

AV '19 KONFERENCE ASFALTOVÉ VOZOVKY 2019

Economy meets Ecology Microsurfacing pavements according to latest standards

Autor/autoři Jens Krause

26. – 27. listopadu 2019, České Budějovice

Motto: Po asfaltových vozovkách k černým zítřkům



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CONTENT

- Cold Asphalt Applications are sustainable
Saving resources
Low Carbon Footprint
- Preventive Maintenance is cheap
- Microsurfacing = Thinnest Modified layer
- Latest Standards = Quality & Efficiency
- Control3m = material/man/machine

Ecology

Ecology

Ecology

Economy

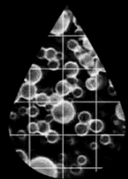
Economy

Economy

Economy

Cold Asphalt applications are sustainable

- Saving Resources as
 - Natural Aggregates
 - Bitumen
 - Energy
- Highest Quality of Materials applied on roads surface
 - ➔ at the place of maximum impact on the road
- High Impact on roads lifetime
- Lowest Impact on traffic under works
- Low transports resulting in low emissions
- Low Carbon Footprint for the overall technology

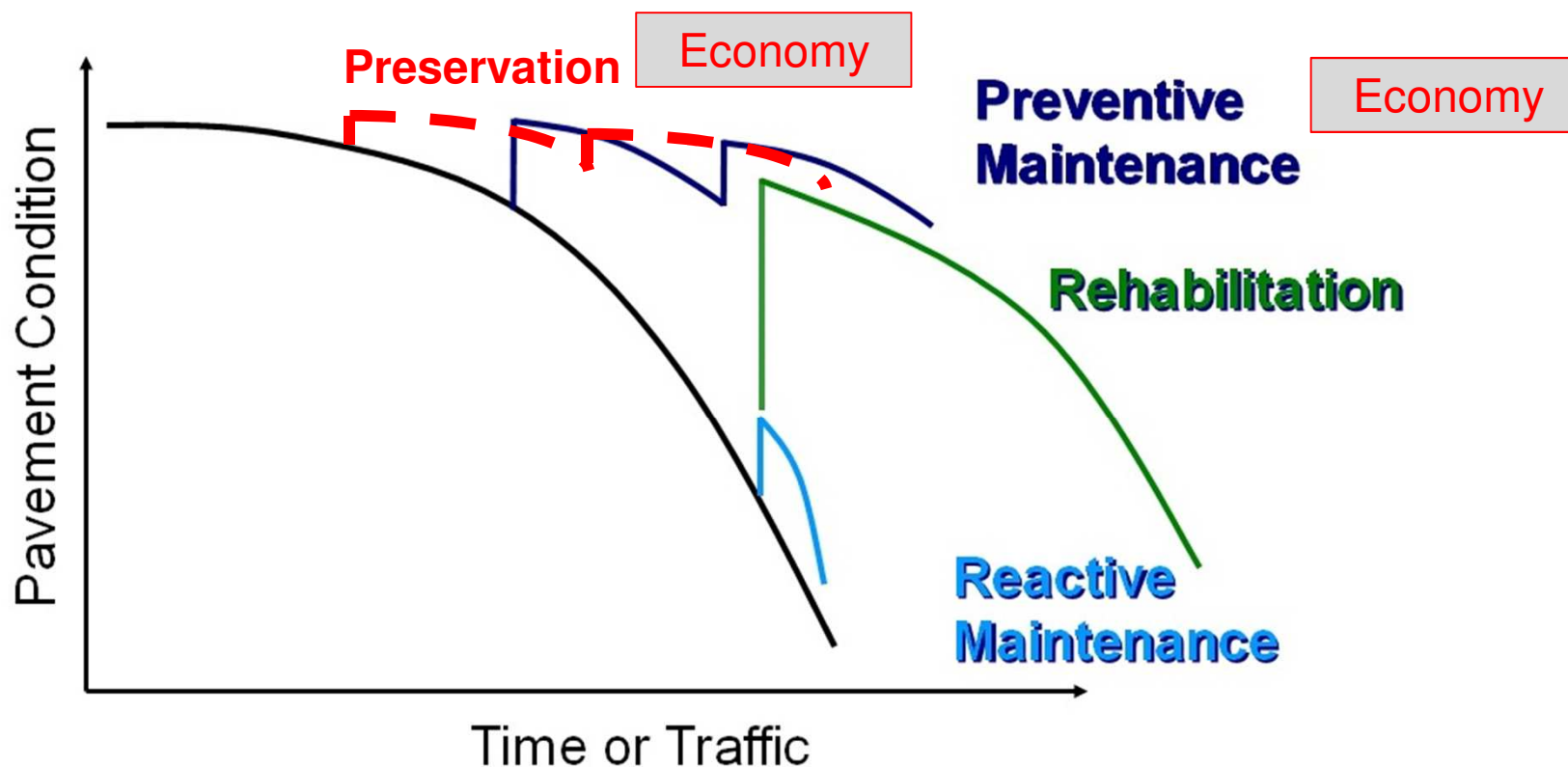


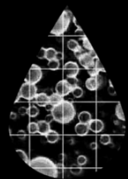
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Preventive Maintenance is cheap

Saves money by spending less at the right moment

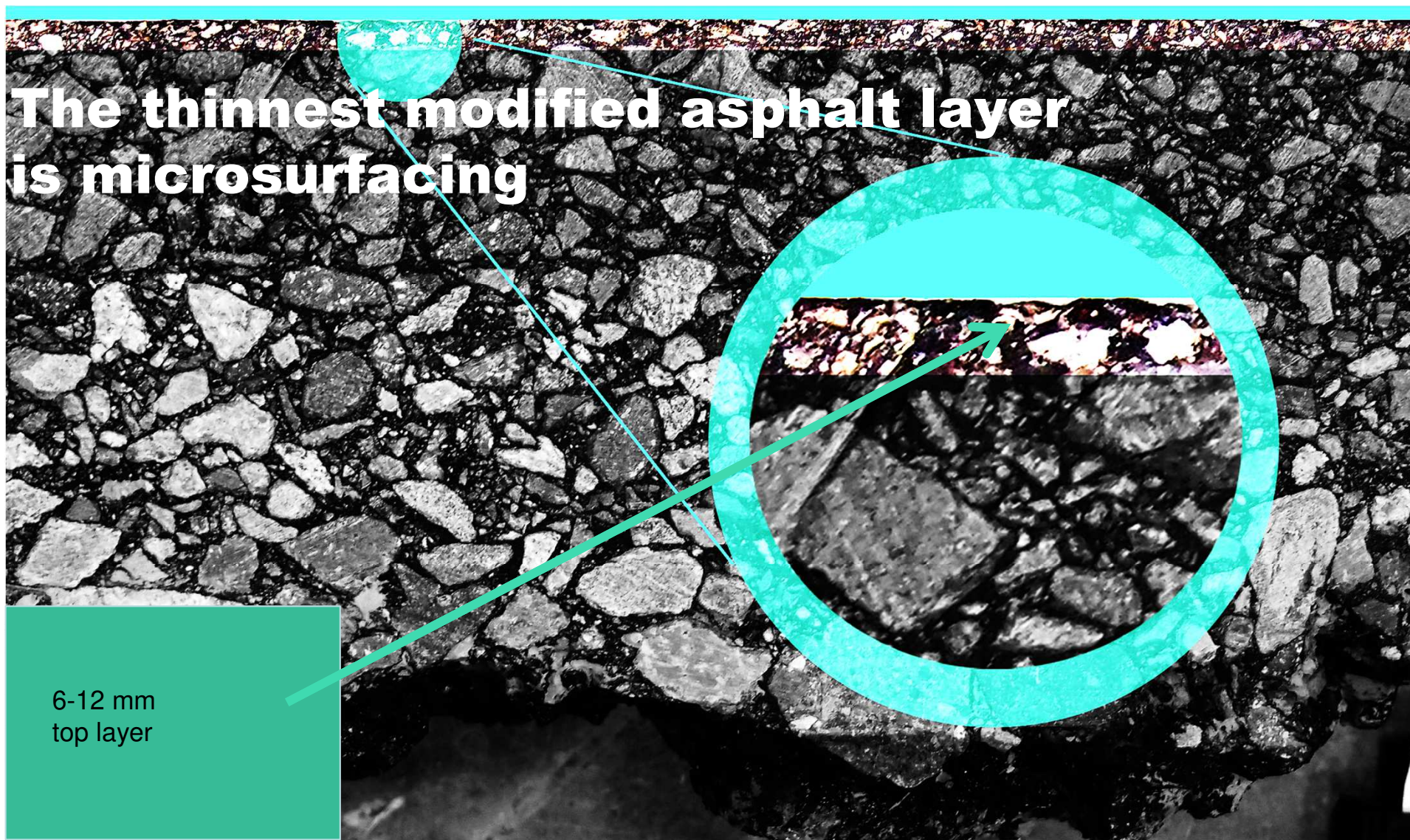




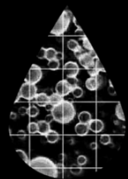
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**The thinnest modified asphalt layer
is microsurfacing**

