BASt topics

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Standardized asphalt - second round in Europe

The European standards in the 13108 series, on which the German Technical Delivery Terms for Asphalt Mixture for the Construction of Road Pavements (TL Asphalt-StB 07/13) are based, date from the year 2006. This package of standards was reviewed in 2011 as part of a systematic review, i.e. in a survey of CEN member states. The aim of this review was to establish whether the standards in this package should continue to apply unchanged or whether they should be revised. Both the responses to the survey and a discussion conducted within CEN itself clearly showed that the preference was for a revision. In the years that followed, task groups within CEN TC227/WG1 drew up new draft standards. These were then published as CEN enquiry. Over 3,000 comments were received and examined. In those cases where the comments were justified, the new draft standards were amended accordingly. The work on the revision of the content of the standards has been completed and they are approved by CEN. Now the publication by has started and everybody is waiting on their listing in the Official Journal of the European Union.

The main amendments to the standards, which include the sections on mixture specifications, initial type testing, factory production control, and the classification of reclaimed asphalt, are

- the addition of thin-layer paving in hot application on tack coat (DSH-V) to the package of standards,
- the extension of the performance approach for the mix types SMA and PA,
- the inclusion of new properties in the mixture standards,
- the adaption of the EU Construction Products Regulation CPR as follow up of the CPD.

The work of TC227/WG1 will continue its work on the draft Product Standard for Asphalt Concrete with Bitumen Emulsion (ACBE). This Standard will be (on the decision of WG1) produced, in the first instance, as a non-harmonized EN. It will initially be normatively empirical, with recommendations on performance-related characteristics. The 'Type Testing' (here called Product Type Assessment to avoid confusion with harmonized terminology) and FPC elements will be included within the standard itself, as Annexes. Additional guidance on inclusion of reclaimed asphalt into ACBE will also have a specific Annex. To incorporate all kind of test methods which are applicable to hot mix asphalt warm mix asphalt and also asphalt produced with bituminous emulsions in one series the title will be changed to "Test

methods for asphalt". Were possible the scope of existing test methods will be widened and the standards amended accordingly. But there will be also some parts of the series, which will not cover the whole range of mixes.

Standardisation work is a long term process which sometimes seems to be very slow and inefficient. But it is important to set the ground for a common technical language and understanding from witch new research and developments will evolve.

"The benefit of standardization work on EU level is not only to fulfill a mandate of the European Commission or a self defined task by CEN/CENELEC. The discussions to elaborate a common European approach lead to an intensive examination of the different approaches existing in other member states and therefore widens the own knowledge and encourages to "think different". The European standards for products and test methods provide also common platform for further developments and innovations."

Rudi Bull-Wasser, Head of Asphalt Pavement at BASt

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BASt-ARRB researchers exchange: (not) a familiar experience

Many new experiences could be made when three researchers from BASt and ARRB in Melbourne, Australia, started their four months (October 2015 – January 2016) exchange programme between the two institutions, for the first time ever including the two families of the exchange partners. This logistically exquisite task was solved by a swap of homes and vehicles so that not only the researchers but their families as well could experience the life on a really distant continent. Furthermore this helped to keep costs at a reasonable level. The exchange was initiated by Gerard Waldron, General Manager of ARRB Group, and Stefan Strick, president of BASt, both being highly involved in FEHRL as vice-president and president respectively.

Kerstin Auerbach with General Manager Gerard Waldron

Caroline Evans, who has been employed with ARRB Group for almost 7 years as a Senior Economist mastered the challenge together with her husband Paul and three children (2, 7, 8 years) from the Australian side. Kerstin (psychologist) and Markus Auerbach (physicist) from BASt with their twins of age 5 had a closer look at the Australian life style.

Caroline brought her expertise in climate change adaptation research into BASt and was involved amongst others in the preparation of a DoRN (description of research needs) of a new call on climate change adaptation of CEDR (Conference of European Directors of Roads) and work for the Horizon 2020 CSA "FOX". The possibility to make new contacts with colleagues from all over Europe was a great benefit for Caroline and ARRB.

Caroline Evans from ARRB

Markus produced an inventory of European projects with BASt participation that could be applicable to the Australian situation. Furthermore he delivered a report on "Climate Change Adaptation Strategies for road infrastructure in Australia and Germany". As part of the Transport Researchers Exchange (TReX) programme, he prepared and gave 17 presentations with a total presentation time of no less than 6 hours. They were grouped in three areas: Traffic Noise - Regulatory Framework in Germany and Europe, Energy Harvesting and Adaptation to Climate Change. He presented all of them in multiple sessions to Transport and Main Roads, Queensland, Brisbane, Roads and Maritime Services, New South Wales, Sydney and VicRoads, Victoria, Melbourne.

