



IV Simpósio Internacional de Avaliação de Pavimento
e Projetos de Reforço - SINAPPRE



International Workshop

COLD AND WARM ASPHALT MIXTURE DESIGN/ CHARACTERIZATION AND PAVEMENT DESIGN

Identification of worldwide best practices

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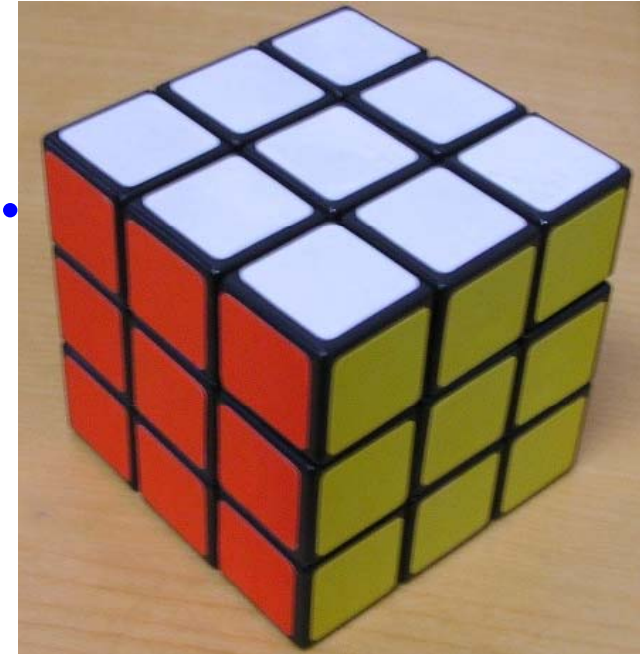


ISAP Technical Committee APE Asphalt Pavement & Environment



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**Asphalt pavements
must be a solution.....**



.....not a problem!!!!



ISAP Technical Committee APE Asphalt Pavement & Environment



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Chairman: **Manfred N. Partl** (*EMPA & KTH*)

Secretary: **Gabriele Tebaldi** (*Univ. of Parma*)

WG 1 RAP Recycling (focus hot, for the time being),

Chair: **Chantal de La Roche** (*LCPC*)

WG 2 By-products and secondary materials: recycling in asphalt pavement

Chair: **Gerry Huber** (*Heritage Research Group*)

WG 3 Life cycle analysis

Chair: **John Harvey** (*University of California, Davis*)

**WG 4 New technologies and special environmental aspects on asphalt pavements
(solar and thermal energies, noise reduction,)**

Chair: **Gordon Airey** (*University of Nottingham*)



Goals of ISAP TC APE



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- ✚ Promote recycling-asphalt as sustainable material of high value by considering technical, environmental & economical aspects.
⇒ **Re-use as much as possible at quality levels as high as possible.**
- ✚ Promote safe and beneficial re-use of second mat. in asphalt
- ✚ Find new solutions and new techniques to improve the environmental compatibility of asphalt pavements
- ✚ Find new solutions and new techniques for asphalt pavements to improve environment (e.g. multi-functionality)
- ✚ Find new solutions & new technique to understand mechanisms!!
- ✚ Care for links with other int. groups (RILEM TC 206-ATB, WG05 on Recycling)



Research Topics for TC APE



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Materials

- Asphalt production technologies
- High-rate recycling (performance and equipment)
- Perpetual repeated recycling
- New recycling technologies
- By-products & secondary materials (mix design, mech. prop., temp., emulsion type, pav. design, constr. Tech., in-place, in-plant,...)
- Alternative binders, vegetal additives

Environment

- Energy saving & warm/half-warm & cold recycling (mix design, mech. prop.)
- temp., emulsion type, pav. design, constr. tech., in-place, in-plant,...)
- Emissions (fume, water, CO₂)
- Asphalt pavement for energy production (solar, thermal,..)
- Noise reduction
- Unconventional multi-functionality (e.g. photocatalytic effects, self healing, self de-icing)



Research Topics for TC APE



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Performances

- RAP in relation to durability and structural stability
- Moisture damage
- Aging (mechanism and laboratory techniques)
- Interaction structure & performance

Life Cycle Issues

- Life cycle analysis modeling
- Life cycle cost analysis of new technologies
- Sustainability of construction & maintenance of asphalt pavements
- Environmental restorations of abandoned alignments

Implementation

- Strategies to awaken Road Authorities toward sustainable asphalt pavement
- Development of common standards across the world



