Die Frischbetonprüfung Selbstverdichtender Betone direkt im Mischer

The assessment of Self-Compacting Concrete in a Mixer

Current Situation

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Problems during production of SCC

- Dosing accuracy at the concrete plant
- Moisture content of (fine) aggregates
- Change in properties of constitutive materials

  (grading curve, super plasticizer etc.)

➢ deviation of fresh concrete properties

Current Situation

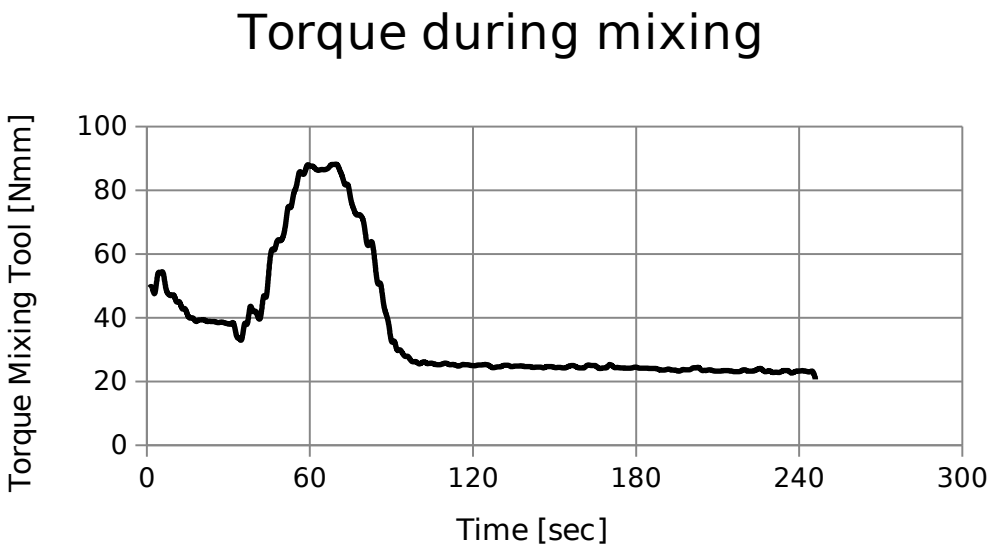
Target

- Evaluation of the flowability and the rheological properties of SCC automatically, directly after the mixing process has been finished

Current Situation

Control of the flowability of SCC during production

- Mixing energy

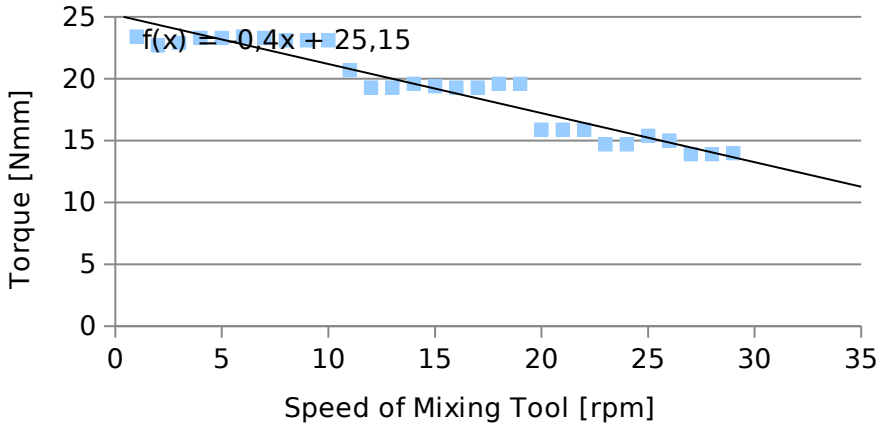


Current Situation

Control of the flowability of SCC during production

- Mixing energy

  Evaluation with Bingham-Model



Problem:
Not exact enough for SSC

Conception

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Target

- Evaluation of the flowability and the rheological properties of SCC automatically, directly after the mixing process has been finished
- At the end of the mixing process a rheometer immerses into the concrete and starts the measurement
- At this time a correction of the mixture is still possible, before it is filled into the truck

