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

Sponsored by ASTM Committee C24 on Building and Seals and Sealants and RILEM International Union of Laboratories and Experts in Construction Materials, Systems and Structures

June 25-26, 2014
Sheraton Toronto
Toronto, ON Canada

Symposium Co-chairmen: Lawrence Carbary
Dow Corning Corp.
Midland, MI
USA

Andreas Wolf
Dow Corning GmbH
Wiesbaden
Germany

ABOUT THE SYMPOSIUM

The symposium provides an excellent forum for experts to share and compare their experiences, network with their peers, and exchange best practices with regard to the durability testing and assessment of building and construction sealants and adhesives. The current series of ASTM symposia on Durability of Building and Construction Sealants and Adhesives is a continuation of tri-annual symposia which were inaugurated by the RILEM Technical Committee 139-DBS Durability of Building Sealants in 1994. The objective of this symposium is to gather and disseminate the latest information on all aspects of durability testing, assessment and specifications for building and construction sealants and adhesives and to provide a forum for the exchange of ideas on current research, national or international. The scope of the symposium covers all building envelope, interior building, as well as construction and civil engineering applications.
WEDNESDAY, JUNE 25, 2014

8:15 AM
**Opening Remarks**
Andreas Wolf, Symposium Co-Chairman

SESSION 1: Durability of Sealant and Adhesive Systems and Components

8:30 AM
**Sealant Durability as a Factor in Construction Litigation**
D. Nicastro, Building Diagnostics, Inc., Austin, TX, USA

9:00 AM
**IGU Seal and Flexible Spacer Displacement Failures, Field and Laboratory Study**
M.E. Kenney, T.E. Watson, and R. M. Kenney, R. J. Kenney Associates, Inc., Plainville, MA, USA

9:30 AM
**Durability of Sealants: A Question of Formulation and Not of the Polymer Base**
R. Heinzmann, Sika Deutschland GmbH, Bad Urach, Germany

10:00 AM   **BREAK**

SESSION 2: Durability of Sealant and Adhesive Systems and Components

10:30 AM
**Correlation of ASTM C1135 to Structural Testing in Curtainwall Applications**
K.M. Allore, K.A. Broker, and L.D. Carbary, Dow Corning Corporation, Midland, MI, USA

11:00 AM
**Reliability Assessment of Structural Sealant Durability**
S.K. Lee, Korea Conformity Laboratory, Seoul, Republic of South Korea; J. Jung, Jeonbuk, Republic of South Korea; and H. Miyauchi, Building Research Institute, Tsukuba, Japan

11:30 AM
**Study on the Application of Four Sided Structural Sealant Glazing Systems in Japan**
H. Ishii, Lixil Corporation, Tokyo, Japan

12:00 PM   **LUNCH (On Your Own)**

SESSION 3: Weathering and Its Effect on Durability

1:30 PM
**Study on Performance of Single Component Silicone Sealant Installed in 1958 as a Weatherproofing Material into a High-Rise Building in Climate Zone 6.**
Jon Kimberlain, Dow Corning Corporation, Elizabethtown, KY, USA; B. Laureys, and N. Harres Wiss, Janney, Elstner, Associates, Inc., Northbrook, IL, USA
2:00 PM
Proposal of Weatherability Evaluation Method of Construction Sealants for Waterproofing by Measurement of Depth of Damage
A. Ito, Auto Chemical Ind. Co., Ltd., Ibaraki, Japan; Y. Takemoto, Institute of Technology, Shimizu Corporation, Tokyo, Japan; and K. Tanaka, Tokyo Institute of Technology, Kanagawa, Japan

2:30 PM
Statistical Prediction of Sealant Modulus Change due to Outdoor Weathering
C. White, K. Tan, D.L. Hunston, A. Pintar and J. Filiben, National Institute of Standards and Technology, Gaithersburg, MD, USA

3:00 PM BREAK

SESSION 4: Weathering and Its Effect on Durability

3:30 PM
30 Year Outdoor Weathering Study of Construction Sealants
E.D. Bull and G.M. Lucas, Momentive Performance Materials, Waterford, NY, USA

4:00 PM
Evaluation of Building Facade Component Staining by Outdoor Exposure and Indoor Accelerated Staining Tests of Sealed joint
H. Miyauchi, Building Research Institute, Tsukuba, Japan; M. Kai, K. Ando, Kaneka Corporation, Hyogo, Japan; Y.-J. Kim, Kaneka Korea Corporation, Seoul, Republic of South Korea; A. Kusumi, Kaneka Corporation, Osaka, Japan

