

WCPA ANNUAL CONCRETE PAVEMENT WORKSHOP: AGENDA AND SPEAKERS ARE SET

KEVIN McMULLEN, P.E. - PRESIDENT

SAVE THE DATE!

2010 WCPA ANNUAL CONCRETE PAVEMENT WORKSHOP

FEBRUARY 17 - 18, 2010

**RADISSON PAPER VALLEY HOTEL
APPLETON, WI**

**COMPLETE DETAILS ON THE
ANNUAL CONCRETE PAVEMENT
WORKSHOP INSIDE!!!**

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Our annual flagship event is scheduled for February 17-18, 2010 at the Radisson Paper Valley Hotel in Appleton, Wisconsin. Please get these dates on your calendar and plan to join us.

The agenda has been created by you, our customers from the Wisconsin Department of Transportation, the cities and counties and the consulting engineers. We try to keep a running list of the issues that you have discussed with us all year long. What we learned this year is that the topics of sustainability, concrete pavement preservation and combating the impacts of Wisconsin winters are on many of your minds. Therefore, we have developed an agenda that we hope adequately covers these topics. Our first presenter on February 17 is Dr. Thomas Van Dam who is leading the National Center for Concrete Pavement Technology's effort on sustainability. He will be focusing on how we make an already sustainable product even more environmental friendly. Next up, we have the nation's top expert on concrete pavement preservation, Mr. John Roberts from the International Grooving and Grinding Association. John will be discussing the best engineering in concrete pavement preservation and what to look for in the future.

The afternoon of February 17 is devoted to a number of engineering topics including roundabouts, flyash stabilization, maturity, HIPERPAV and the latest in specifications and standards from the Wisconsin Department of Transportation.

The morning of February 18 is devoted to the concrete product with presentations on cement, admixtures, finishing and curing practices, the science of Petrography and the new WCPA concrete pavement specifications.

We will have a little fun too. National best selling sports author Ross Bernstein will be our keynote speaker. He will be presenting his program, "When It Comes to Team Building, Leadership & Motivation: Do You Believe in Miracles?" This program is based on his personal relationship with US Hockey Coach Herb Brooks and the "Miracle on Ice". We are very excited to have a nationally recognized author and speaker joining us. His new book is hot off the presses, "I Love Brett Favre/ I Hate Brett Favre". We can't let him out of the room without getting some details.

One more thing. WCPA has finally made it to the big time. For the first time, you can register for our conference online and pay the registration by credit card. Just go to our website, www.wisconcrete.org.



110 Engineers from across Wisconsin recently attended FHWA's Concrete Pavement Preservation Workshop held in Madison on November 12, 2009.

CURING, CURE AND SEAL AND WATERPROOFING: AN OVERVIEW

HEATH SCHOPF, P.E. - DIR. OF CONSTRUCTION ENGINEERING

The process of properly curing concrete and its impact to durability cannot be emphasized enough. By definition curing is the process in which freshly placed concrete is protected from loss of moisture and kept within a reasonable temperature range for a period of time immediately following finishing allowing the concrete to fully hydrate. Proper curing of concrete is one of the most important steps in achieving strength, abrasion resistance, deicer resistance, low permeability and resistance to freezing and thawing. Proper curing can also mitigate shrinkage cracks which can severely impact the durability of the concrete since the open cracks allow harmful materials to penetrate the surface. .

Curing is more critical today than in the past due to the low W/Cm ratio mixes, the increased use of admixtures in the mix, the increased use of supplementary cementitious materials in the mix, and the increased application of deicing chemicals to the surface of the concrete. Looking at W/Cm ratio alone the amount of water that is introduced into most paving mixes is not much more than what the concrete mixture needs to hydrate the cement. Moisture needs to be maintained in the mix until the cement has a chance to fully hydrate.

A clear understanding of the type of work being performed and what the end result will be is critical to specifying or selecting a type of material for curing, curing and sealing or waterproofing. Typical recommendations for curing of concrete pavements allow the use of plastic sheet curing, moist curing, or the application of a membrane forming curing compound. Due to the large surface areas typical of concrete paving the application of membrane forming curing compounds to all exposed surfaces is the most common form of curing. To be effective membrane forming curing compounds regardless of the type need to be applied quickly to the plastic concrete, preferably within 1 hour of finishing and at or exceeding the minimum application rate to properly form the membrane. There are several different types of curing compounds available based on the following criteria; water retention, pigments, drying time, type and amount of solids, Volatile Organic Compounds (VOC), and Compatibility with coatings. Membrane forming curing compounds for fresh concrete are covered by ASTM C 309 and ASTM C 1315.