The concrete rheometer RheoCT

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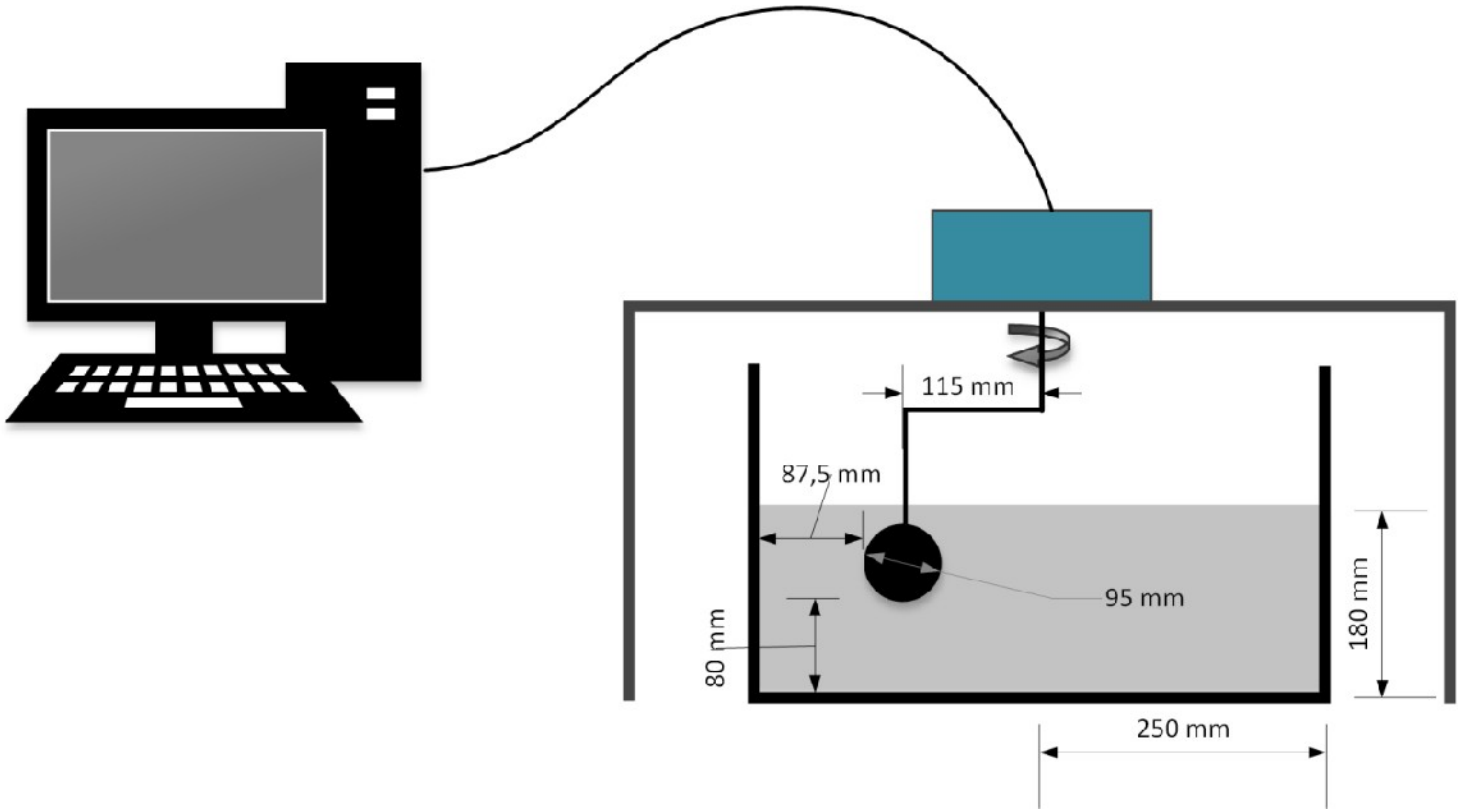
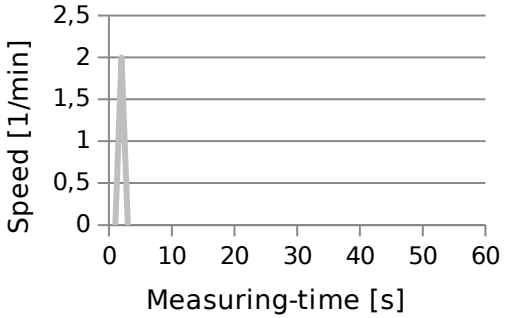
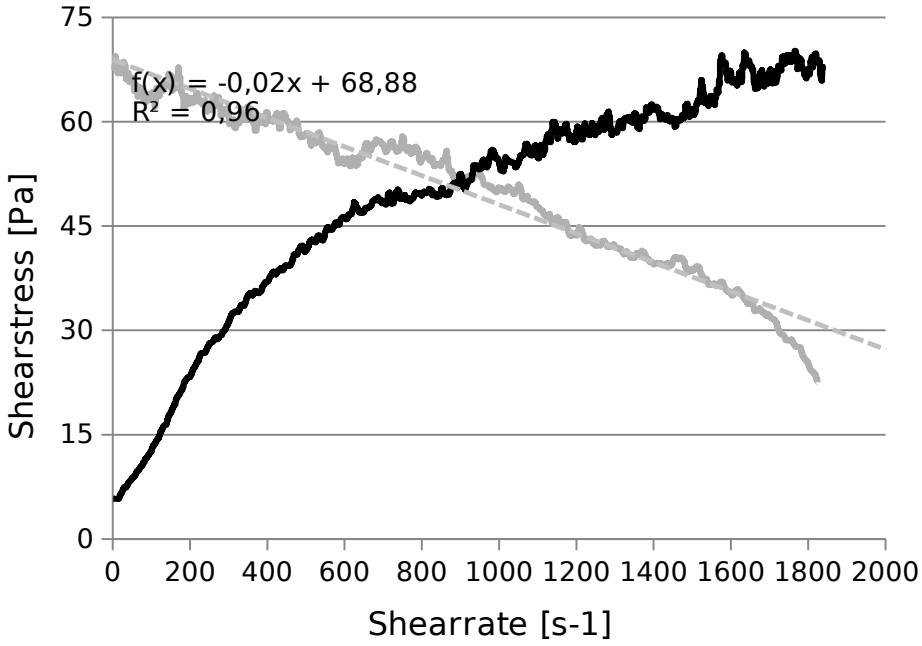
The concrete rheometer RheoCT



