



2008 NAPA Seminar
New Market Opportunities for Thin
Asphalt Pavements over Aged PCCP



THURSDAY, JANUARY 31,
2008

8:30 AM—12:15 PM

Arizona Biltmore
 2400 East Missouri Ave
 Phoenix, AZ 85016

REGISTRATION FEE:
 General \$125
 NAPA Registrants \$75
 RPA Members \$50

Registration fees includes:
 The AR2006 Conference DVD
 a \$100 value!
 Plus a complete specifications
 notebook



Register at:
www.rubberpavements.org
 Or call (877) 517-9944



The Rubber Pavements Association
 invites you to its
2008 NAPA Seminar

New Market Opportunities for Thin Asphalt
Pavements over Aged PCCP

If you are attending the National Asphalt Pavement Association (NAPA) 53rd Annual Meeting from January 27-30, 2008 you do not want to miss the opportunity to attend this workshop to meet, speak with and learn from some of the leading experts and engineers experienced in all aspects of public domain, rubber pavements technology.

WHEN: Thursday , January 31st, 2008
 8:30 AM—12:15 PM

WHERE: **Arizona Biltmore**
 2400 East Missouri Ave.
 Phoenix, AZ 85016
www.arizonabiltmore.com

Following the completion of this course the attendees will:

- ◆ Recognize the difference between the various processes of incorporation of crumb rubber into asphalt.
- ◆ Understand the tire recycling and rubberized asphalt manufacturing processes.
- ◆ Recognize applications such as A-R chip seals and open graded friction course overlays for use in pavement preservation and rehabilitation.
- ◆ Be familiar with quality control testing in accordance with American Society for Testing and Materials and standard specifications from routine user states of asphalt-rubber material
- ◆ Know the benefits of the use of tire rubber in asphalt such as safety, noise reduction and long term performance.

For more information call:

(480) 517-9944,

Or email to:

gdickerson@rubberpavements.org

AGENDA

Registration starts at 7:30 AM
Workshop starts at 8:30 AM

- **Welcome and Introduction to Asphalt-Rubber**
 By Doug Carlson, Exec Dir RPA
 An overview of the development of asphalt-rubber technology and it's entrance into the public domain, ASTM specifications and a discussion on the different methods of incorporating tire rubber into asphalt mixtures such as the dry method and terminal blend.
- **Overview of Asphalt Rubber Manufacturing and Placement**
 By Michael Hoag, Granite Construction
 An overview of the processes used to incorporate scrap tire rubber to capture the engineering properties of tire rubber.
- **Binder Specifications and Design**
 By Anne Stonex, MACTEC Engineering
 How asphalt and scrap tire rubber are combined and tested to ensure good engineering properties and the use of the binder in SMA and Friction Course Mixes
- **Noise Reduction and Safety Enhancements to Aged PCCP**
 By Cliff Ashcroft, FNF Construction
 Decreased Accidents on I-35 in San Antonio following the application of a thin AR PFC over rough and aged PCCP and the Arizona Quiet Pavement Pilot Program and other research on Noise Reduction.
- **Crack Resistance, FHWA Accelerated Loading Facility Results**
 By Jorge Sousa/George Way
 Research and field performance demonstrate reduced thickness concepts, at least a 2 to 1 reduction, with significant crack resistance.
- **Reduced Tire Wear and Ride Improvements**
 By Kamil Kaloush, Arizona State University
 Arizona DOT field testing on Interstate 10 demonstrates that thin asphalt-rubber friction courses improve surface characteristics, reduce roughness, and prevent excess tire tread wear.
- **AR Friction Courses as a Preservation Application and Thermal Blanket**
 By Mark Belshe, FNF Construction
 Agency investments in existing or newly constructed PCCP can be protected from excess thermal gradients by thin, one inch AR friction courses.

Adjourn at 12:15 PM

Meet the Speakers

Cliff Ashcroft
Vice President California Operations
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Cliff Ashcroft started in the Asphalt-Rubber industry in 1989 when he worked for the first California based Asphalt-Rubber contractor as their Marketing Manager. In 2000 he joined FNF Construction as a Vice President of California Operations.