ASTM C 309 covers liquid membrane-forming compounds suitable for application to concrete surfaces to reduce the loss of moisture. Materials that meet ASTM C 309 are typically more economical than materials that meet ASTM C 1315 and have been the

industry standard for many years. Majority of these products are produced to meet the minimum requirements of the specification at the cheapest cost with no other purpose than to form a membrane and retain moisture for the curing period.

Membrane-forming compounds with special properties including better water retention, minimum solids content (25%), resistance to ultraviolet radiation, acid and alkali resistance and non-interference with adhesives are described in ASTM C 1315. ASTM C 1315 provides requirements for membrane-forming liquids suitable for use as curing compounds and sealers on freshly placed concrete and as sealers on hardened concrete. These are the recommended products used on decorative and integral colored concrete when aesthetics is the primary goal such as a glossy/wet looking finish and color intensity since they can be applied as a curing compound and then reapplied to form a membrane forming sealer. Keep in mind when specifying a product that is required to meet a standard you can modify the standard to suit your particular needs. Another thing to keep in mind is most membrane forming sealers will reduce the coefficient of friction. There are additives that can increase the coefficient of friction if required.

When decorative (stamped) or broomed integral colored concrete is placed that requires a sealant to enhance the appearance of the concrete most specifications require a product that meets ASTM C 1315, type I, class A. Products that meet this requirement are cure and seal products that are clear and non-yellowing. As stated above the first coat is applied as a curing compound and then the second coat is applied after the first coat has dried providing a membrane forming seal. Cure and sealers do not provide the full benefit of a sealer if they are only applied during the curing process. Within ASTM C 1315, there are two types of materials and three Classes of materials. Type I is clear, and Type II is white pigmented. Class A is non-yellowing; Class B has moderate yellowing, and Class C has no requirements on yellowing when exposed to ultraviolet light. It is also important to understand the properties of the solids. For decorative concrete you want to ensure the solids are 100% acrylic. In general the higher the solids content the better the product will perform as a sealer however they also become a little more difficult and costly to apply.

Decorative stamped concrete is one of the more difficult applications to properly cure. The form release agents whether it be liquid or dry shake needed during the stamping process are typically not

compatible with cure and seal products and must be completely removed prior to applying the initial curing coat. Regardless of what is used as a form release agent it must be completely removed per the manufacturer's recommendations. There are some liquid form release agents that dissipate within 24 hours and are more easily removed. It is important to get the initial coat of curing applied as soon as possible, typically within 24 hours, in order to retain some sort of moisture for curing. Form release agents are not membrane forming nor do they meet the requirements of a curing compound however they do have some moisture retention characteristics. On dry, hot, windy days covering the stamped concrete with plastic sheeting is recommended to retain some additional moisture between the application of the form release agent and the application of a curing compound. It is important to remove the form release agent as soon as possible and apply a membrane forming curing compound.

Maintenance on membrane forming sealers is probably the biggest challenge since they will typically need to be reapplied every 2 to 3 years in order to maintain the glossy/wet appearance and color intensity. Prior to applying a maintenance coat it is recommended to thoroughly clean the surface with a mild soap and pressure wash to remove any dirt or leftover sealant and allow to completely dry. Reapply a compatible cure and seal product to the concrete to restore the shine and bring back the color intensity. A second coat can be applied after the first coat has dried to more uniformly coat the surface and intensify the color even more.

Penetrating water proofers (Silane or Siloxane) will have a typical life of 8 to 10 years. These products penetrate the concrete and are an excellent choice for waterproofing the concrete increasing its freeze thaw and chloride penetration resistance. Penetrating water proofers do not enhance the appearance of concrete and therefore are not typically used on decorative concrete when aesthetics is the primary goal. They are sometimes used on decorative concrete as an intermediate coating to provide additional sealing properties topped off with a compatible membrane forming sealer providing the glossy/wet appearance and intensify the color. Their limitation is that the concrete must be at least 21 days old and cannot have a curing compound or other sealer on it. Silane and Siloxane penetrating water proofers are typically used on wet cured bridge decks and on existing concrete that no longer has any curing compound remaining on the surface.