The concrete rheometer RheoCT





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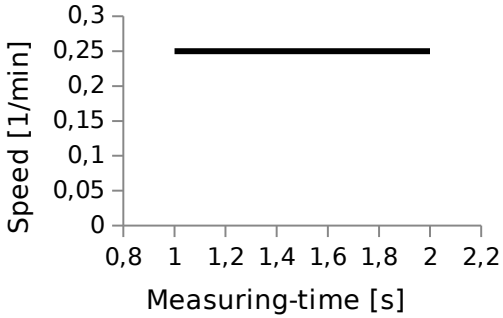
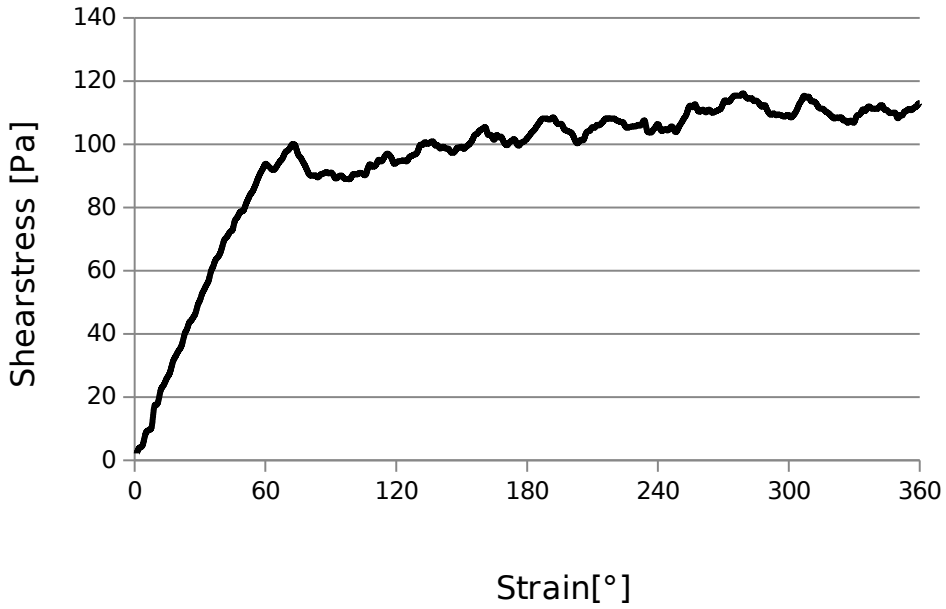
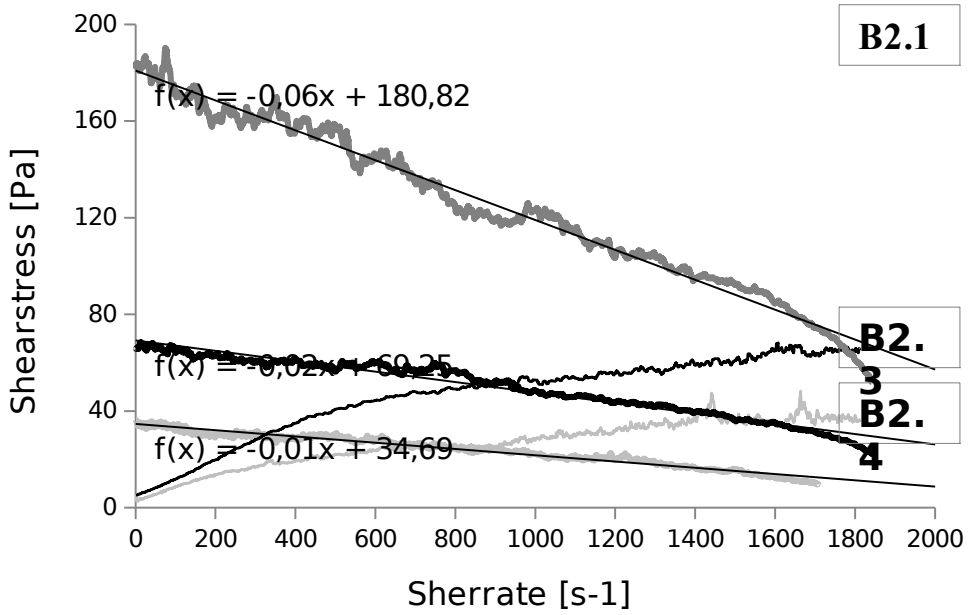




