COLD WEATHER SEALANTS ISSUES

by Michael Prizzi, General Manager of the Linthicum office of Metro Sealants and Waterproofing Supply, based out of Springfield, VA

Winter is here. Building owners and design professionals want their projects sealed tight with no leaks and no loss of costly heat. Days are growing shorter. Temperatures are above freezing during the day and may fall below freezing at night. What is a conscientious caulking contractor to do?

First and foremost, the contractor must be in good communication with the owner and/or design professional informing them that this is a critical time of year for sealant application. Why? Heading into the cold weather months temperature extremes during a 24-hour period are at their greatest. With extreme shifts in temperature over a short period of time comes a greater amount of movement in the substrate over a short period of time. This potential for a large amount of movement puts the most...
ICRI MISSION STATEMENT

The mission of the International Concrete Repair Institute is to be a leading resource for education and information to improve the quality of repair, restoration, and protection of concrete and other structures in accordance with consensus criteria.

ICRI is an organization composed of Engineers, Consultants, Contractors, Manufacturers and other Material Suppliers, Property Managers and Owners all working together for the betterment of the industry and of all involved. Providing an open forum to speak about our work, new technologies and methods, exchange ideas. Creating and following standards to produce the best results for all involved.

PRESIDENT’S MESSAGE

It is 2017 and time to continue onward with yet another successful year of ICRI BWC. We have had many outstanding past presidents and adding to this list is now Adam Hibshman. His leadership guided ICRI BWC to a few new opportunities that I hope to continue, such as increasing awareness of our industry specifically to college students. There are job opportunities and career paths that many graduating students aren’t even aware exist. ICRI BWC is a wealth of information for these students which can better our industry, companies and community. Each of us has a tale to tell of how we got to where we are today and by sharing our information we enlighten young minds and inspire future leaders. We are always learning and I am certain we too can all learn something new from these students just the same.

It goes without saying that recognition is due to some of our past board members Brian McCabe and Larry Burkhardt who have both offered to continue their services on various committees along with the continued service from Tom Ouska. These seasoned members continue to achieve the demand of established goals and enable the current board of directors to forge on with new visions. Their experience and time is invaluable and chapter growth wouldn’t be as successful without them. They each would be difficult to replace when the time comes; however, that time is not this year. We are lucky to have their dedication and I want to be sure we thank them for all their efforts.

Our three new board members, Dave Bickel (CPR), Mike Payne (FEA) and Brian Radigan (Tremco) offer new experiences, ideas and commitment. We wish you a warm welcome and look forward to your contributions to the organization.

As always, we strive for Chapter of the Year. Our past president dissected the application and attempted to guide the chapter towards greater success where he saw some potential weaknesses. We are hoping to win this honor for 2016. As always, we are the largest chapter in the country, yet we continue to struggle growing. We hope to pursue new avenues for growth and with new presentations, upscale venues and younger audiences, we hope to recruit some of our past members to return and share their knowledge in an effort to aid in our growth. We will continue with our scholarships, social activities, golf tournament and the technical seminar.

Our first dinner meeting of 2017 will be jointly hosted with ICRI BWI and NCCACI on February 9th at Maggiano’s in McLean, VA. NCCACI is diligently planning the speaker for this dinner which is routinely well attended.

I look forward to seeing all of you at this dinner meeting, and please reach out to me at sbentz@desman.com if you have any suggestions for this year or feedback for me or the board.

Sincerely,

Shannon Bentz

2017 ICRI BW Chapter President
DESMAN
stress on a curing sealant before it cures to full strength. The most critical time for a sealant, to ensure long-term performance, occurs during the sealant curing process. However, care must also be taken to ensure that when fully cured, the sealant is able to perform when exposed to the extreme high temperatures of summer.

**What can be done** to reduce the stress placed on the sealant during the curing process in colder weather keeping in mind that eventually the sealant will be exposed to extreme heat conditions in summer months?

Proper sealant selection is critical. There are 3 criteria that should be reviewed when choosing a sealant for cold weather applications. The 3 criteria are movement capability, cure speed, and cold weather installation ease. It is always better to use a sealant that has joint movement capability greater than the theoretical joint movement design. If theoretical design is +/-15%, use a sealant with movement of +/-25% or greater. If theoretical design movement is +50/25%, use a sealant with movement of +100/-50%. It should be noted that the selected sealant should comply with ASTM C 920 with regard to joint movement or what is referred to as “Class” of sealant. The testing procedure of ASTM C920 for the “Class” of sealant exposes the sealant to extremes of temperature in compression and extension over multiple cycles without adhesive or cohesive failure. You should be cautioned that many times a sealant manufacture advertises 50% joint movement, but when you read the fine print the sealant only conforms to ASTM C 920 Class 25 (+/-25%) and not Class 50 (+/-50%).