CONCRETE OVERLAYS: THE DURABLE ALTERNATIVE

TOM RACH, P.E. - MUNICIPAL ENGINEER

Pavement engineers are looking to design resurfacing projects rather than planning complete reconstruction jobs more frequently because of today's limited highway funding. Concrete overlays provide practical and economical solutions in an increasing number of designs. Concrete overlays are not new. But only recently have they been shown to be cost competitive when the expected service life is similar to that of other overlay strategies

Properly designed and constructed concrete overlays can extend the life of an existing pavement for thirty years or more. Midwestern states including Michigan, Missouri, Minnesota, Illinois and Iowa have used concrete overlays for many years with great success. They are also now starting to be used more frequently in Wisconsin.

State and local road agencies recognize that with an aging and diverse highway network, it is not always practical to reconstruct or rebuild every road. Concrete overlay designs are providing cost effective versatile solutions that agencies and engineers are looking for. They employ traditional construction methods that provide quick and efficient fixes for a full range of

concrete, asphalt, and composite pavements. They also contribute to more sustainable practices by preserving pavement service for decades beyond the original design life.

All concrete overlays are divided into two categories, the unbonded and the bonded. Both can be placed on existing concrete pavements, asphalt pavements, or composite pavements that were originally concrete and then overlaid with asphalt. Thus there are six overlay types for agencies to use as shown in the figure above:

The main difference between the unbounded and bonded overlays is that with bonded resurfacing projects, the overlay depends on the underlying pavement – concrete or asphalt–to act in unison with the new pavement. The new bonded overlay is designed to count heavily on the strength of the underlying structure. Bonded resurfacing projects require that the existing pavement be in good structural condition.

Information from the "Guide to Concrete Overlays" by the National Concrete Pavement Technology Center.

Unbonded resurfacing projects do not depend on the underlying pavement to act as part of a monolithic pavement section with the new overlay. They count it as a stable base for the new overlay. That is why unbounded overlays are often used to rehabilitate asphalt or concrete pavements that are in poor condition. Unbonded resurfacing projects do not require a bond between the underlying and resurfacing pavement.

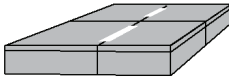
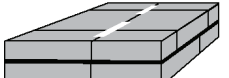
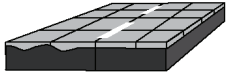
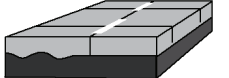
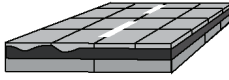
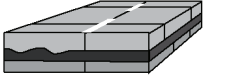
Unbonded concrete resurfacing provides a service life more generally associated with new pavements. A key advantage to doing unbonded resurfacing is the elimination of excavation work. Less excavation means more program dollars can be directed to construct more miles of roadway surface. Unbonded overlays require

minimal surface repairs. This design strategy provides structural enhancement and eliminates surface distresses.

Dodge County in Wisconsin resurfaced 4.25 miles of County A near Beaver Dam using a 7 ½ inch bonded concrete overlay. The contractor's first task was to mill two inches of asphalt off to create a level profile. The two 12 foot driving lanes and a 3 foot shoulder were paved

in a single 30 foot pass. The pavement contained longitudinal tie bars and epoxy coated steel dowel bars for load transfer because of heavy truck traffic. The road was cured enough in three days so that it was opened to traffic. The milling work was bid at \$0.88 per square yard and the paving at \$16.39 per square yard. Dodge County has a new smooth driving road that could last as long as 40 years.

Concrete overlays are an inexpensive alternative that will extend the life of an existing pavement for 30 years or more. These overlays are cost competitive with the other pavement types, easy to construct and recyclable. Concrete overlays make full use of the existing pavement either as a part of a new monolithic pavement (bonded) or as a base to the overlay (unbonded). Concrete overlays are "The Durable Alternative".