His pavement career started in 1984 with the Equipment Division of Sully Miller Contracting in Southern California. Later he served as Plant Manager of Production and Sales at the Norwalk Concrete Plant of Blue Diamond Materials. Prior to joining the Asphalt-Rubber industry, Cliff served as Manager of the Blue Diamond Class II Base Department in Long Beach, CA.

Cliff has a solid reputation as an industry expert in the use of Asphalt-Rubber and is well known to public works agencies in Southern California. Cliff is President of the Rubber Pavements Association, having served as a RPA Director for several years. He has also served as the Co-Chair of the RPA California Task Force and Chairman of the RPA Annual Awards Committee from 2000-2004. He is an active member of several Caltrans/RPA committees and participated in the review team of asphalt rubber projects placed throughout the state. Cliff has been a participant in workshops in California, Texas and Arkansas and presented a paper at Asphalt-Rubber 2003 in Brazil. He is a member of the California APA and also serves on the Green book Committee in Southern California.

Douglas D. Carlson
Executive Director
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Doug has ten years of experience working within the rubberized asphalt industry conducting over 70 conferences, workshops, seminars, and technology tours in Arizona, California, Texas and worldwide with the Rubber Pavements Association. He is a recognized expert used for presentations in conferences concerning rubberized asphalt, tire recycling and the use of granulated tire rubber in engineering materials.

He has held or maintained the following positions: Executive Director, Rubber Pavements Association, February 2003 to Present. Director, Recycled Tire Engineering and Research Foundation, November 2003 to Present, FHWA Quiet Pavement Technology European Scan Team Member 2004, Member of the US Quiet Pavements Expert Task Group, 2004 to Present, Member, Transportation Research Board 2004 to Present, Member, ASTM 1999 to Present, Member, Caltrans Rubberized Asphalt Concrete Task Group March 1998 to Present (Co-Chairman of the RAC, Special Provision Performance Grade Binder Update 2005), Member, US EPA Resource Conservation Challenge, Tire Cluster, Rubber Modified Asphalt Subcommittee May 2002 to Present.

He has other unique qualifications: Project Administrator, Crumb Rubber Concrete Design Guide Development, Arizona Department of Environmental Quality, Contract EV 05-0002 AC, October 2004 to Present, Executive Board Member, Arizona Highway Users Conference 2002 to Present, Project Proposal Reviewer for EPA projects related to waste tires, Trained Combat Engineer and Bulk Fuel Specialist, USMC 1987-1995.

Michael Hoag
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Mike Hoag graduated with a degree in Environmental Engineering from Montana Tech in 2000. After graduating, he started working for Granite Construction Company as a project engineer in Granite's Southern California Branch in Palm Springs. He worked on several road reconstruction and maintenance projects including three major paving projects with Asphalt-Rubber. In January of 2003, Michael was promoted to the position of Asphalt-Rubber Engineer for Granite where he managed all of the company's asphalt-rubber blending plants until 2005. He was responsible for bidding all Asphalt-Rubber work, scheduling the projects, managing quality control, crews, and equipment for each of Granite's four mobile Asphalt-Rubber plants. Presently, he is a project estimator and aggregate resource development engineer. He has been a member of the RPA Board since 2002 and currently serves as the Association President.

Mark Belshe
Vice President, Asphalt-Rubber
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Mark Belshe is a Vice President and Project Sponsor for FNF Construction, Inc., one of the largest contractors and producers of asphalt rubber binders in the Southwest United States. FNF, a general contractor based in Tempe, Arizona, provides asphalt rubber binders for its own hotplants and also works as a supplier to various hotmix material suppliers throughout Arizona, California and other market areas. Mark has been with FNF for nearly 20 years working as a Project Engineer, Estimator, Project Manager and Project Sponsor, and he was instrumental in building the company's asphalt rubber operations. Mark has been active in the Rubber Pavements Association, serving as the Association President in 1999 and 2000. He is also active in various technical committees including the Pacific Coast Conference on Asphalt Specifications, the Arizona Rock Products Association, the RPA Technical Advisory Committee and several standing committees with the Arizona Department of Transportation. Mark has a B.S. in Civil Engineering from the University of Arizona and a M.S. in Civil Engineering from Arizona State University. He is a Registered Professional Engineer in California and Arizona as well as a Registered Land Surveyor in Arizona.