Cure speed during cold weather applications...
should be a decisive factor when choosing a sealant. The faster the sealant cures in cold weather, the faster it gains tensile and adhesive strength (and) the greater the probability that the sealant will survive the large amount of movement with temperature extremes. The slower the sealant cures the more exposure to excessive movement during cure. This exposure leads to sealant fatigue and poor adhesion. To compensate for slow cure on cold days it is best to apply sealant on the sunny side of the building. On the sunny side of the building, the joint will be smaller, will require less sealant, and thus a quicker cure through will occur. The sealant will be subjected to less stress under compression when hot weather returns. Caulk the non-sun exposed sides of the building when the temperature extremes have stabilized either when the temperature is consistently cold, but not on the coldest days of the year or when consistently warm. Keep in mind that when applying sealant on the coldest of days on the non-sunny side of the building the joint is at its widest. From that point forward the joint will only be in compression potentially causing bread-loafed looking joints as the temperatures rise. Special attention needs to be paid to manufactures specific recommendations with regard to cold applications. Some manufactures recommend that their products not be used below 40° F. Some
recommend no use below 32° F. Some recommend the use of primers or accelerators. One-part polyurethanes manufactured with MDI pre-polymer not only are chemically safer to use, but will generally cure faster than TDI formulated polyurethanes even at cold temperatures. Two-part polyurethanes may need an additional accelerator to increase cure rates. Oxime neutral cure formulated silicones generally will cure faster than alkoxy-based neutral cure silicones.

As most contractors are well aware, not all sealants gun the same way even on the best of weather days. Silicone sealant viscosity changes very little when exposed to cold temperatures. It is not uncommon for silicone sealants to maintain their viscosity with temperatures as low as 0° F. Polyurethane sealants, on the other hand, gain viscosity as the temperature falls. To overcome this viscosity change, conditioning the sealant to room temperature using job site heating boxes prior to use is necessary. Several newer technology urethanes have been formulated to keep their viscosity relatively stable in lower temperatures. Pre-extruded silicone bridges come ready to use and require no chemical cure expect for a thin bead of silicone used for adhesion. These pre-extruded silicone strips have a greater movement capability than any other sealant material and are not affected by cold weather. Consulting manufacturers for specific product performance is strongly recommended.

In summary, the following considerations should be taken into account when choosing and applying sealants as cold weather approaches: joint movement is at its maximum range in the fall, sealant joint movement should exceed the theoretical design movement, sealant adhesive and cohesive properties could be reduced if sealant cure speed rate is too slow, choose a sealant with more than adequate joint movement capability, that is faster curing, and has good handling characteristics including high extrusion rate and ease of tooling.

About the author: Michael Prizzi is the General Manager of the Linthicum office of Metro Sealants and Waterproofing Supply, based out of Springfield, VA. Metro has long been a supporting member of our chapter and with their Ashton, VA Branch and has also been active in the Virginia Chapter. Before joining the Metro Sealants team, Mike was the National Sales Manager for Clifton, New Jersey based May National Associates/ Bondaflex Technologies. His professional career has spanned over 20 years as well as including 18 years with Tamms Industries as their Eastern Regional Manager. He has been involved with numerous waterproofing and concrete repair and sealing projects throughout North America. Prizzi received his BS degree in Chemistry from Hampden-Sydney College and is an active member in ICRI, AIA, and SWRI.
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ICRI BALTIMORE WASHINGTON CHAPTER MEMBERS CELEBRATE THE 2016 OUTSTANDING PROJECT AWARD WINNERS

The ICRI Baltimore Washington Chapter convened once again for their 2016 Awards Dinner Meeting at The Hotel at Anne Arundel Preserve. A special thanks to Kevin Kline (CP&R Facilities Committee Chair) who coordinated and made the arrangements for the chapter’s prestigious awards dinner. The Hotel at Anne Arundel Preserve in Anne Arundel, MD, was a great location for the Board of Director’s meeting and the 2016 Awards dinner and will hopefully host future ICRI events.