Bonded Overlay Systems (Resurfacing/Minor Rehabilitation)	Unbonded Overlay Systems (Minor/Major Rehabilitation)
<p>In general, bonded overlays are used to add structural capacity and/or eliminate surface distress when the existing pavement is in good structural condition.</p> <p>Bonding is essential, so thorough surface preparation is necessary before resurfacing.</p>	<p>In general, unbonded overlays are used to rehabilitate pavements with some structural deterioration.</p> <p>They are basically new pavements constructed on an existing, stable platform (the existing pavement).</p>
<p>Bonded Concrete Overlays of Concrete Pavements <i>—previously called bonded overlays—</i></p> 	<p>Unbonded Concrete Overlays of Concrete Pavements <i>—previously called unbonded overlays—</i></p> 
<p>Bonded Concrete Overlays of Asphalt Pavements <i>—previously called ultra-thin whitetopping—</i></p> 	<p>Unbonded Concrete Overlays of Asphalt Pavements <i>—previously called conventional whitetopping—</i></p> 
<p>Bonded Concrete Overlays of Composite Pavements</p> 	<p>Unbonded Concrete Overlays of Composite Pavements</p> 

WEB-BASED TRAINING: TCCC CONCRETE SERIES



From the fundamentals of materials used for concrete pavements to troubleshooting techniques, an array of free online training courses on materials and construction practices for concrete pavements are available from the Transportation Curriculum Coordination Council (TCCC), in partnership with the Federal Highway Administration's (FHWA) National Highway Institute (NHI). The TCCC's members include representatives from FHWA, NHI, regional State training and certification groups, several American Association of State Highway and Transportation Officials subcommittees, and industry associations.

Developed in conjunction with the National Concrete Pavement Technology Center at Iowa State University and FHWA's Office of Pavement Technology, the training covers everything from concrete durability to cement hydration. "The Web courses are self-paced and brief in duration, intended to provide basic principles to construction personnel within State and local transportation agencies, FHWA, and industry," says Christopher Newman of FHWA. "These courses are an ideal training tool for construction crews."

OUTCOMES: Upon completion of the series, participants will be able to:

- Explain concrete pavement construction as a complex, integrated system involving several discrete practices that interrelate and affect one another in various ways
- Recognize and implement technologies, tests, and best practices to identify materials, concrete properties, and construction practices that are known to optimize concrete performance
- Identify factors that lead to premature distress in concrete, and learn how to avoid or reduce those factors
- Apply appropriate how-to and troubleshooting information

TARGET AUDIENCE: This training is intended as both a training tool and a reference to help concrete paving engineers, quality control personnel, specifiers, contractors, suppliers, technicians, and tradespeople bridge the gap between recent research and practice regarding optimizing the performance of concrete for pavements.

THE COURSES:

- Module 1 - TCCC Hardened Concrete Properties- Durability (FHWA-NHI-134075)
- Module 2 - TCCC Fundamentals of Materials Used for Concrete Pavements (FHWA-NHI-134084)
- Module 3 - TCCC Incompatibility in Concrete Pavement Systems (FHWA-NHI-134085)
- Module 4 - TCCC Mix Design Principles (FHWA-NHI-134087)
- Module 5 - TCCC Early Age Cracking (FHWA-NHI-134095)
- Module 6 - TCCC Basics of Cement Hydration (FHWA-NHI-134096)
- Module 7 - TCCC Fresh Concrete Properties (FHWA-NHI-134097)
- Module 8 - TCCC Construction of Concrete Pavements (FHWA-NHI-134098)
- Module 9 - TCCC QCQA for Concrete Pavements (FHWA-NHI-134100)
- Module 10 - TCCC Design of Pavement (FHWA-NHI-134101)
- Module 11 - TCCC Troubleshooting for Concrete Pavements (FHWA-NHI-134102)

All of the training courses in the TCCC concrete series are available for scheduling at any time through the NHI online course catalog (www.nhi.fhwa.dot.gov/training/brows_catalog.aspx).

For additional information on the TCCC courses, contact Christopher Newman at FHWA, 202-366-2023 (email: christopher.newman@fhwa.dot.gov). To learn more about the TCCC's many training resources, visit www.nhi.fhwa.dot.gov/tccc.

Excerpted from FHWA's FOCUS - September 2009 edition & NHI Blueline-September 29, 2009



MARK YOUR CALENDAR

UP.COMING EVENTS

***Indicates events attended by WCPA Staff**

<http://www.wisconcrete.org/calendar.html>

January

- 1/12 WisDOT Bid Letting
- 1/14 *Section 415 Rewrite Committee Madison
- 1/14-1/15 *WRMCA Workshop Wisconsin Dells
- 1/18 *WCPA Board of Director's Meeting Madison
- 1/20-1/21 *WTBA Contractor/Engineer Conf. Madison
- 1/26 WisDOT Stimulus Projects Bid Letting
- 1/28 *Section 415 Rewrite Committee Madison