The concrete rheometer RheoCT

Concrete		B2.1	B2.3	B2.4
Water	kg/m³	177,7	187,9	192,7
Slump Flow	mm	630	790	830
V-Funnel Time	sec	11,1	6,3	4,8
Sedimentation		no	no	yes



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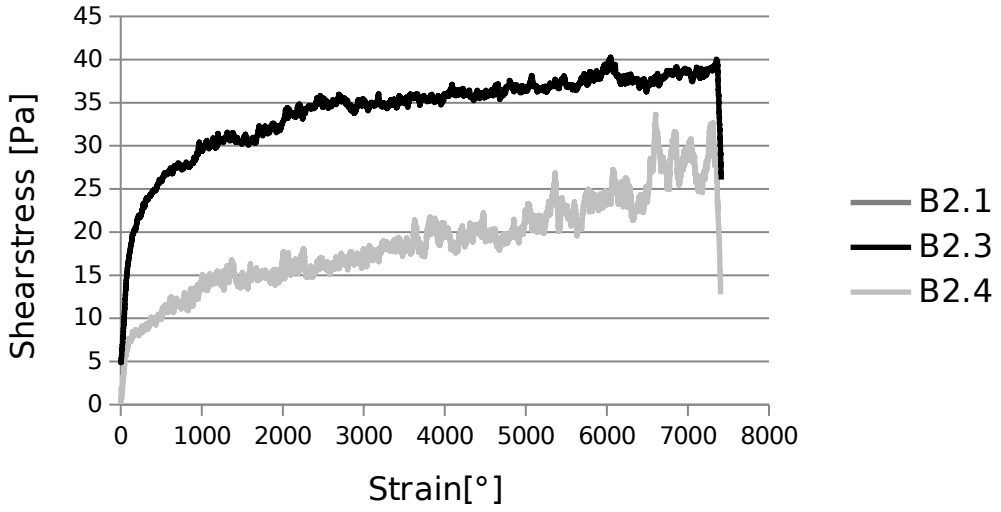
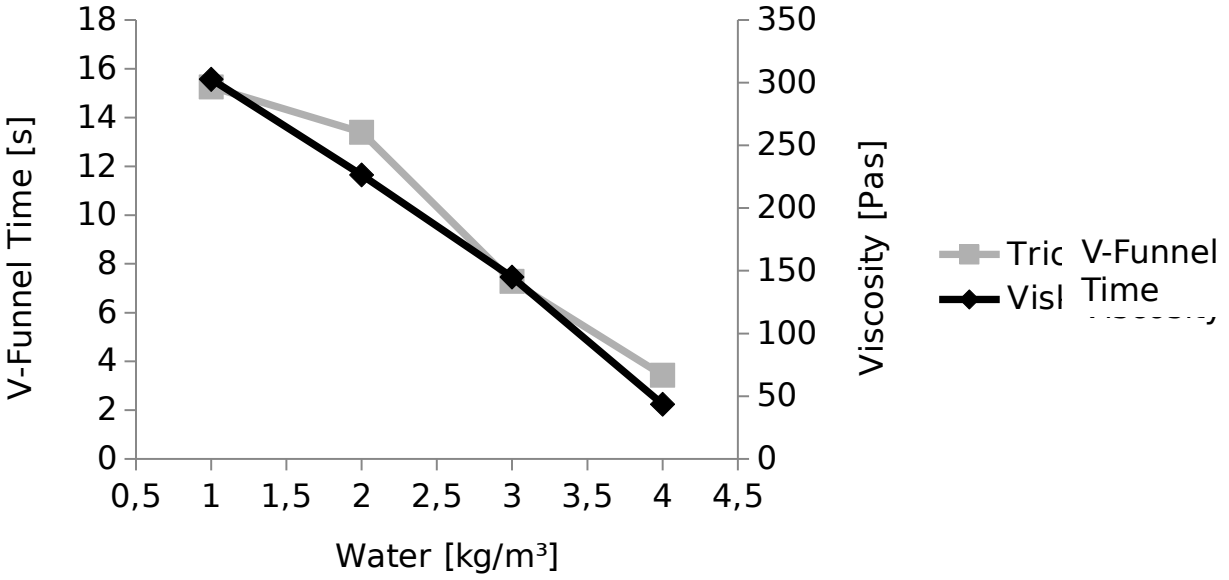


