

AV '17 KONFERENCE ASFALTOVÉ VOZOVKY 2017

EAPA activities

Egbert Beuving
Secretary-General of EAPA

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Motto: Asfaltové vozovky – bezpečná cesta k prosperitě

SDRUŽENÍ
PRO VÝSTAVBU
SILNIC

ČESKÁ SILNIČNÍ SPOLEČNOST

CZECH ROAD SOCIETY


EAPA


PRAGOPROJEKT

Introduction

- ➔ **European asphalt standards**
- ➔ **EAPA Task Group Rejuvenators**
- ➔ **EAPA paper “The ideal project”**



Asphalt standards

- ➔ The European Asphalt Standards (EN 13108) were published by CEN / NSB's on 30 June 2016
- ➔ European Commission has rejected the publication of the product standards EN 13108-1 to -7 + EN 13108-9 in the OJEU because additional values / categories were included in several tables
- ➔ According to the CPR article 27 Levels or classes of performance: *The Commission may adopt delegated acts in accordance with Article 60, to establish classes of performance in relation to essential characteristics of construction products*

Asphalt standards

- ➔ The European Commission will choose the delegated act option
- ➔ 20 October 2017 meeting with European Commission representatives
- ➔ Publication in OJEU: end 2018 or beginning / mid 2019
- ➔ Versions of EN 13108:2016 **cannot** be used for CE-marking until they are published in OJEU

Rejuvenators

- ➔ Rejuvenators can be used to optimise the reuse of reclaimed asphalt in asphalt production
- ➔ Rejuvenating additives: increase addition of reclaimed asphalt to asphalt mixtures and to restore the rheological properties aged binder from reclaimed asphalt
- ➔ The goal of this document to provide the asphalt industry guidance **to select** rejuvenators that are fit for purpose and examples how to determine the **amount of rejuvenator needed**
- ➔ Substantial contributions of CZ

The Ideal Project

EAPA paper “The ideal project” provides

- ➔ Tools for increasing the durability of asphalt pavements
- ➔ By providing good examples
 - in all stages of the project
 - from the design preparation stage
 - until maintenance



Goal of the paper

Durability of asphalt pavements is very important

- ➔ Better availability of the road network
- ➔ Roads should be built to last for a very long period
- ➔ Maintenance needed has to be reduced

Goal:

- ➔ More effective and efficient use of material
- ➔ Lower Carbon footprint (better for the environment)
- ➔ Less need of resources
- ➔ More value for money

Goal of the paper

To encourage

- ➔ All working in the asphalt industry
- ➔ All the road authority side

to contribute to

- ➔ making asphalt pavements more durable

By using available techniques and procedures
and the available technologies

Tendering procedure

The lowest bid

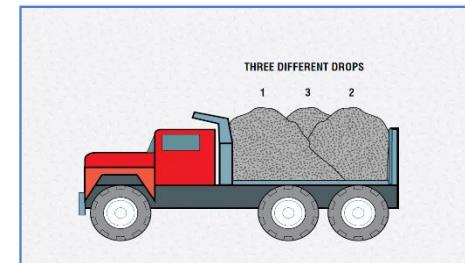
- ➔ Only results in lowest possible / allowable quality
- ➔ It does not result in a real high quality
- ➔ It does not stimulates the use of the latest technology and innovation

To achieve a higher quality

- ➔ Road authority should ask for it
- ➔ Use best “quality/price” ratio or bonus/malus-system
- ➔ Use functional requirements
- ➔ Use Green Public Procurement criteria

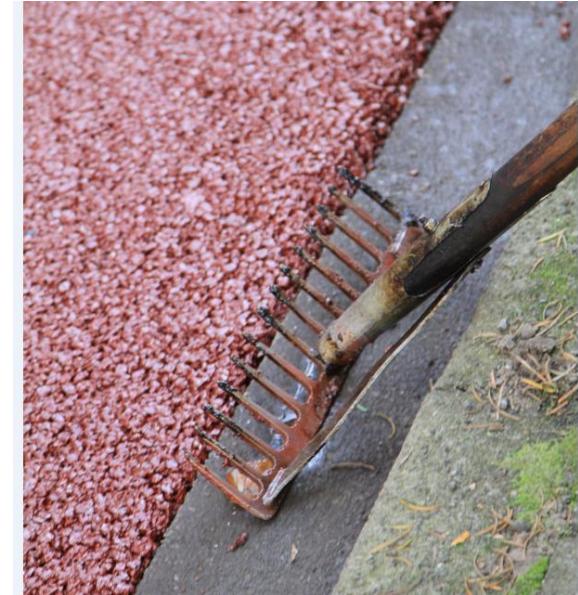
Asphalt transport

- ➔ Avoid temperature differentials in mixture (cooling)
- ➔ Avoid mixture segregation (loading)
- ➔ Use Material Transfer Vehicles when needed (to avoid stops)
- ➔ MTV can remix asphalt to get uniform mixture (again)
- ➔ Unload truck in a correct way
- ➔ Know where your trucks are to avoid stops of the paver