February

- 2/1-2/5 World of Concrete Las Vegas, NV
- 2/9 WisDOT Bid Letting
- 2/11 *Section 415 Rewrite Committee Madison
- 2/14-2/18 WTBA Convention Orlando, FL
- 2/16 *WCPA Membership Dinner Appleton**
- 2/17-2/18 *WCPA Annual Concrete Pavement Workshop REGISTER ONLINE!!! Appleton**
- 2/23 WisDOT Stimulus Projects Bid Letting
- 2/25 *Section 415 Rewrite Committee Madison

March

- 3/9 WisDOT Bid Letting
- 3/10-3/11 *Transportation Development Assn. Fly-In Washington, D.C.
- 3/12 *WCPA Informational Meeting Madison
- 3/23 WisDOT Stimulus Projects Bid Letting

April

- 4/13 WisDOT Bid Letting
- 4/25-29 NACE Conference Fort Worth, TX

May

- 5/3-5/5 *WI Airport Manager's Conf. Waukesha
- 5/11 WisDOT Bid Letting
- 5/12-5/14 APWA-WI Spring Conference Madison
- 5/17-5/20 *ACPA Chapter / State Executives Annual Meeting Madison

CONCRETE INITIAL BID COSTS PULL EVEN WITH ASPHALT

NEW REALITIES IN PAVING COULD SAVE STATE DOT'S BILLIONS



SKOKIE, Ill.— With the U.S. poised to invest heavily in roads and highways and as legislation designed to expand major infrastructure projects looms on the horizon, a report released today by the Portland Cement Association (PCA) points to how concrete is fast emerging as not only the more cost-effective *long-term* solution for road construction, but also a far less-expensive *initial* investment.

The report, "Update: Paving, The New Realities," written by PCA chief economist Ed Sullivan, compares the cost for one mile of standard two-lane roadway (concrete v. asphalt) calculated with estimating software used by state departments of transportation (DOTs). In the past, initial bid costs have long favored asphalt roads. Six years ago, asphalt held a \$120,000 initial bid cost advantage versus a concrete-paved road. Today that situation has reversed completely. Concrete now enjoys the initial bid advantage—to the tune of \$82,000 in Fiscal Year 2009. PCA estimates that by 2015 concrete paved roads will enjoy a \$500,000 initial bid cost advantage over asphalt—roughly a 41 percent savings.

"Given the supply challenges facing asphalt and the need to repair and expand the nation's infrastructure, if all roads in 2015 were paved with concrete, state governments would save \$37.5 billion in initial paving

costs," remarked Sullivan. "During the road's life cycle, the savings resulting from paving with concrete compared to asphalt would total nearly \$55 billion dollars."

Much of the savings comes from the durability of concrete roads. A recent PCA survey of DOT specifiers concludes that concrete pavement on average lasts 29.3 years before a major rehabilitation is required. This compares to 13.6 years for asphalt pavement.

According to Sullivan, changes in refining practices and the potential of reduced import supplies occurring at the same time as an increased demand for paving materials may create shortages of asphalt in the future. This will result in the continued price escalation that has marked asphalt for much of the decade.

"The potential savings incurred by choosing concrete versus asphalt for road construction are overwhelmingly compelling, particularly at a time when states are facing tight budgets conditions," Sullivan said. "The new realities in the road construction materials markets will force DOTs to make huge changes to how they evaluate road-paving projects."

About PCA

Based in Skokie, Ill., the Portland Cement Association represents cement companies in the United States and Canada. It conducts market development, engineering, research, education, and public affairs programs. More information on PCA programs is available at www.cement.org.



WE NEED A NEW HIGHWAY BILL!

Please Consider Joining Other
Wisconsin Industry Executives for the
Transportation Development Association of Wisconsin
2010 Fly-in to Washington, D.C.
March 10-11, 2010

[http://www.tdawisconsin.org/data/
documents/2_2010_TDA_Flyin_Registration_Form.pdf](http://www.tdawisconsin.org/data/documents/2_2010_TDA_Flyin_Registration_Form.pdf)

PRESIDENT'S COLUMN

KEVIN McMULLEN, P.E.