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APE Workshops 2009

Torino, Italy, July 2009 (joint to Mairepav6)
Recycling on Asphalt Pavement (WG1)



<http://www.mairepav6.it/uk/>

Qingdao, China, August 8th, 2009 (joint to 3rd Int Conf. on Asph. Mat)
*Material characterization and field validation
for predictions of the short- and long-term
performance of various types of recycled materials*



中國高等材料國際學術交流會
CHINA INTERNATIONAL ASPHALT MATERIAL CONFERENCE

<http://www.chinabitumen.com>



Fortaleza, Brazil, October 6th, 2009 (joint to Conf. of Brazilian Pav. Ass.)
*Cold and warm asphalt mixture design/
characterization and pavement design.
Identification of worldwide best practices*



<http://www.abpv.org.br/fortaleza2009>



Nantes, France, 23rd & 24th November 2009
LCA software (WG3)



Nottingham, UK, December 2009
New technologies in asphalt pavements (WG4)





ISAP Technical Committee APE Informations & News



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<http://www.ape-isap-tc.unipr.it>

**ISAP Technical Committee
Asphalt Pavements & Environment**

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TC Board

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Workshop presentations

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- 0 users
- 1 guests



Program

1st day - COLD AND WARM ASPHALT MIXTURE DESIGN/CHARACTERIZATION



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8h30	Welcome, Organization, Group Information
9h	<p>Presentations <i>(3 presentations, 20' each)</i></p> <p><i>Jean-Luc Delorme</i> <i>LCPC – France</i> “Warm mixtures: State of art and experiences in France”</p> <p><i>Hussain Bahia</i> <i>University of Wisconsin – USA</i> “Estimation effect of warm mix additives on workability of mixtures using the gyratory compactor”</p> <p><i>Richard Kim</i> <i>North Carolina State University</i> “Asphalt pavement response and fatigue performance prediction using the viscoelastic continuum damage approach – application to warm mixtures”</p>
10h	Coffee Break
10h30	<p>Short Presentations - Warm mixtures <i>(2 presentations, 15' each)</i></p> <p><i>Leni Leite</i> <i>Petrobras</i> “Warm mixes: Laboratory studies in Brazil”</p> <p><i>Celso Ramos</i> <i>Prefeitura do Rio de Janeiro</i> “Considerações sobre Misturas Mornas (warm-mix)”</p> <p>Discussion</p>
12h	Lunch
14h	<p>Discussion & Synthesis Work <i>Prepare synthesis by Secretary & Chairman of Working Groups</i></p>
15h45	<p>Presentation Synthesis of Groups <i>Presentation (20' each) and discussion (20' each) of the work of the two Work Groups</i></p>
16h30	Adjourn and final comments



Program

2nd day - PAVEMENT DESIGN - IDENTIFICATION OF WORLDWIDE BEST PRACTICES



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8h30	Welcome, Organization, Group Information
9h	<p>Presentations (4 presentations, 15' each)</p> <p><i>Angel Mateos</i> CEDEX – Spain “El ensayo acelerado a escala real como herramienta de la ingeniería de firmes”</p> <p><i>Imad Al-Qadi</i> University of Illinois Urbana-Champaign – USA “Long Lasting Pavements”</p> <p><i>Dallas Little</i> Texas A&M University “Effect of the AASHTO Pavement Design Procedure in the state of Texas”</p> <p><i>Jorge Soares</i> Universidade Federal do Ceará “Asphalt pavement design – state of practice”</p>
10h	Coffee Break
10h20	<p>Short Presentations (2 presentations, 15' each)</p> <p><i>Djalma Martins Pereira</i> ENGEFOTO Engenharia e Aerolevamentos S.A. “Dimensionamento de Pavimentos no Brasil - Histórico e Expectativas Futuras”</p> <p><i>Prepredigna Delmiro Elga Almeida</i> DNIT “Dimensionamento de Pavimentos – Visão do Órgão Rodoviário”</p>
11h	<p>Discussion Synthesis and final comments</p>
12h30	Lunch
14h	<p>Dr. Sundaram Logaraj AKZO NOBEL Surface Chemistry</p> <ol style="list-style-type: none"> 1. Warm-mix Applications with Rediset WMX system 2. Asphalt Emulsions Replacing Cutback Applications
15h	Comissão de Asfalto – IBP meeting
15h45	Coffee Break
16h	REDE ASFALTO N/NE meeting
18h30	End of Workshop