

WORKSHOP NR 2
**Recycled materials in road
and airfield pavements**
–OVERCOMING BARRIERS–
25 June 2005, OSLO, Norway

Program

Session chairman: Svein-Willy Danielsen, Norway

9.00	Introduction
	Dana N. Humphrey (University of Maine, USA): Barriers for Introduction of Nontraditional Materials: "Tire derived aggregate – A new Road Building Material"
	Jeff Melton & T.S. Weymouth (Recycled Materials Resource Center, University of New Hampshire, USA): "How Does the RMRC Help in Overcoming Barriers?"
	Gordana Petkovic (Norwegian Public Roads Administration): "Recycling in Norwegian Conditions"
10.00	Technical barriers
	Flavio Cioffi, M.P. Contento (Contentotrade, Italy): "Hard Road - Consolidation Process of Road Foundation Materials and Building Materials through Diagenesis and Laterization Optimization" <i>(The authors are unfortunately not able to attend the workshop)</i>
	Asphalt, rubber crumb asphalt
	Mujibur M. Rahman (Babtie Pavement Management & Engineering, UK), Gordon D. Airey & Andrew C. Collop (University of Nottingham, UK): "The Mechanical Properties of the Dry Process CRM Asphalt Mixtures Following Short-term and Long-term Aging" <i>(The authors are unfortunately not able to attend the workshop)</i>
	Mohammed Memon (Hudson Asphalt Group, USA), Colin Franco (Rhode Island DOT, USA): "Chemically Modified Chrumb Rubber Asphalt (CMCRA)" <i>(The authors are unfortunately not able to attend the workshop)</i>
	Hassan Ziari (Iran Science and Technology University) & Mohammed Mehdi Khabiri (Vali-Asr University, Iran): "Effect of Bitumen and RAP Content on Resilient Modulus of Asphalt Concrete" <i>(The authors are unfortunately not able to attend the workshop. The presentation will be given by Joralf Aurstad)</i>
	Glass
	Sanjaya P. Senadheera & Phillip Nash (Texas Technical University, USA), A. S. M. Ashek Rana (Frank X. Spencer and Associates, USA): "Characterization of the Behavior of Granular Road Material Containing Glass Cullet"
	Roald Aabøe (Norwegian Public Roads Administration), Even Øiseth (SINTEF, Norway), Jörgen Häggglund (HASOPOR, Norway): "Granulated Foamed Glass for Civil Engineering Applications"
	Shaopeng Wu, Wenfeng Yang & Yongjie Xue (Wuhan University of Technology, China): "Preparation and Properties of Glass-asphalt Concrete"
	Slag
	Jeffrey S. Melton & T.S. Weymouth (RMRC, University of New Hampshire, USA): "Evaluation of Improved Characterization Techniques for Beneficial Use of Slag Materials"
	Shaopeng Wu, Yongjie Xue, Wefeng Yang (Wuhan University of Technology, China): "Experimental Evaluation of Stone Matrix Asphalt Mixtures Performance Using Blast Oxygen Furnace Steel Slag as Aggregate"
	Adelmo Benassi, Giorgio Bressi, Eleonora Fornasari and Angelo Toschi (ITALCIC srl, Italy): "Recycling of Slag from MSWI in Road Construction: An "on field " Experimentation with Catalytic Hydraulic Conglomerate" <i>(The authors are unfortunately not able to attend the workshop.)</i>

11.30	Projects
	Pentti Lahtinen & Aino Maijala, A. (Ramboll Finland Oy): "Environmentally Friendly Systems to Renovate Secondary Roads. Life-Environment Project: Kukkia Circler. LIFE02 ENV/FIN/000329"
	Navneet Garg (Galaxy Scientific Corporation, USA), David Brill (Federal Aviation Administration, USA): "In-situ Recycling of Deteriorated Concrete Airport Pavements by Rublization"
	Ragnar Bragstad (Institute of Asphalt Technology, Norway): "Final Field Measurements on the Trial Sections for Recycled Concrete and Asphalt on the Former Fornebu Airport, Oslo"
	Rolv Anders Systad (Statsbygg - The Directorate of Public Construction and Property, Norway): "Reclaimed Asphalt and Concrete at Fornebu – Management, Design, Construction Procedures and Quality Procedures"
12.30	Lunch

Session chairman: Jeffrey Melton, USA

13.30	Environmental barriers
	Harpa Birgisdóttir & Thomas Christensen (Technical University of Denmark, DTU), Knud A. Pihl (Danish Road Directorate), Gurbakhash S. Bhandar & Michael Hauschild (DTU): "Life Cycle Assessment of Recycling Residues from Waste Incineration in Road Construction in Denmark"
	Sofia Lidelöw & Anders Lagerkvist (Luleå University of Technology, Sweden): "Evaluation of Leachate Emissions from MSWI Bottom Ash and Crushed Rock Used in Road Construction"
	Quality control /legislation
	Jeffrey S. Melton & T. S. Weymouth (RMRC, University of New Hampshire, USA): "Development of National Specifications for Recycled Materials Use in the United States"
	Annika Ekvall (SP Swedish National Testing and Research Institute): "Certification Rules for Alternative Materials - How to Make Them, How to Use Them and Why They are Needed"
	Vincent Basuyau (Eurovia, France & UEPG, Belgium): "Recycling materials and logistics during road maintenance operations"
	Discussion and conclusions
	Bjørn Schouenborg (SP Swedish National Testing and Research Institute): "Standardisation in Europe: Still Some Barriers to Overcome Before a Routine Use of Recycled Aggregates and Aggregates from Secondary Sources can be Achieved?"
	Discussion
16.30	Excursion to Fornebu
	Presentation of the Fornebu project by a representative from The Directorate of Public Construction and Property
18.30	Walking tour through Oslo

Workshop Chair

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