The utilization of recycled asphalts in France

Anthony MATYNIA, DGPI, Pavement, Earthworks, and road drainage division.

anthony.matynia@developpement-durable.gouv.fr

AAPA : Tour to Europe
4 june 2012
OUTLINE OF THE PRESENTATION

1- LAWS

2- CONSEQUENCES OF THE LAWS

3- HEALTH IMPACT
<table>
<thead>
<tr>
<th>Laws</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Circulaire letter of the Ministry of ecology</strong></td>
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<tr>
<td>9 Février 2009</td>
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<tr>
<td><strong>Environment Round Table : Law 1</strong></td>
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<tr>
<td>3 août 2009</td>
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<tr>
<td><strong>Agreement between road industry and government</strong></td>
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<tr>
<td>25 mars 2009</td>
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<tr>
<td><strong>Environment Round Table : Law 2</strong></td>
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<td>12 juillet 2010</td>
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</tbody>
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2007 : Beginning of the Environment Round Table

AAPA Tour to Europe – 4 juin 2012
Anthony MATYNIA
Environment Round Table
(law 1 and 2)

- The aim of the environment Round Table is to define the key points of government policy on ecological and sustainable development issues for the coming five years.

- The law I and II consists to preserve biodiversity, natural environments, human health and non-renewable resources.
What’s that? : Declination of the environmental Round Table Law in the field of Road work

Six signatories to this agreement :

- The National Federation of Civil Engineering (FNTP)
- The Professional Union of the earthwork industry (SPTF)
- The Union of Road Industry (USIRF)
- Syntec - Civil Engineering (Syntec Ingénierie)
- The French Ministry of ecology, sustainable, development, transport and Housing
- The Association of department of France (ADF)
Ten Commitments

- Preserve biodiversity and natural environments,
- Preserve non-renewable resources and develop the use of recycled mix,
- Reduce water consumption during the earthworks,
- Creation of the Institute Of Roads, Streets and Infrastructure for Mobility (IDDRIM),
- Develop research and disseminate innovation,
- Improve road safety, safety of workers and neighbourgh during the works,
- Reduce emissions of greenhouse gases and energy consumption,
- Increase the environmental performance of road,
- Promote local versions of the national Road Work Agreement
- Follow and evaluate commitments
Circular letter of the ministry of ecology  
February 9, 2009

Two recommendations

- Authorize the incorporation of 10% of recycled asphalt in the asphalt concrete without type testing (NF EN 13108)

- Integration, into government contract, of criteria which encourage the use of recycled asphalt.
Consequences of the Framework Laws

- The use of recycled asphalt improved between 2008 to 2011.

% of Recycled asphalt in the asphalt concrete

- Writing of a technique guide for the utilization of recycled asphalt. 2 parts: material and type testing.
ASBESTOS USED IN PAVEMENT

When
- Between 1974 et 1995

Why?
- Best resistance to fatigue
- Best resistance to the tracking

Who?
- SCREG: COMPOFLEX, MEDIFLEX, RUGOFLEX, DRAINOFLEX, BICOMPOFLEX

How Many
- About 20 millions de m² of asbestos
- 1 à 2 % asbestos in the coating

Where
?

Health problem during milling, planing, and sampling
The tar was used in France from 1850 to 1975. It is no longer used today.

Health problems occur each time the tar is heated.

<table>
<thead>
<tr>
<th>Année</th>
<th>Nombre d’automobilistes</th>
<th>Longueur de routes revêtues (km)</th>
<th>Consommation routière de liants</th>
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<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Goudron (t)</td>
</tr>
<tr>
<td>1894</td>
<td>200</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>1895</td>
<td>500</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>1897</td>
<td>1 200</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>1900</td>
<td>3 000</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
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<tr>
<td>1910</td>
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<td>1946</td>
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<td>600 000</td>
</tr>
<tr>
<td>1978</td>
<td></td>
<td></td>
<td>100 000</td>
</tr>
</tbody>
</table>

It is no longer used today.
Bituminous asphalt with medium level of PAH

- There is a threshold level value for the protection of the ground water (50 ppm)

- There is not a threshold level value for the health of the workers.

- The problematics is to find a threshold level value for the health of the workers (50, 100, 200 ppm of PAH in the bituminous asphals?)
Working Group « Road Work – Health Impact »

Composition

- The National Federation of Civil Engineering (FNTP)
- The Union of Road Industry (USIRF)
- The French Ministry of ecology, sustainable, development, Transport and Housing
- The National Institute for research, health and Safety (INRS)
- The National Health Insurance fund (CNAMTS)
- The Professional Organisation specialized to building industry and civil engineering
- French Agency for Food, Environmental and Occupational Health and Safety (ANSES)
Working Group « Road Work – Health Impact »

Working group is divided in 3 tasks groups: Tasks Group

- **Characterization**: development of a method to assess the probability of presence of asbestos and tar in the pavement

- **Formulation and Manufacturing**: Write a material Safety Data Sheet for all coated mix

- **Methodology**: Propose methods for prevention for the interventions on roads or highways

results expected late 2012
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