclic Movement with Different Types of Sealants and Polymer Bases**
R. M. Heinzmann, Sika Deutschland GmbH, Stuttgart, Germany
- 2:30 PM **Fatigue Resistance of Rim Seal for Multi Pane Glazing Systems from a Moisture Resistance Perspective: Solutions to Improve Moisture Barrier Performance**
T. Ihara and M. Yamamoto Takenaka Corporation, Chiba, Japan
- 3:00 PM **BREAK**
- 3:15 PM **New Automated Fatigue Testing Device for Assessing Performance of Sealant Jointing Products**
H. Miyauchi, Building Research Institute, Ibaraki, Japan; M. A. Lacasse, National Research Council Canada, Ottawa, ON, Canada; A. O. Ito Auto Chemical Industry Co., Ltd., Kasumigaura, Ibaraki, Japan; and H. Yamada, General Building Research Corporation of Japan, Minato, Tokyo, Japan
- 4:45 PM **Using Modulus Data from Outdoor and SPHERE Exposures to Support Development of Design Life**
C. C. White, D. Hunston and A. Pintar, NIST, Gaithersburg, MD, USA
- 5:15 PM **Durability of Movement Adhesion on Sealants with Powder Coating Systems on Aluminum Materials**
S. Ohsawa, office OHSAWA Director Ph.D, Tokyo, Japan; Y. Gotoh, Marushin Co. Ltd., Tokyo, Japan; S. Saitoh, AGC ASAHI Glass Chiba Technical Center, Chiba, Japan; O. Noguchi, Masaru Co. Ltd., Tokyo, Japan; T. Ihara, Takenaka Research & Development Institute, Chiba, Japan; and K. Motohashi, Shibaura Institute of Technology, Tokyo, Japan
- 5:45 PM **SYMPOSIUM ADJOURNS FOR THE DAY**

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THURSDAY, JUNE 16, 2022

SESSION 3: APPLICATIONS AND TECHNICAL CONSIDERATIONS I

Session Chairs: K. Allore
Dow Corning Corporation
Auburn, MI, USA

S. Fowler
Q-Lab Corp.
Lorian, OH, USA

- 8:00 AM **Assessing Durability of Pavement Sealants based on Cleaning Techniques.**
D. C. Johnson, L. D. Carbary, Dow Corning Corp., Midland, MI, USA; and L. L. Sutter, Michigan Tech University, Houghton, MI, USA
- 8:30 AM **Comparative and Correlative Studies Using Various Accelerated Weathering Resistance Tests on Construction Sealants**
A. Fukunaga, Global Technology Planning & Administration Group, High Performance Polymers Division, Kaneka Corporation, Tokyo, Japan
- 9:00 AM **Dibenzoate Plasticizer Technology for Sealants**
G. Johnson, W. D. Arendt and E. McBride, Emerald Kalama Chemical, Kalama, WA, USA
- 9:30 AM **Bonding of Stone Composite Panels via Silicone Adhesive in Ventilated Façade**
J. Kimberlain, Dow Corning Corp., Elizabeth, KY, USA; B. Dull, Dow Corning Corp., Midland, MI, USA
- 10:00 AM **BREAK**
- 10:15 AM **Validation of SSG-System Performance – Advantages and Potential of a Performance-Related System Test Methodology**
C. Recknagel, Federal Institute for Materials Research and Testing, Berlin, Germany
- 11:45 AM **Case Study: Using Sealants and Spray-Foam Insulation to Create a Continuous Air-Barrier from the Interior of Existing Buildings**
D. M. VanDommelen, J. W. Hupp, and H. R. Clements, Fuller Group, Inc. Greenville, SC, USA
- 12:15 PM **LUNCH (On your own)**

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SESSION 4: APPLICATIONS AND TECHNICAL CONSIDERATIONS II

Session Chairs: C. White
NIST
Gaithersburg, MD, USA

L. Carbary
Dow Corning Corp
Midland, MI, USA

- 1:30 PM **Adhesive Bonding and Sealing of Additional Equipment on Foundations of Large-Scale Offshore Wind Energy Turbines Withstanding Pile Driving Operation**
G. Wisner, P. Stein, C. Kornemann and J. Gattermann, Institute for Soil Mechanics and Foundation Engineering, Lower Saxo, Germany; H. Sychla, Grundbauingenieure Steinfeld und Partner GbR, Hamburg, Germany; and E. Stammen, and K. Dilger Institute of Joining and Welding of Technische University, North Rhin, Germany
- 2:00 PM **Fatigue Resistance of Rim Seal for Multi Pane Glazing Systems from a Moisture Resistance Perspective: Fundamental Test of Moisture Presence Change due to Fatigue Driven by Wind Pressure**
M. Yamamoto and T. Ihara, Takenaka Research and Development Institute, Chiba, Japan
- 2:30 PM **Standard Guide for Structural Silicone Sealant in China and Abroad**
W. Youzhi, L. Yuanyuan, and K. Zijian, Cheng Du Gui Bao Science & Technology Co., Ltd, Cheng-du, China
- 3:00 PM **Closing Remarks**
C. White, Symposium Chair and H. Miyauchi, Symposium Co-Chair
- 3:05 PM **SYMPOSIUM ADJOURNS**