

## Kai Sørensen

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**Sendt:** 30. marts 2014 18:02  
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**Cc:** Gitte Hoeg; Josephine Schøller Rasmussen  
**Emne:** AW: 5th meeting in the Rural Roads Design Group, April 2nd-4th in Copenhagen  
**Vedhæftede filer:** image001.emz; image002.png

Dear friends,

in addition to my mail from Monday I send you our questions and topics for the discussion for the presentation "Drainage of road surface on 6 or more lane motorways, measures against aquaplaning" on Friday after lunch.

Our problem:

- The minimum profile of a tyre of a passenger vehicle in Germany is 1,6 mm
- In the consequence we want to have on the road surface of a motorway a water film thickness of maximum 2,0 mm.
- This is on a motorway / carriageway with three and more lanes in one direction it is in the zones of low drainage (superelevation rate lower than 2,5 %) not possible.
- That's why some measures would be necessary, f.e.:
- Increase of gradient
- Open-pored top layer
- Engineering drainage measures (rectangular gutter)
- Avoidance of superelevation transition by application of negative superelevation with very large radii
- Speed limit on wet road surface

Our questions:

- What for a minimum profile do you have?
- What for a water film thickness do you have?
- Do you have physical models to estimate the water film thickness and perhaps a necessary speed limit?
- Do you have also additional measures in zones of poor / low drainage?
- Does the measures depend on the number of lanes or the width of the cross section?
- Do you have a speed limit during raining on a wet road surface?
- Do you have more accidents in such zones of low drainage?

Best regards  
Christian Lippold

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