

SUMMARY

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EDITORIAL

Enduring and versatile Mastic asphalt

Alain Le Coroller, Publication Manager

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Mastic asphalt wearing courses

Fields of application

for mastic asphalt in road construction

In Germany, mastic asphalt (MA) has been used for road wearing courses for over 100 years. Besides the classic applications as a heavy-duty permanent surfacing, it also features low-noise characteristics and can be used for a variety of other applications.

Peter Rode

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Mastic asphalt wearing course
on a German highway



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Enduring attractive asphalt

Pedestrian, vehicle and driving surfaces must meet many demands – be waterproof, durable, sound-absorbent, anti-slip, easily draining, puddle-resistant, and more. And long-term appearance is becoming increasingly important. When architects get involved in design, something really beautiful can result. Generally, mastic asphalt comes to life when it is used. When slightly worn the colour typically warms and the surface becomes increasingly attractive. As mastic asphalt is made of natural materials and needs to 'mature' for its qualities to emerge, it hardens, retains its anti-slip character even in wet conditions and offers better sound absorption than traditional concrete asphalt.

A. Nicolai

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Saving money with good bridge pavements

That the cheapest is not always the best is shown by "life cycle cost" analyses. These analyses document impressively that a high-quality and, hence, sustainable design pays dividends. For this greatly reduces the expenditure for road-constructional maintenance, which increase the service life of the projects. This massively saves costs to the bottom line. Quite apart from which, this investment also saves the nerves, due to the elimination of traffic congestions caused by early maintenance measures. Unfortunately, this message has not yet arrived sufficiently with the public authorities: too often cheap variants are chosen for reasons of cost – with the known result. It would be worth considering, also for politicians, to include "life cycle costs" in their dispositions, thus almost living off-conjured sustainability. "Life cycle costs" provide politicians with good arguments for investing in quality. The best example for this is our Confederation: it is well constructed and has been standing on a stable foundation for centuries!

Heinz Aeschlimann

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Road surface maintenance with repair mastic asphalt

Over recent years, the mastic asphalt road repair method has proven to be extremely efficient, compared to any other traditional technique. In Belgium, experience shows that it is the most economic way to carry out local road repairs. With only basic equipment, completely independent from asphalt mixing plants, causing only little disruptions of traffic, road maintenance with repair mastic asphalt offers a large number of advantages, which enable Authorities to carry out long lasting, first quality local road repairs at any time.

Paul Steenmans

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Aalst

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The motivation for this article came from a sanded mastic asphalt project in Vitoria-Gasteiz, administrative capital of the Basque Country in Spain. This resulted in a spectacular blue and white mosaic in a pedestrian concourse. KROMATIS® has also been used in Hungary, Netherlands and France demonstrating its durability and aesthetic aspect as well as the technical and logistical solutions offered by Total Bitumen. Moreover, the mastic asphalt technique allows the use of Kromatis® in various applications, for example in sport halls, or on train station platforms.

Alice Bomers, Marc Kerergrant, Rafael Greño

Mastic asphalt on a cycle track in Budapest (Hungary), 7,5% of Kromatis®, 2% of red iron oxide

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Asphalt: an economic way of renovating old concrete roads

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At the present time, when budgetary resources for roadway maintenance tend to be restricted, an original and economical solution exists which has proved itself in use over several years in Paris, (France). The method makes it possible to renovate old concrete roads with badly cracked surfaces while restoring their waterproofing and rider comfort characteristics, improving user safety and reducing road noise levels for the benefit of local businesses and residents [1]. This article reviews the experience of the City of Paris in using this renovation technique, first implemented 14 years ago, and in regular use since then. Today, the extension of useful life granted to these roads and the financial savings achieved are a source of satisfaction for the city.

Christine Leroy

Mastic asphalt between Tram rails

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Traditional pavement materials have proved to be inefficient as wearing course between Tram rails for a number of reasons. Mastic asphalt has shown to offer a solution for some typical and difficult areas (such as point switches). A 2-layers structure guarantees not only a longer life cycle, but also enables authorities to obtain attractive pavements (coloured, concrete block paving outlook,...).

Paul Steenmans

Mastic asphalt application for urban road construction

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Mastic asphalt wearing courses in urban road construction have proved to be resistant to heavy traffic influences for decades.

Josef Matig

Noise behaviour of surface courses compared to hot mastic Asphalt (HMA) with a constructed surface

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Road surfaces can be noise optimised with appropriate measures. That applies particularly to surface courses of hot mastic asphalt (HMA) as this construction type optimally permits surface dressing with special chippings. For various types of surface courses, on experimental areas in the canton Aargau, the development of noise properties was investigated. In addition to the effective noise properties, interesting knowledge has been gained in connection with noise measurement standardised to EN ISO.

Dr. Markus Caprez, Peter Trombik, Pascal Fleischer

Mastic asphalt on heavy-duty pavements in Germany

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In the early nineties, the German institute for asphalt technology (DAI) initiated a study to examine the performance of asphalt wearing courses on German highways. The main focus of the study was to answer the question how asphalt wearing courses had to be designed in the future to meet the requirements of the constantly increasing traffic load. To answer this question, the DAI and local authorities selected six very heavily trafficked sections on highways in Germany, which should be verified and analysed regarding their overall performance since their time of construction.

Andreas Knöbig

Renewed leak-proof parking deck

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For years a parking deck on an office building in the Netherlands has been leaking rainwater into the underlying car park. The problem was solved with some architectural refinements and a new mastic asphalt roof covering system.

N.J. Bruins

Letzigrund Stadium

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The Letzigrund sports grounds were built in Zurich in 1925 by the members of FC Zurich. Ten years after the opening the stadium had to be refurbished and altered several times. Following the depression in the nineteen thirties, the club was forced to hand over the stadium to the city of Zurich in the winter of 1936/37. In 2005, finally, the Letzigrund Stadium was demolished to make way for a new and more modern stadium.

Joël-André Barra

6000-T ROADMASTIC
mobile asphalt transfer mixer

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Mastic asphalt production equipment

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With the development of techniques and more stringent sealing and waterproofing requirements, the definition of mastic asphalt and its modern production formulas have radically changed.

There are two main methods of asphalt production, which differ in terms of the temperature of the aggregates when they are added to the mastic asphalt mixer. Production using hot aggregates involves the preliminary heating and drying of the aggregates in a dryer mixer. Operators can therefore make the best use of their existing hot-mix asphalt plants by equipping them with fixed mastic asphalt mixers after slight modifications have been made to the existing plant. After the mastic asphalt has been manufactured in a fixed plant, it is then transported to the application site by mobile truck or trailer-mounted transfer mixers, which maintain the mixture at the correct temperature and finish off the mixing and curing of the components during the journey to the site. In response to the demands of users, both fixed and mobile versions of these machines are now being designed with larger capacities.

Mikaël Azran