



Reduction of Moisture in Aggregates for Asphalt Production

Road Pavement Forum Feedback

CSIR

10 November 2010

Aggregate Moisture

- An estimate 100,000 tonnes of water is purchased by the asphalt industry each year
- This equates to a theoretical 40% more fuel requirement
- And 7 kg CO₂ per ton of asphalt produced
- At a cost of approx. R18mil /year collectively



Aggregate Moisture

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Unfortunately , No



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 - Clean single sizes of fine dusts etc
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This would equate to an approx. 1.8% moisture content in a combined grading as apposed to a 2.8% used in previous calculations



Aggregate Moisture

- In effect we have 1% moisture in our combined grading
- 2 kg CO₂ per ton
- 13% extra fuel
- Approx. R2.60/ton asphalt

This is the status quo



Aggregate Moisture

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In some cases Not



Aggregate Moisture

- To clean sands of clay and silt is important
- Single size stones with some dust on are generally not a problem
- Only dusts with a high fines content ($75\mu\text{m} > 18\%$) could present a problem
- Conventional dewatering systems give 8% H_2O at best



Aggregate Moisture

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 - Washed dusts & sands production capacity
 - No time for material to lay on stockpile
 - At 8% moisture a new stockpile will lose around 3% moisture on a paved slope (3% grade) in a day or two



Aggregate Moisture

- Dry solutions are available



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 - Fisher Dust Separators
 - Beull Systems



Aggregate Moisture



Aggregate Moisture

- Capital Cost
- Easier to use generated fines



Aggregate Moisture

Is it worth it to look at this Nationally?



Aggregate Moisture

- These figures are based on National production
- Our problems are regional or even single source based