6-12 mm
top layer



Microsurfacing is experienced for 50 years



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Motorways

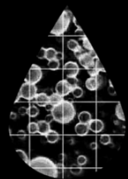


Tunnels



On concrete

Microsurfacing Lifecycle



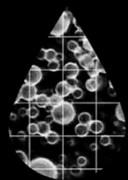
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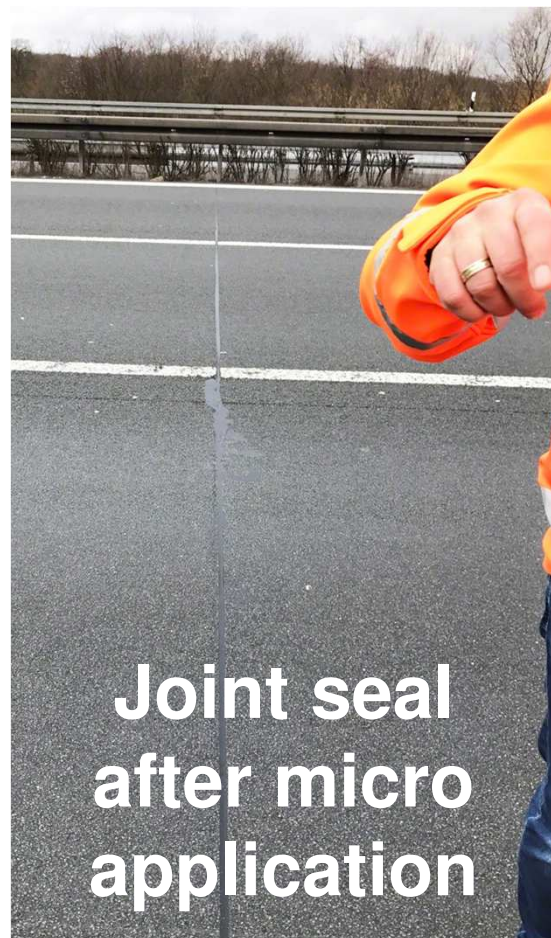
**8 years on A4
130.000 vehicles/day
still good**



Microsurfacing Lifecycle: A9 – 7 years old

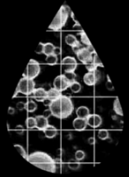


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Quality & Efficiency

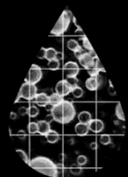


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30 min. $600 \times 3.5 \text{ m} = 2100 \text{ m}^2$
After 1-2h open for free traffic flow