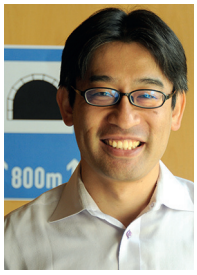
Within ARRB Kerstin was integrated in the „Safe Systems Group - Melbourne" and contributed her expertise in the field of road crash injuries. She gave several presentations on the current developments in Europe and Germany regarding injury assessment and the problem of driving under the influence of drugs and alcohol (including ARRB, Victoria, Melbourne; Workshop of the Data & Definitions Technical Working Group (Transport Accident Commission, TAC), Victoria, Melbourne; VicRoads, Victoria, Melbourne; ARRB group, New South Wales, Sydney).

The Australian experts were highly interested in the European and German research topics, all presentations were very well received and the researchers exchange turned out a success.

And the familiar experience? Despite the language barriers, the children of both families settled in easily; they went to kindergarten and school respectively, made new friends and gained valuable knowledge of a foreign country. Though after four months everyone was looking forward to returning home, both families experienced a unique and unforgettable time and were grateful to participate in this "once-in-a-lifetime" exchange.

Markus Auerbach in Australia

Researcher from Japan at BASt



Shoichi Kume, Hanshin Expressway Company of Japan, is working as a visiting researcher at BASt from July 2016 to August 2017. He is supporting the Unit "Tunnel and Foundation Engineering, Tunnel Operation, Civil Security". His work focuses on the implementation of fluidic investigations on the model tunnel of BASt.

New FEHRL leadership chosen from mid-2016-mid-2019

As of 1st July, FEHRL has a new President and new FEHRL Executive Committee (FEC) Chairman as well as new members on the FEHRL Supervisory Board (FSB) and FEHRL Executive Committee (FEC). For the first time ever, with Marit Brandtsegg from the Norwegian Public Roads Administration FEHRL has a female President. Lutz Pinkofsky who started his work in the FEC in 2010 was reelected for three years and will continue his work in this body.

Stefan Strick's valediction as FEHRL President:

"On 1st July, the term of office during which I had the honour and pleasure to chair FEHRL came to a close. Not having had so much experience in the field of national and European research as most of my FEHRL colleagues, I am grateful for their trusting acceptance and shared experience of what it means to be part of the FEHRL community.

Together with FEHRL Secretary General Thierry Goger, who assumed his challenge with enthusiasm and dedication at around the same time as I did and with the very strong support of the FEHRL Supervisory Board (FSB), we tried to continue and develop FEHRL as a well established organisation across Europe and beyond. That is testified by one of our Vice-Presidents coming from the Australian Road Research Board (ARRB Group) as well the intensified cooperation with the Federal Highway Administration (FHWA) in the spirit of the Memorandum of Understanding (MoU).

To foster the FEHRL idea of common European and international research to provide solutions for current and future challenges and develop the basic ideas for a multimodal approach and infrastructure innovation for seamless mobility, FEHRL soon will publish its new strategy for 2017-2020, which will include the FEHRL key targets.

I am convinced that our new President will develop innovation and implementation as the cornerstones of research. I am happy that we could convince her to be the first female chair in the history of FEHRL. She will be the best representative of FEHRL, a leading European voice of transport research. I am looking forward to supporting her ideas and her leadership together with my FSB colleagues and the very professional and hardworking back office."

Stefan Strick, President of BASt and leaving FEHRL-President

Lutz Pinkofsky reelected in the FEC

The strength of FEHRL comes from its 35 members and associated member institutes and from its own and its members' networks with governments, road authorities, industry, academia and other research institutes. As a result, BASt, like all other single member institutes, benefits from these joint forces.

The FEC is responsible for the legal and contractual aspects of FEHRL operations. They assess the risks and benefits of project proposals initiated by the Research Area Leaders and Research Coordinators, especially regarding the management and financial risk for the Association. Further on, they supervise FEHRL's Strategic European Road Research Programme SERRP.

Currently, a new SERRP is under development: the FEHRL 'Strategic European Road and Cross-modal Research and Implementation Plan 2017-2020'. There will be two subtle, yet important changes to the title of this research document. The first is that the aspect of cross-modality will be added in recognition of the potential to transfer knowledge to and from other transport modes. The second change is the addition of implementation, to reflect the fact that true value will only be created when new technologies are implemented.