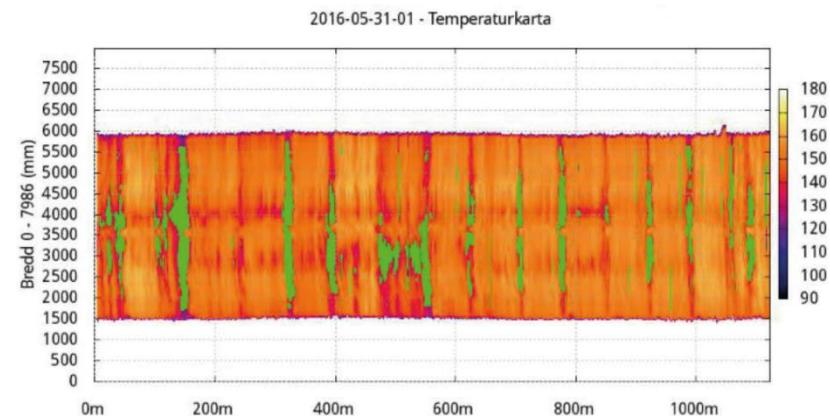
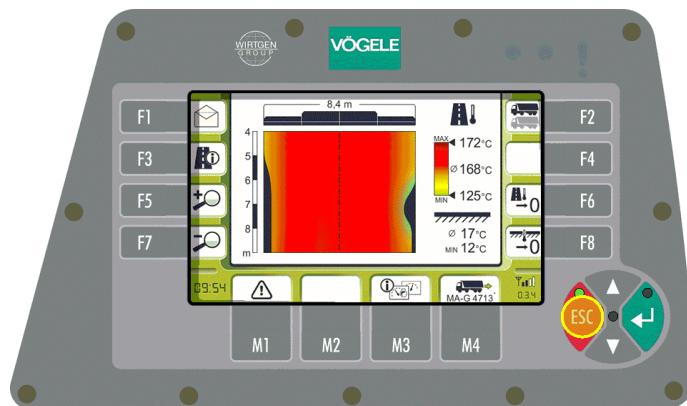
Paving operation

- ➔ Balance plant production, transport, paving and compaction in such a way that a constantly moving paving operation is possible without stops and starts
- ➔ MTV can create buffer to avoid stops/starts
- ➔ Good paver set-up
- ➔ Maintain constant paver speed
- ➔ Stops can lead to unevenness and cooling down of mix
- ➔ Hand raking should not be done unless absolutely necessary



Asphalt temperature

- ➔ Asphalt temperature behind screed (IR)
- ➔ Displayed on paver or 4G mobile phone
- ➔ Uniform asphalt temperature important to be able to compact the asphalt uniformly

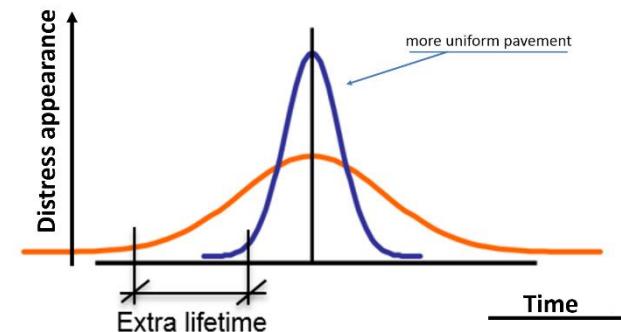


In Norway and Sweden bonus when the temperature is uniform and penalty when not uniform: “Risk areas”

Compaction

- ➔ Good compaction is essential for all pavement layers
- ➔ It increases stiffness of the layers, without hardly any additional material cost
- ➔ It increases the resistance to permanent deformation
- ➔ It improves the fatigue behaviour
- ➔ It reduces water permeability of the asphalt layer
- ➔ It minimises or prevents moisture damage