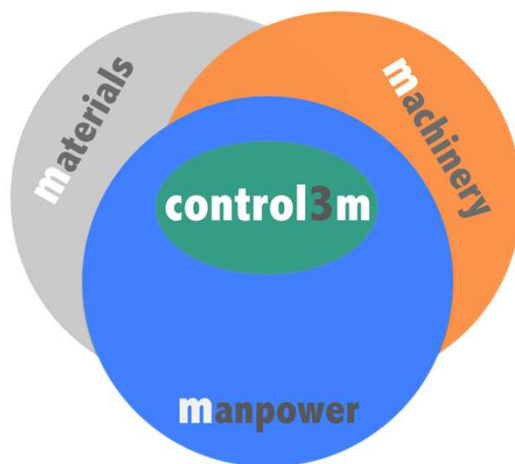
control3m– material/men/machine



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key factors

materials

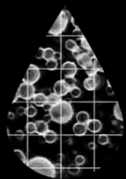


machinery

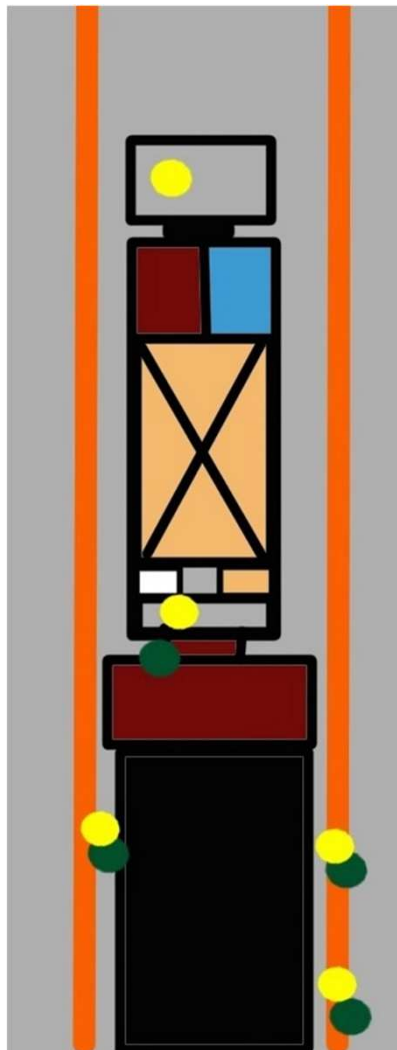
manpower

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Manpower: Trained experts mix and laydown

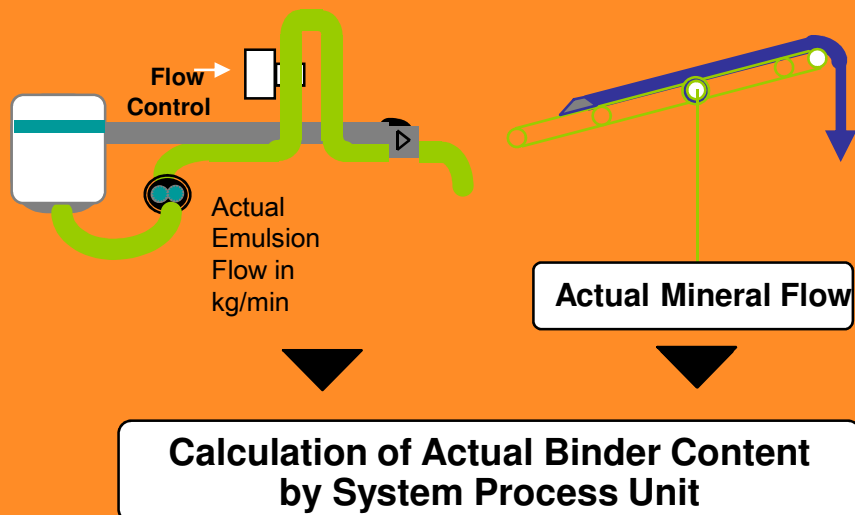
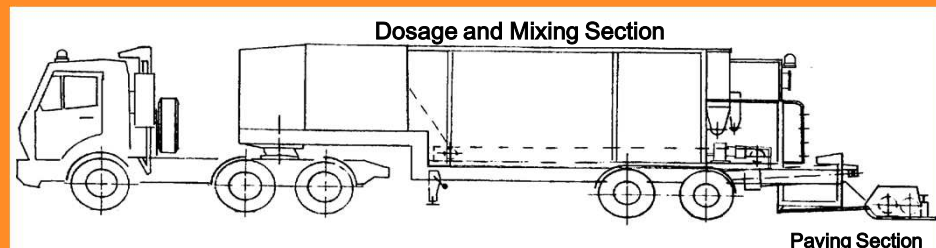


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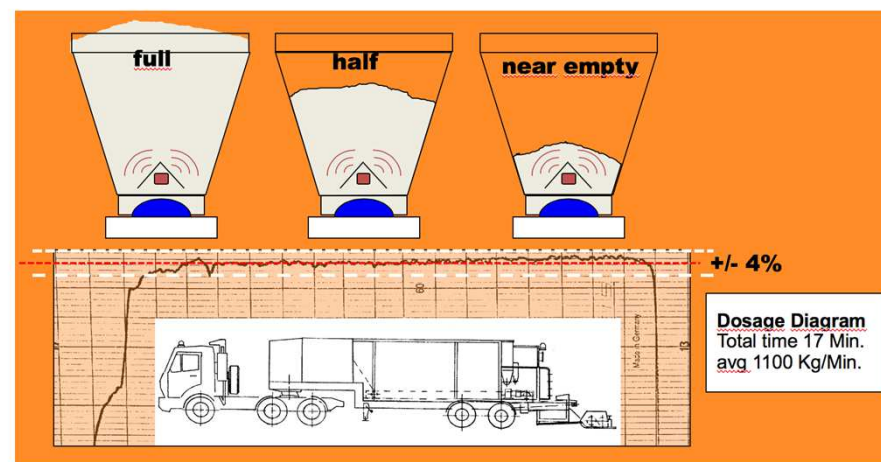


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Machinery: Mixing & Laydown in one mobile unit