The evening began with a wonderful social hour and final ballot submissions. The social hour was a huge hit as always and provided a great opportunity for all members to catch up with old friends, network with new contacts and chat about the upcoming awards presentations. Final ballots were counted and the following individuals have been elected to serve on the Baltimore Washington ICRI Board of Directors:

The 2017 Chapter Officers are:

- President—Shannon Bentz, P.E. (DESMAN)
- Vice President—Robert Radcliff, P.E. (ETC)
- Secretary—Kevin Kline (CP&R)
- Treasurer—Brian Baker (PPSI)
- Immediate Past President—Adam Hibshman (Valcourt)

The 2017 Chapter Directors are:

- Charles Brienza (CP&R)
- Justin Long, P.E. (SK&A Associates)
- Neil Savitch (CSG)
- Rich Barrett (BASF)
- Phil Heisel (STRUCTURAL)
- Nick Henn, P.E. (ETC)
- David Bickel, Sr. (CR&R)
- Michael Payne, P.E. (FEC)
- Brian Radigan (Tremco)

The Awards Dinner kicked-off with opening statements and announcements from our out-going President, Adam Hibshman (Valcourt) and the presentation of the 2016 Baltimore Washington ICRI scholarships. Robert Radcliff, P.E. (ETC-Scholarship Committee Chair) presented scholarships.

Justin Long, P.E. (SK&A-Awards Committee Chair) and the other sub-committee members received a total of three (3) submissions for consideration for the 2016 Baltimore Washington Outstanding Project of the Year Awards. Five judges, nationally active with ICRI across the country, judged this year’s awards on the basis of the newly established scoring criteria which included:

- Planning/Phasing, Design Issues & Project Administration
- Structural, Architectural and/or Operational Improvements
- Technical Innovation
- Costs
Marit Chasse with Freyssinet presented the 3rd Place Award winning project for the Rehabilitation and Miscellaneous Repairs William V. Roth, Jr. Bridge Inland Waterway, Delaware River to Chesapeake Bay repairs which involved repairs to external post-tensioning, box girders, cable stays and other concrete rehabilitation.

Kevin Kline with CP&R presented the 2nd Place Award Winning project for the GBMC Daffodil Garage 2015 Priority Structural Repairs & Waterproofing in Towson, MD, which involved repairs to garage facility post-tension slabs, beams, expansion joints and other concrete rehabilitation.

Last, but certainly not least, Kip Gaynor, P.E. with Structural Rehabilitation Group presented the 1st Place Award Winning project for The Templeton of Alexandria Condominium Plaza Deck Post Tensioning Repair, External Strengthening and Waterproofing Rehabilitation in Alexandria, VA. This project focused on structural repairs to the post-tension plaza slab, concrete rehabilitation and extensive waterproofing applications in order to address immediate life safety concerns.

Each project had its own level of complexity, phasing challenges, budgetary constraints and other technical challenges and each presenter did an outstanding job detailing how they met those challenges head on. The Baltimore Washington ICRI Chapter thanks all of those who submitted their projects this year and to our winners for presenting their projects to share their outstanding projects and unique repair experiences!
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Golf Tournament Raises Big Bucks for Scholarships
By Chuck Brenzia, Golf Tournament Chairman

On Friday October 15, 2016 the International Concrete Repair Institute Baltimore Washington Chapter held its annual golf tournament at Piney Branch Golf Club in Upperco, MD to benefit the Chapter Scholarship Fund. The tournament was initially postponed for the second year in a row due to inclement weather; a trend we hope to break in 2017. Prior to the postponement on October 4th, 95 golfers had registered to play which would have been an above average attendance number compared to the preceding tournaments. Just like last year, after the postponement the tournament added golfers whose schedules were clear on the day of the make-up date and we had a total of 108 paid. Unfortunately, a number of previously scheduled golfers couldn’t accommodate the make-up date so the actual number of golfers dropped to 89 the day of the event. The majority of the “no-shows” declared this a few days before the tournament so we were able to work with the club to only pay for the golfers in attendance which was a considerable cost savings. Furthermore, many of the no-shows donated their entry fees to the chapter which made the tournament considerably more profitable.

The day of the tournament brought typically seasonal October conditions. A little chilly in the morning but comfortable for those in pants and long sleeves by the 9th hole of play. The course was in fantastic condition which was noted by many of the participants.