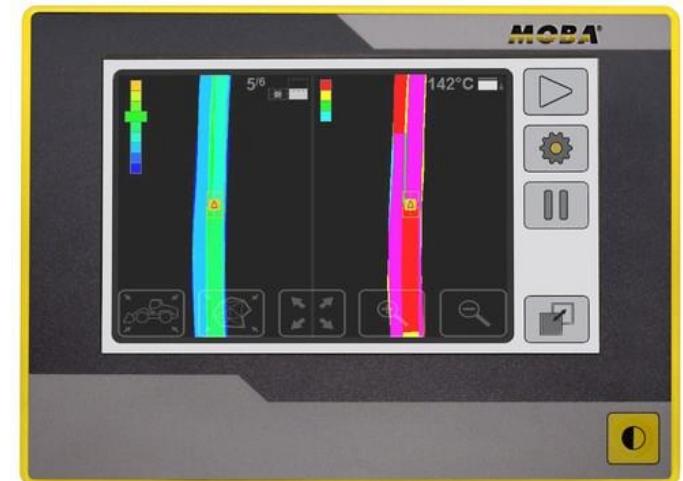
Uniform compaction is important



Information technology to assist roller driver

A Continuous Compaction Control System with GPS can also show (and store):

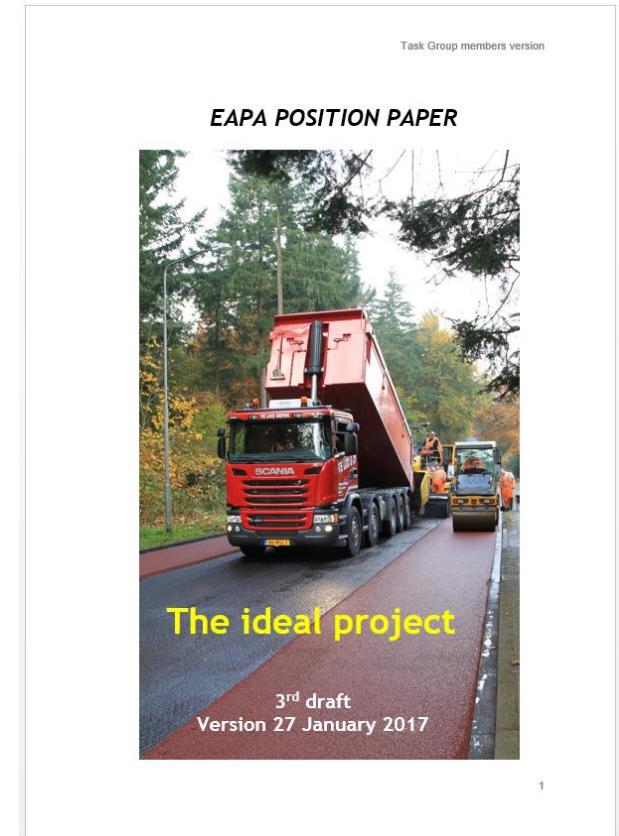
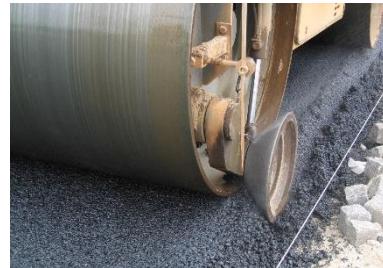
- ➔ Stiffness values as a map
- ➔ Temperature of asphalt, speed of roller, amplitude & frequency as a map
- ➔ Trend of stiffness values
- ➔ Exact geographical position
- ➔ Number of passes
- ➔ Date and time of passes



Task of roller driver is very important

Other items influencing durability

- ➔ Project planning
- ➔ Asphalt production
- ➔ Joints and edges
- ➔ Bond and tack coats
- ➔ Quality Control / Quality Assurance
- ➔ Process Control
- ➔ Operation / Maintenance
 - Local Maintenance
 - Major maintenance
 - Treatment Selection Guidelines



Conclusions

- ➔ With the tools and knowledge we have available, we can deliver a (very) high quality road infrastructure to reduce maintenance activities
- ➔ Contracts often do not stimulate innovations and do not contribute to the use of the latest technology
- ➔ We can build more durable asphalt pavements
- ➔ We / the road authority can save money

- ➔ We need contracts that allows us to show what we can do