4:30 PM
Antifungal Durability Evaluation of Sanitary Sealants
J. Jung, KCC Corporation, Jeonbuk, Republic of South Korea; B. Kim, Adams Co., Gyeongji, Republic of South Korea; and Y. Seo, Korea Conformity Laboratories, Seoul, Republic of South Korea

5:00 PM Symposium Adjourns for the day
THURSDAY, JUNE 26, 2014

8:15 AM
**Opening Remarks**
Larry Carbary, Symposium Co-Chairman

SESSION 5: Durability and Performance Considerations

8:30 AM
**Investigation of Impact of Increasing Design Strength of a Conventional Structural Silicone Joint Using Finite Element Analysis and Hyperelastic Material Properties**
J. Kimberlain, Dow Corning Corporation, Elizabethtown, KY, USA; and J. Knowles, Stutzki Engineering, Milwaukee, Wisconsin, USA

9:00 AM
**Exploration and Evaluation the Performance and Durability of SSG-Systems by Dynamic-Mechanical System Testing**
C. Recknagel and R. Kaatz, Federal Institute for Materials Research & Testing (BAM), Berlin, Germany

9:30 AM
**Investigations of Glass-Metal Bonding by Means of Ultrasound**
M. Kreutzbruck, D. Brackrock, C. Recknagel and G. Brekow, Federal Institute for Materials Research & Testing (BAM), Berlin, Germany

10:00 AM  **BREAK**

SESSION 6: Durability and Performance Considerations

10:30 AM
**Composite Acrylic Polymers for High Performance Elastomeric Sealants**
P. Jog, A. Liss, J. Rubini, A. Evans and C. Jackson, The Dow Chemical Company, Spring House, PA, USA; and J. Lowe, The Dow Chemical Company, Collegeville, PA, USA

11:00 AM
**Joint Movement Performance of Sealed Joints with Cross-sectional Shape Variations for Improving the Adhesion Failure Issue of Sealed Joint**
H. Miyauchi, Building Research Institute, Tsukuba, Japan, J. Lee, S. S. Jeon and K. Miyauchi, Chugnam National University, Daejeong, Korea Republic of South; and M. Bartko, Slovak University of Technology, Radlinskeho, Bratislava, Slovakia

11:30 AM
**Transferring ETAG Design Rules to Applications with Alternative Adhesive Geometry**
G. Siebert, I. Maniatis, and G. Nehring, University of the German Armed Forces, Neubiberg, Germany

12:00 PM  **LUNCH (On Your Own)**
SESSION 7: Performance and Application Aspects

1:30 PM
Joints of Rapidly Bonded Wood Panel Constructions for Prefab Houses
G. Wisner, F. Fischer and K. Dilger, Technical University Braunschweig, Braunschweig, Germany; A. Zillessen and M. Brodel, Fraunhofer Institute for Wood Research WKI, Braunschweig, Germany

2:00 PM
A Comparative Evaluation of the Behavior of Structural Silicone vs. Acrylic Tape Subjected to High Strain Rates
E.D. Bull, Momentive Performance Materials, Waterford, NY, USA; and J. Cholaky, LCS Ingenieria, Santiago, Chile

2:30 PM
Case Study: The Critical Role of Sealants in the Repair of a Fluid-Applied Roofing Membrane
D.M. VanDommelen, Fuller Consulting Engineers, Inc., Greenville, SC, USA; K.D. Magnuson and O.C. Guedelhoefer III, Raths, Raths, & Johnson, Inc., Willowbrook, IL, USA

3:00 PM       BREAK

3:30 PM
A Study on Prevention of Tile Exfoliation - Relationship between Tile Exfoliation and Moisture Content
S. Onmura, S. Hokoi and D. Ogura, Osaka, Japan

4:00 PM
Prevention of Tile Exfoliation Considering Relationship between Tile Exfoliation and Moisture Content - Influence of Non-uniform Velocity Distribution around Wall
S. Onmura, S. Hokoi and D. Ogura, Osaka, Japan

5:00 PM
Closing Remarks
Larry Carbary, Symposium Co-Chairman

5:05 PM       SYMPOSIUM ADJOURNS