Annual calibration Certificate

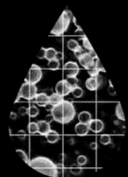


frequent lab
control of
the mix



Materials: Qualified Materials

qualified mineral mix & bitumen emulsion



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m

aterials

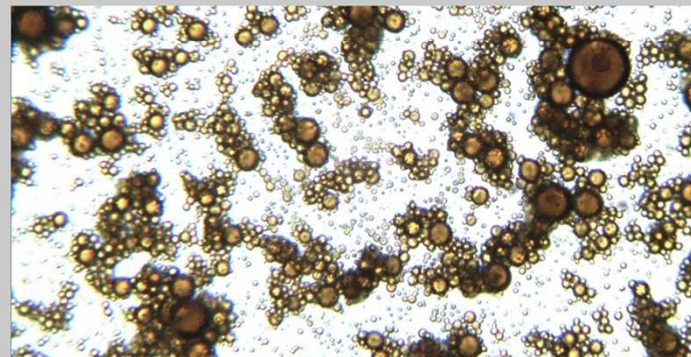
Mineral

Qualified clean fractions



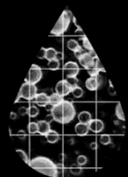
Bitumen Emulsion

Particle Size

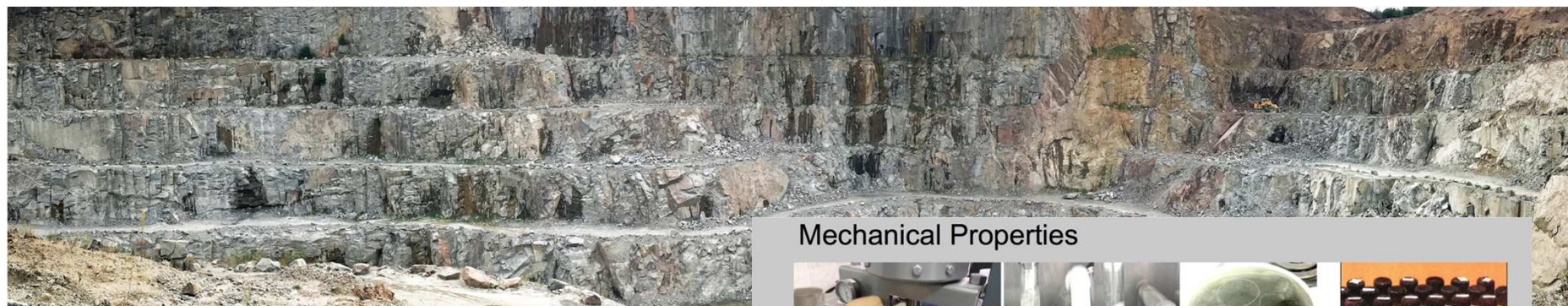


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Materials 1: qualified mineral mix



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Chips big
(5/8)



Chips small
(2/5)



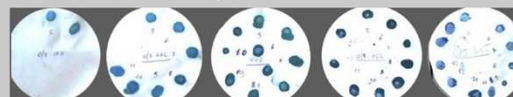
Sand
(0/2)



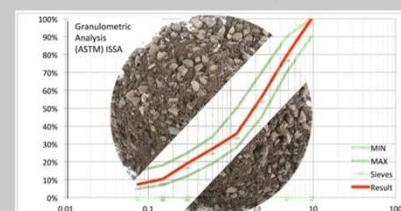
Mechanical Properties



Chemical Properties

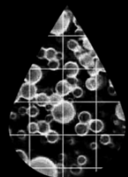


Mixture & Humidity



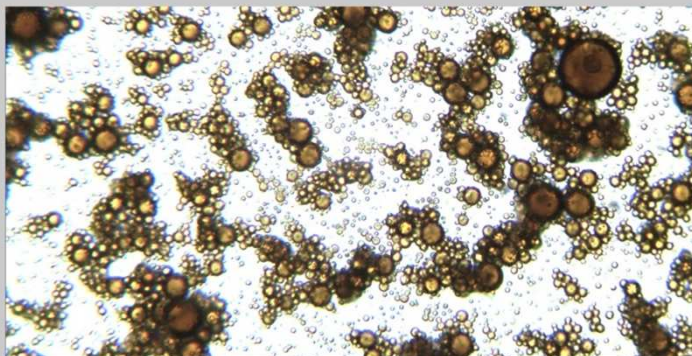
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Materials 2: polymer modified bitumen emulsion