Keeping Technology and Innovation Moving Forward

We all have the responsibility while we are working to identify areas where we can improve, find innovations and implement new technology. Late in this construction season, the Wisconsin Department of Transportation (WisDOT), CPR, Inc., Mid-States Concrete Industries and the Wisconsin Concrete Pavement Association (WCPA) tried something new. The idea came to life earlier in the year when the first hot day of the summer hit and there were several locations around southern Wisconsin where older concrete pavements experienced concrete blowups. A conversation between the WisDOT SW Region maintenance staff and WCPA brought out the question, should we try the precast concrete repair concepts being tried around the nation? It is important to WisDOT that concrete repairs be accomplished as quickly as possible in order to minimize delay to the public. Together we developed a specification and a set of construction details, identified a project and in late fall we installed our first repairs in Wisconsin. The concrete pavement repair project on USH 151 south of Madison completed by WCPA member CPR, Inc. has six precast concrete panels installed. Together WisDOT and WCPA will be evaluating constructability and make recommendations for future use. Our goal is concrete repairs completed in 2-3 hours. And, it looks achievable.

Another example: While attending the American Concrete Pavement Association annual convention I was able to get an early look at a new piece of equipment. The MIT-SCAN T2 Device is being introduced to the industry. This small device measures the in-place thickness of freshly placed concrete. The use of this technology could very easily replace the destructive testing completed by coring rigs used by WisDOT. These rigs are expensive to own, operate and mobilize around the state. The MIT SCAN T2 device fits in a briefcase and is easily operated by any project engineer.

There are many more examples out there. Wisconsin has long been looked at nationally as an innovator in the concrete paving industry. I would like to make sure we keep that reputation. Keep the ideas flowing.

WELCOME NEW WCPA

MEMBERS!

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Mike Rennhack - President

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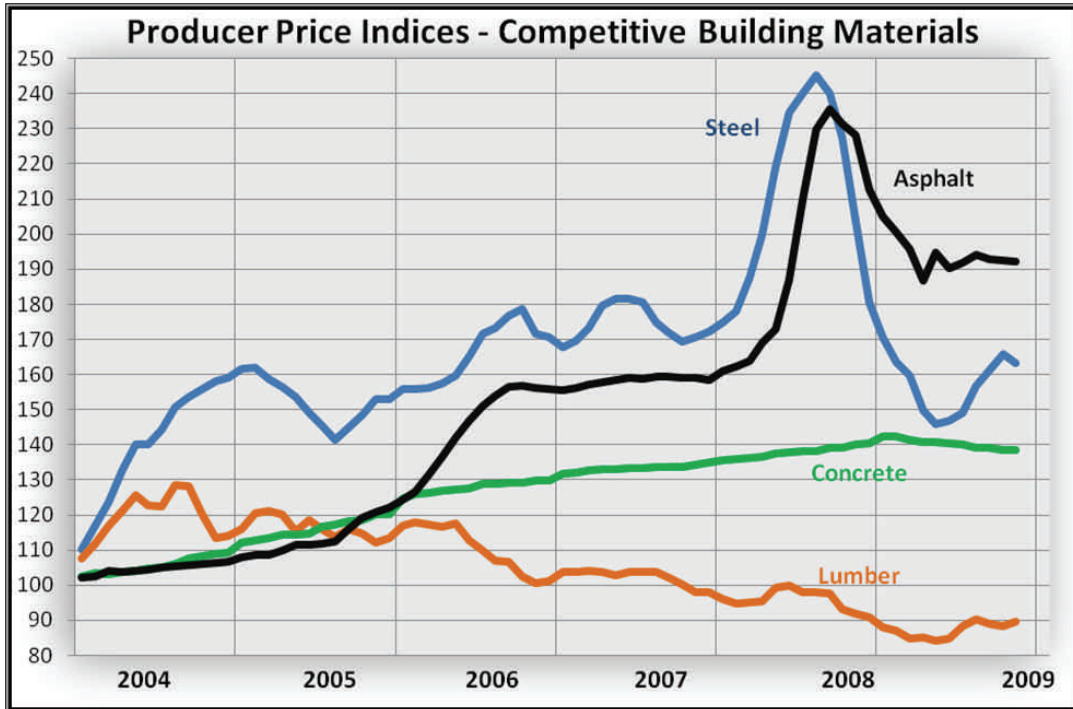
CPR, Inc and Mid-States Concrete Industries staff inspects the 6'x12' precast concrete slabs delivered to the USH 151 project.



CPR, Inc. staff lowering the new slab into place. Retrofit dowel bars are installed immediately after the slab is in place.

