



International Society for  
Asphalt Pavements

# Working Group 1 – Hot Recycling of RAP

## Activities Review

*TRB 92<sup>nd</sup> ANNUAL MEETING*

Washington DC, USA

*January 13, 2013*



<http://asphalt.org/>



Slide No. 1

## Mission

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*The mission of the Recycled Asphalt Pavement (RAP) Working Group is to encourage the use of RAP in asphalt pavements throughout the world. By advancing the recycling technology, the overall cost of road construction will be significantly reduced at the same time environmentally friendly roads will be constructed.*



## Short-Term Goals

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1. Encourage cooperation among researchers on the use of RAP materials.
2. Develop a database that incorporates all active research efforts on the use of RAP materials in asphalt mixtures.
3. Organize an international conference on the use of RAP materials in asphalt mixtures.
4. Conduct Workshops and/or prepare circular on new technologies, equipment, and testing procedures that can help evaluate RAP mixtures.
5. Forge liaisons from the ISAP-RAP WG to other groups addressing RAP – such as, TRB committees, ASCE, Pooled Funds, etc...



## Long-Term Goals

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1. Develop world-wide guidelines on the evaluation of RAP materials and the design of asphalt mixtures containing RAP.
2. Partner with equipment manufacturers to design and deliver asphalt plants that can accommodate high RAP contents.
3. Develop a process to show the life cycle benefits of using RAP in asphalt mixtures.



# APE TC – WG1

## Past Activities



- **2<sup>nd</sup> International Symposium on Asphalt Pavements and Environment, Oct 1-3, 2012, Fortaleza, Brazil.**
  - 135 participants from at least 18 different countries
  - 78 papers accepted for the Symposium (41 orally presented and 28 presented in the poster sessions):
    - *By-products and secondary materials recycling in asphalt pavements: 12 papers*
    - *Cold and warm recycling of RAP: 16 papers*
    - *Hot recycling of RAP: 10 papers*
    - *New technologies and special environmental aspects for asphalt pavements: 40 papers.*



# APE TC – WG1

## Past Activities



- **RAP Recycling Workshop, Sep 30, 2012, Fortaleza, Brazil.**

### **Morning session: Hot Recycling (WG1)**

- Characterization of RAP materials
- Mix designs
- Mechanistic testing
- Construction practices
- Etc.

### **Afternoon session: Cold Recycling (WG2)**

- Research focus area
- Mix and structural designs
- Protocols/testing
- Etc.



## Future Activities

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- 2<sup>nd</sup> MESAT Conference on ***Sustainable Asphalt Pavements in the Middle East.***
- American University of Sharjah, United Arab Emirates, February 5-7, 2013
- [www.mesat.org](http://www.mesat.org)



## Future Activities

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- As part of Asphalt Research Consortium (ARC) effort:
  - Report: “Effect of Extraction Methods on the Properties of Aggregates in Reclaimed Asphalt Pavement.”
  - Authors: Elie Y. Hajj, Luis Loria, Nathan Morian, Andrea Kvasnak, Jason Nelson, Peter E. Sebaaly, and Randy West
- In the process of completing a Technical Summary
- ***National Technical Information Service (NTIS)***





## Future Activities

- Short-term Goal No. 2: Develop a **database** that incorporates all active research efforts on the use of RAP materials in asphalt mixtures.
- **Proposal**: Make use of the ARC database framework to create WG1 database



# APE TC – WG1

## Future Activities

- Access ARC database: [www.arc.unr.edu/Outreach.html](http://www.arc.unr.edu/Outreach.html)

The image displays two screenshots of the Asphalt Research Consortium (ARC) website. The left screenshot shows the main navigation menu with options like Home, Outreach, Project Team, Software, Publications, Workshops, Newsletters, Contacts, and Links. The 'Outreach' section is highlighted, listing 'ARC Database', 'Articles', 'Presentations/Posters', 'Tech Development Products', and 'Theses/White Papers'. The 'ARC Database' section features a circular diagram with five nodes: 'Materials', 'Documentation', 'Field Evaluation', 'Pavement Sites', and 'Laboratory Tests'. The right screenshot shows the 'Asphalt Research Consortium Database' login page. It includes a 'Logout' button, user information (USER: ellen, ORG: University of Nevada, Reno, AUTH: OrganizationalSuperUser, Batch #: Not Set), and a 'Home Page' menu with options like 'Materials', 'Properties', 'Measures', 'Pavement Sites', 'Files / Reports', 'Admin Functions', 'User', and 'Help'. The database version is noted as 0.9.0.10 (BETA). A warning message states: 'You are using the ARC production software version and ARC production database. This application must be run using FireFox or Internet Explorer Version 8. Bugs in previous versions of Internet Explorer cause display errors in Cascading Style Sheets. The application has not been tested with other browsers such as Chrome or Opera.' The database content view shows the same circular diagram as the left screenshot, overlaid on a background of the ARC logo and text.

**Asphalt Research Consortium**

Home Outreach Project Team Software Publications Workshops Newsletters Contacts Links

**Outreach**

ARC Database  
Articles  
Presentations/Posters  
Tech Development Products  
Theses/White Papers

**ARC Database**

Materials  
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**Asphalt Research Consortium Database**

Logout  
USER: ellen  
ORG: University of Nevada, Reno  
AUTH: OrganizationalSuperUser  
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ARC Database version number 0.9.0.10 (BETA).  
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The ARC database was designed with two primary goals in mind. The first goal was to provide a Web-based database management system and application that will allow Consortium members to store research results related to materials, material properties, material measures and results of laboratory and field testing. The second goal is to make the data available to the general public via a searchable Web-based interface. It is expected that university researchers and students, along with industry professionals and public agencies, will benefit from this data. The system is being implemented using well-adopted technologies including Microsoft SQL Server 2008 and Microsoft ASP.NET. The

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