STRUCTURAL is proud to support the Baltimore-Washington Chapter of ICRI.

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Again this year there were a number of on-course competitions which were highlighted by the two marquis competitions; the hole-in-one contest for $10,000 sponsored by PPSI and the $10,000 putting contest sponsored by Manganaro. Unfortunately for the second year in a row, a hole-in-one was not recorded. The putting contest provided some late day excitement when Troy Mynch slammed a 40-foot putt in the back of the cup only to have it bounce out by too much pace narrowly missing the grand prize of $10,000.

The tournament, which was not without challenges presented by Mother Nature, was a success yet again raising over $5,000 to benefit the ICRIB/W Chapter Scholarship Fund. Even though the tournament was well attended, the real benefit to the organization is through its sponsors. A special thanks to the sponsors is in order! They are:

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A special thanks to all of the volunteers, and their companies, that make this tournament run smooth:

Larry Burkhardt - Conproco
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Simple Side Effects of Working in the Winter
by David Caple, Pinnacle Safety Network, LLC

Working outside in the summer it’s easy to remember to drink plenty of fluids. It’s Hot, you’re probably sweating a lot. Working outside in the cold weather we tend to focus more on staying warm. Just because it is cold doesn’t mean you’re not losing moisture. In fact, it’s easy to overlook the signs of de-hydration even though it’s just as common in the winter as the summer.

A few simple ways to tell if you are dehydrated in the winter include:

- **Dry Skin** – When you can scratch the word dry on your skin... it’s dry. You are losing moisture through your skin. The relative humidity is lower in the winter than the summer. It’s like the air just sucks the moisture out of you.
- When you urinate and the color is a yellow or dark amber rather than clear or light colored you are not taking in enough fluids.
- Dry mouth is another example of dehydration setting in.
- When rehydrating, consider water and avoid caffeinated or alcoholic beverages. They will only increase dehydration. Follow the same guidelines for drinking fluids in the winter as in the summer by drinking plenty of fluid before your shift and small amounts of fluid approximately every half hour.

Also, keep in mind the winter sun is brutal. It is easy to get a sun burn in the winter. Most people mistake it for wind burn, but in fact it is not. If you wear sunblock in the summer, continue to in the winter. Zinc oxide products work the best.
Written Notice of a Claim Means Written Notice When Dealing with a Virginia Public Entity

By Jennifer A. Mahar, Esquire

Contracting in Virginia with a public entity requires you to take stock of the written notice provisions that apply to your contract as the failure to provide written notice of claims can bar your right to seek payment. This past month the Virginia Supreme Court issued its much anticipated decision in Amec Civil, LLC v. Commonwealth, 2010 Va. Lexis 230 (September 16, 2010) and reminded the contracting community that Virginia law requires strict compliance with written notice provisions when the other party to the contract is a public entity.

The AMEC case arose from a contract dispute with the Virginia Department of Transportation (“VDOT”). The contractor sought payment of $24 million in cost overruns related to differing site conditions, acceleration damages and extra work. Among the issues before the Court was whether the contractor complied with the written notice provisions set forth in the contract and the Virginia Code.

VA Code § 33.1-386(A) provides that a condition precedent for a contractor making a claim against VDOT is written notice to VDOT of its intention to file such claim at the time of the occurrence or beginning of the work upon which the claim and subsequent action is based. The Virginia Supreme Court consistent with prior opinions ruled that VA Code § 33.1-386(A) must be strictly construed to require contractors to strictly comply with written notice requirements. The Court held that where the contractor fails to provide written notice “actual notice” by VDOT of the claim is not a substitute for the written notice requirements.

The Court rejected the contractor’s argument that written meeting minutes satisfy the written notice requirements “because they are merely a recorded summary of what was said at a meeting.” The Court stated: “At a minimum, to satisfy the written notice requirement, the written document at issue must clearly give notice of the contractor’s intent to file its claim and must be given to [VDOT] by letter or equivalent communication to VDOT at the appropriate time.”

Unfortunately, the contractor in AMEC failed to provide written notice for some of its claims and its recovery on those claims were barred by the lack of written notice. While the AMEC decision deals directly with the VDOT statute, the written notice provisions in the Virginia Public Procurement Act are similar and Virginia courts will likely continue to interpret them to require strict compliance when it comes to providing written notice to Virginia public entities.
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