STABLE CONCRETE PRICES IMPACTING PAVEMENT SELECTION DECISIONS

KEVIN McMULLEN, P.E. - PRESIDENT



Base Year: 2002 = 100

Source: Bureau of Labor Statistics. Data rebased to 2002 by PCA Market Research

It is that time of year again when states, counties, municipalities and developers finalize their budgets which will ultimately impact roadway improvement plans for the upcoming construction season. With rising construction and maintenance costs combined with tight financial budgets and limited roadway funding decision makers are turning to concrete as the pavement of choice to alleviate some of these costs.

Longevity and low maintenance is the hallmark of concrete pavements. Today concrete pavements not only last longer and have less maintenance than asphalt pavements they are also becoming the less expensive initial cost alternative. With the increases in the price of asphalt an equivalent designed concrete pavement has gained the initial cost advantage. In the past, when the pavement selection decision was driven by lowest initial cost, asphalt pavements were selected even though over the life cycle concrete pavements were less expensive. Today with the increase price of asphalt the same pavement selection decisions based on an equivalent designed section and driven by the lowest initial cost are now favoring concrete pavements.

Looking at the numbers you will see that the price of concrete has remained relatively stable while the price of asphalt is extremely volatile. Over the past two years (Nov. 2007 to Nov. 2009) the price of concrete has only increased 3.3% while the price of asphalt has increased by 20.7%. With pavement selection decisions made well in advance of the construction year it is important to note that even though the cost of asphalt has dropped over the last year it still remains high relative to the cost of the concrete alternative.

With the coming of winter many local units of government are beginning to look ahead and plan for future projects. With the future in mind the Wisconsin Concrete Pavement Association would like to urge agency engineers to consider concrete pavements and run the numbers, you may be pleasantly surprised to see that concrete pavements are the more affordable pavement type. It is never to late to consider one of the many concrete pavement alternatives for a project. The Wisconsin Concrete Pavement Association is always ready to assist you in moving forward with concrete results.



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Madison, WI 53704

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Moving forward with concrete results

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CONCRETE PAVEMENT WORKSHOP**

FEBRUARY 17 - 18, 2010

RADISSON PAPER VALLEY HOTEL - APPLETON, WI

Go to our website:

<http://www.wisconcrete.org/news.html>

to REGISTER ONLINE!

**WCPA now accepts CREDIT CARDS -
ONLINE ONLY!**



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Register Online!

2010 WCPA ANNUAL CONCRETE PAVEMENT WORKSHOP

FEBRUARY 17 - 18, 2010

RADISSON PAPER VALLEY HOTEL - APPLETON, WI

Two exciting changes this year include **ONLINE REGISTRATION** and **WCPA NOW ACCEPTS CREDIT CARDS ONLINE**. Visit our website to register for the annual workshop - you may choose to pay by credit card, check, or cash. We will continue to accept cash and check if you wish to pay at the event.

Membership Social & Dinner - Feb. 16	\$65
Workshop & Tailgate Dinner	\$125
Exhibitor Fee (includes workshop fee for one)	\$150

February 17, 2010

7:30-8:30 am Exhibitors to set-up

8:30-10:00 am **Continental Breakfast with the Exhibitors**

10:00 am **Welcome**

- Thomas Ptaschinski- Ptaschinski Construction Company (2009 Chairman of the WCPA Board)

10:10 am **Welcome from WCPA**

Welcome from the staff of the association that includes updates on the concrete paving industry and the goals for this workshop.

- Kevin W. McMullen, P.E. - President

10:30 am **Increasing the Sustainability of Concrete Pavements**

In this day, we are all thinking about how we can improve our environment. The concrete paving industry is no different. This presentation will assess the impact of a project decision to use concrete pavement on the environment from construction through its entire life cycle.

- Dr. Thomas Van Dam, Ph.D., P.E. Applied Pavement Technology, Inc.

11:15 am **Concrete Pavement Preservation: State of the Art and the Future**

With such a huge emphasis on sustainability we need to make

our pavements last as long as possible. We have the nation's expert on concrete pavement preservation to discuss the art and the science.

- John Roberts, P.E. - International Grooving and Grinding Association

12:00 - 1:30 pm **LUNCH**

Luncheon Speaker - Ross Bernstein - Best-Selling Sports Author and Motivational Speaker Presents: *WHEN IT COMES TO TEAM-BUILDING, LEADERSHIP & MOTIVATION: DO YOU BELIEVE IN MIRACLES?*

Check out Ross's Website: www.bersteinbooks.com and maybe we can get him to talk about his new book. "I Love Brett Farve/ I Hate Brett Farve" is hot off the presses.