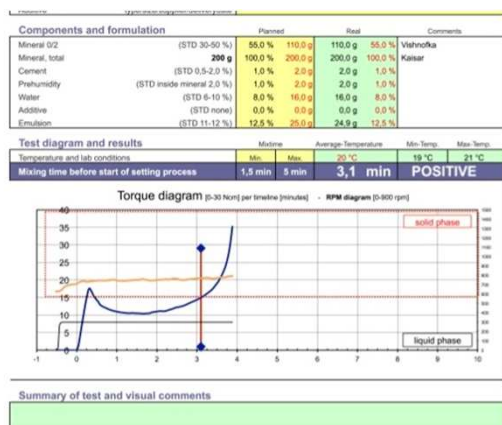


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Particle Size



Performance Test



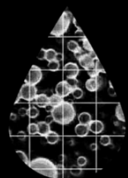
Performance
Certificate

30.8.2014

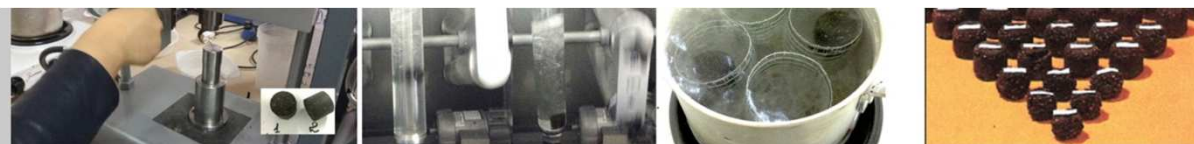
2014/07/8 EMU2000 20degree.xlsx

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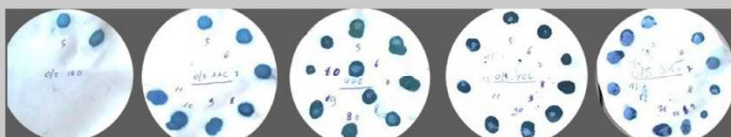
Materials Performance certificate



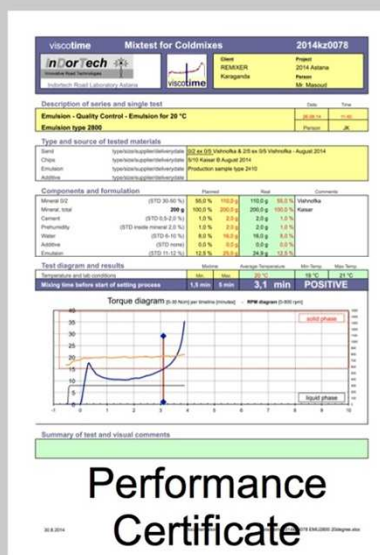
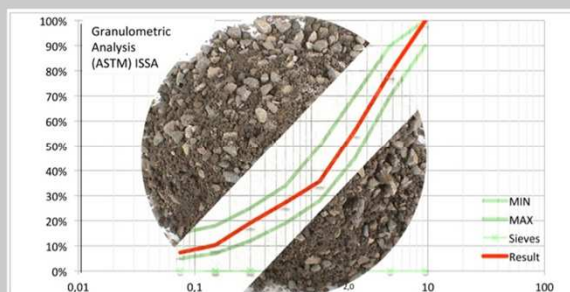
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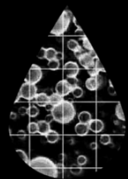
Chemical Properties



Mixture & Humidity



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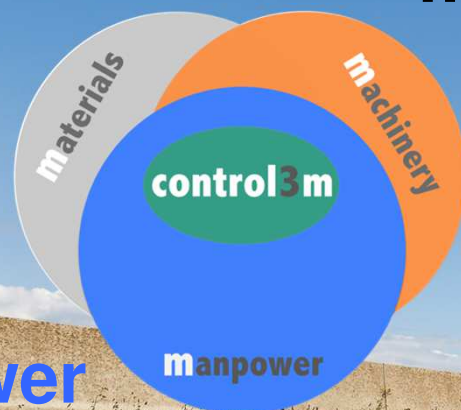
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Economy meets Ecology
only with the control of

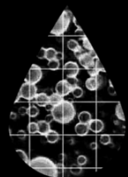
materials

machinery

manpower



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Economy & Ecology =

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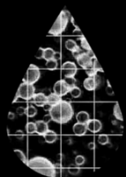


ESHA Strasse GmbH a Joint-Venture of
OAT & KUTTER



50 years
experience in
microsurfacing





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Thank you for your interest — Děkujeme Vám za Váš zájem