The main FEHRL priorities are designed in part to align with current EC transport research priorities, and in part to reflect the activities of all FEHRL members. Seven main priorities have been identified and defined:

- Health and Safety
- Maintenance and upgrading of ageing infrastructure
- Digitalisation
- Security and Resilience
- Carbon and Environment
- Cross and multi-modal integration
- Governance for implementation

In order to face the challenges described in these priorities and support the new strategic orientation, three strategic projects, the FOX, USE-iT and REFINET projects, which are all H2020 Coordination and Support Actions, successfully started in May 2015. They are all very much supported by the FEHRL community – the FOX and the USE-iT project are both steered and administrated by FEHRL. All three projects reflect on the necessary development of a central future goal of FEHRL: to both take the opportunities as well as to face the challenges of globalization, digitalization and cross-modality for the further development of road infrastructure in a more and more interconnected world.

Dr. Lutz Pinkofsky, FEC-member and Head of Road Construction Innovations Group at BASt

New FEHRL flagship programmes

The focus of the FOX project (duration: 30 month) is on the development of the infrastructure whereas the USE-iT project (duration: 24 month) focuses on the technical areas of User Experience, Safety, Security & Energy. Both projects will contribute to the development of FEHRL's FORx4 initiative: Forever Open Road, Rail, Runway and River, which are closely linked to the new FEHRL Strategic European Research Programme.

The FORx4 initiative is a multimodal approach with a strategic alignment on infrastructure innovation for seamless mobility, addressing the challenges identified in the EC's White Paper on Smart, Green and Integrated transport. It contains the four modes of road, rail, runway and river and four shared domains of infrastructure, technology, governance and most importantly, customers: They request a single transport network, across which people and goods are able to flow freely.

Aim of the FOX project is to identify innovative techniques and common needs for their further development in the technical areas of construction, maintenance, inspection, and recycling & reuse of transport infrastructure. To reach this, all stakeholders of the single modes are involved and encouraged to engage actively, giving them the opportunity to express their needs and to comment on the findings of the project in several stages. Here BASt takes the chance to give input based on the needs and challenges that are stated in the ministerial programme "Road in the 21st Century" – Innovative Road Construction in Germany.

BASt experts are involved in all work packages (WPs) of the FOX project and lead WP3 "Maintenance". The main concepts identified in this WP span a wide area ranging from the optimisation of materials and processes for long-lasting and easy maintenance to the further development of precast elements. The area with the highest potential for cross-modal research and development was determined as the assessment of the status of the infrastructure networks through the application of Asset Management including BIM.

The potential areas of research for inclusion in the roadmaps now to be developed were presented at the second workshop on "Technology demand and transfer in cross-modal transport infrastructure" on September 15th 2016. There were presentations and profound group discussions on each topic area, with the aim of agreeing the areas of research and the steps that need to be taken for the future implementation.

By mapping the common needs, the final aim of the both FOX and USE-iT is to facilitate cross-modal discussions and generate a network of stakeholders interested in cross-modal collaboration with a legacy beyond the life of the project. For this, additional stakeholder engagement has been carried out through the project website, social media accounts, flyers and a number of publications.

At the end of the project, a roadmap for all aspects of the whole transport sector will be developed to set the agenda for the further improvement of cross-modal research development innovation. For this, the research needs identified in both projects and across all WPs will be joined to describe the common challenges facing transport modes as well as the cross-modal research required to address these and the steps necessary to implementation. These results will be presented in a final event in 2017.

"To get off the ground and bring innovation 'on the road' by external funding of research, it is necessary to influence the development of future research programmes on a strategic level. BASt supports this idea by a strong team of experts involved in the FOX project."

Ursula Blume, FEHRL Research Coordinator and member of International Road Construction Research Tasks at BASt

RWS-TNO-BASt-Meeting at BASt

On August 24th, 2016, a working meeting with Rijkswaterstaat took place at BASt. The Dutch delegation was headed by Theo van de Gazelle, Deputy Director General and Principal Director Central Netherlands of Rijkswaterstaat. For the first time, also the Netherlands Organisation for Applied Scientific Research TNO participated in this meeting. During the working meeting in particular technical road construction issues were discussed. These included, inter alia, the Dutch-German cooperation on skid resistance measurement methods and the measurement of sustainability with different devices. From the Dutch side the integration of environmental aspects in procurement procedures has been reported. Also several German and Dutch test fields were introduced, including the duraBASt and the German Digital Highway Test field. On the German side, BASt's Medium-term research plan 2016-2020 was presented. Possibilities of cooperation were discussed and the continuation of existing collaborations were agreed. The next working meeting is planned in spring 2017 in the Netherlands.

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