1:45-3:00 pm Concurrent Technical Sessions

APPLICATIONS TRACK

Roundabouts - More roundabouts are being built each year in Wisconsin. The engineering standards are evolving and the construction of them continues to be more complicated. This team of presenters will present the latest issues in design, the challenges of joint layout and the constructability issues of concrete paving.

- Joseph Bunker - Strand Associates
- Heath Schopf - Wisconsin Concrete Pavement Association
- WCPA Contractor Members - to be determined

ALTERNATE PAVING TRACK

The 2009 Reconstruction of Brown Deer Road in Milwaukee - This project utilized flyash stabilization of the subgrade as a means for improving the quality of the grade and reducing the time of construction. The project team will be presenting the engineering for the flyash stabilization, concrete paving and the construction of the project.

- Bruce Barnes - Wisconsin Department of Transportation
- Jim Rosenmerkel - Lafarge North America
- Joe Matchey - Trierweiler Construction Company

Flash Drive ~ Thumb Drive ~ Jump Drive

Whatever you call yours, bring it to the workshop!!!

WCPA will provide presentations in electronic format for participants to download instead of distributing paper handouts.



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3:15-4:30 pm Concurrent Technical Sessions

CONSTRUCTION TRACK

Concrete Maturity – Technology continues to move forward on the measurement of in-place strength of concrete utilizing techniques other than compressive strength cylinders.

- James Mikulanec – Engius

HIPERPAV Wisconsin – You have seen it in the specifications. What can this computer model do and how can it be applied on the construction project?

- Kevin McMullen – Wisconsin Concrete Pavement Association

SPECIFICATIONS AND STANDARDS TRACK

WisDOT Update - The Wisconsin Department of Transportation along with their partners in the industry continue to evolve and improve their specifications and standard details. 2009 was a very busy year for specification and standard changes. This session is dedicated to hearing about them from the technical staff of the Wisconsin DOT. The highlights include:

- IRI Ride Specifications – Wayne Chase
- Dowel Bar and Joint Standard Details – James Parry
- Concrete Pavement Repair Details – Deb Bischoff
- High Performance Concrete Pavement – Steve Krebs

5:00 pm **Social Hour with the Exhibitors**

6:00 pm **Dinner: Wisconsin Tail Gate!**

WCPA Scholarship Awards Recognition

8:00 pm **WCPA Hospitality Suite**

February 18, 2009

7:00 am **Continental Breakfast with the Exhibitors**

8:00 am **It is not Your Father's Cement, It has Changed!**

Portland cement has changed with time and will continue to do so. This presentation will discuss the past, present and future of cement and the role of supplementary cementitious materials.

- Michelle Wilson – Portland Cement Association

8:45 am

Admixtures – What are these chemicals and how do they work?

This presentation will take a look at air entraining admixtures, water reducers, retarders and accelerators. The types, how do they work and the applications will be presented.

- Darrel Stahlecker – General Resource Technology

9:30 am

Finishing, The Fundamentals for a Durable Surface

What do construction engineers need to know about finishing exterior concrete placed by hand methods?

- Howard “Buck” Barker - Rettler Corporation

10:00 am

Concrete Curing Solutions

This presentation will focus on the basics of curing and concrete hydration; selection of suitable curing methods for specific conditions; types and application techniques of membrane curing compounds; development of appropriate specifications; and troubleshooting paving issues related to curing.

- Robert Rodden – American Concrete Pavement Association

10:30 am

Petrography: A Tool for Evaluating Concrete Quality

Learn how petrography can help you in the evaluation. Case histories will be presented on how petrography has addressed surface preparation issues, coating failures, moisture-related problems, surface deterioration, chemical attack, quality evaluations, alkali-aggregate reaction, cracking, spalling, fire damage, strength issues, durability concerns, corrosion and many other unique projects.

- James Schmitt – Schmitt Technical Services

11:30 am

Specifying the Next Generation of Concrete Pavements in Wisconsin

WCPA has built a specification for concrete paving for use by the cities and counties of Wisconsin. We believe it is a collection of the best practices for construction of concrete pavements.

- Heath Schopf – Wisconsin Concrete Pavement Association

12:00 pm

ADJOURN

Exhibitors to break-down



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