George Way, P.E.
Chairman, Recycled Tire Engineering Research Foundation (RTERF)
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George retired in 2004 from the Arizona DOT as the Chief Pavement Design Engineer with 35 years of experience in Pavement Structural Design, Materials Testing, Materials Pavement Research, Pavement Condition Inventory, Pavement Management, Asphalt and Asphalt Rubber Mix Design, Concrete Mix Design, and all related materials composing the pavement structure from the soil foundation to the surface of the pavement. His service with ADOT coincided with the development of asphalt-rubber materials used by the agency beginning in 1972.

Also during his career with ADOT he served on the Strategic Highway Research Program (SHRP) AASHTO Task force that developed the original Long Term Pavement Performance (LTPP) plan. He is an active member of many engineering Associations and Societies including the following: American Society of Civil Engineers (ASCE), American Institute of Chemical Engineers (AIChE), National Society of Professional Engineers (NSPE), Association of Asphalt Paving Technologists (AAPT), American Society for Testing Materials (ASTM), Transportation Research Board (TRB), Panel member NCHRP 1-37A (1998-2004), Pacific Coast User Producer Conference on Asphalt Specifications, Chairman of the Rubber Pavement Association (RPA) Technical Advisory Board, and Chairman of the Recycled Tire Engineering and Research Foundation (RTERF).

He has authored and co-authored over 70 published reports in technical journals, conferences and proceedings many involving the research, design, and use of asphalt rubber materials.

ANNE STONEX, Ph. D.
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Ms. Stonex has specialized in conventional and modified bituminous and hot-mixed asphalt (HMA) pavement materials and construction for over 20 years and is a nationally recognized expert on asphalt rubber paving materials. Her career to date has provided a wide range of experience including conducting sponsored research projects, writing technical reports, setting up and managing materials testing laboratories, structural pavement design, forensic analysis of distressed pavements, use of Marshall, Hveem, and Superpave systems for mixture design and analysis of asphalt paving materials, developing asphalt rubber binder and mixture products and specifications, design and application of surface treatments and of cold mixes for in-place and plant recycling, field control of pavement construction, Superpave implementation, and HMA technology transfer including conducting large training and certification programs.

Ms. Stonex has also planned and performed numerous pavement and related geotechnical investigations, and has developed structural pavement designs, pavement management plans and bid packets for construction and rehabilitation of roadway and airport pavements and parking facilities. She has served a variety of public and private sector clients throughout the United States, including the U.S. Air Force Engineering and Services Center, Bureau of Indian Affairs, various state and municipal agencies, the Northeast Regional Pooled-Fund Study, the Pennsylvania Department of Transportation Bituminous Technician Certification Program, Ford Motor Company, Chrysler Corporation, Michigan Bell Telephone, large and small paving contractors and materials suppliers, and home-owners associations.

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Dr. Sousa has performed research in the areas of soil mechanics, asphalt technology, materials testing and modeling, and truck-pavement interaction since 1984. Over the course of this research he provided technical support and guidance to several Ph.D. students in the areas of geotechnical, transportation, structural and construction engineering. He has been very active in the introduction of asphalt rubber technology in Portugal, Spain, Germany, Austria, Brazil, China, Angola and several other African countries. His efforts have led to the construction of a crumb rubber plant in Sines, Portugal and to the construction of many lane/km of asphalt rubber paved roads in numerous countries. Part of these efforts were directly associated with first time application of asphalt rubber on pavements in many of the countries mentioned above. Dr. Sousa had to coordinate the execution of mix designs, crumb rubber selection, material and equipment evaluation, quality control and on site technical consultation.

Kamil Kaloush
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Dr. Kaloush expertise is in pavements and transportation materials. He is a registered Professional Engineer and has over 20 years of experience as a consulting engineer in pavement research, advanced laboratory testing, and management services. He is a member of several professional organizations including the National Council of Examiners for Engineering and Surveying. He has over forty publications in his field. Dr. Kaloush is the co-founder and co-director of the National Center of Excellence on SMART Innovations for Urban Climate and Energy (www.asuSMART.com). He is co-faculty advisor for the ASCE student Chapter.