Control of the water-content



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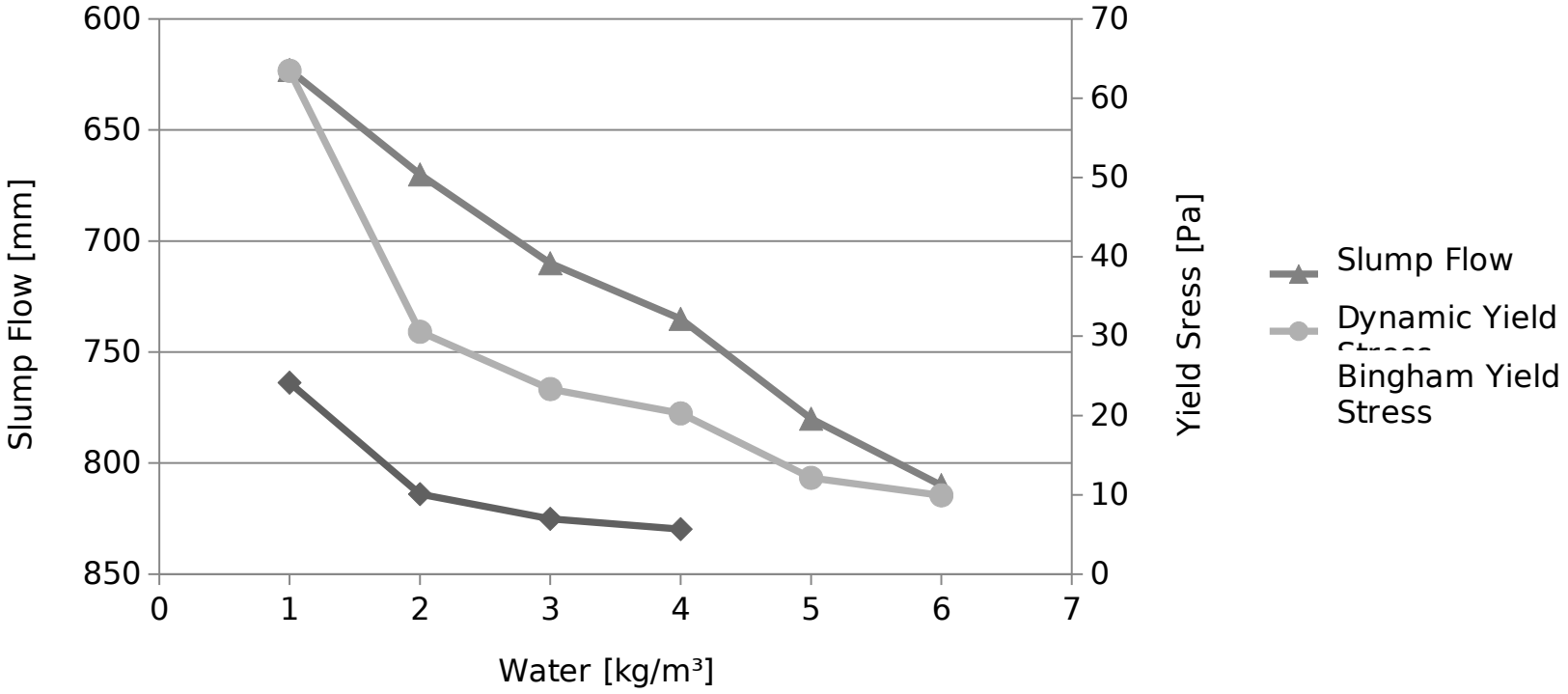
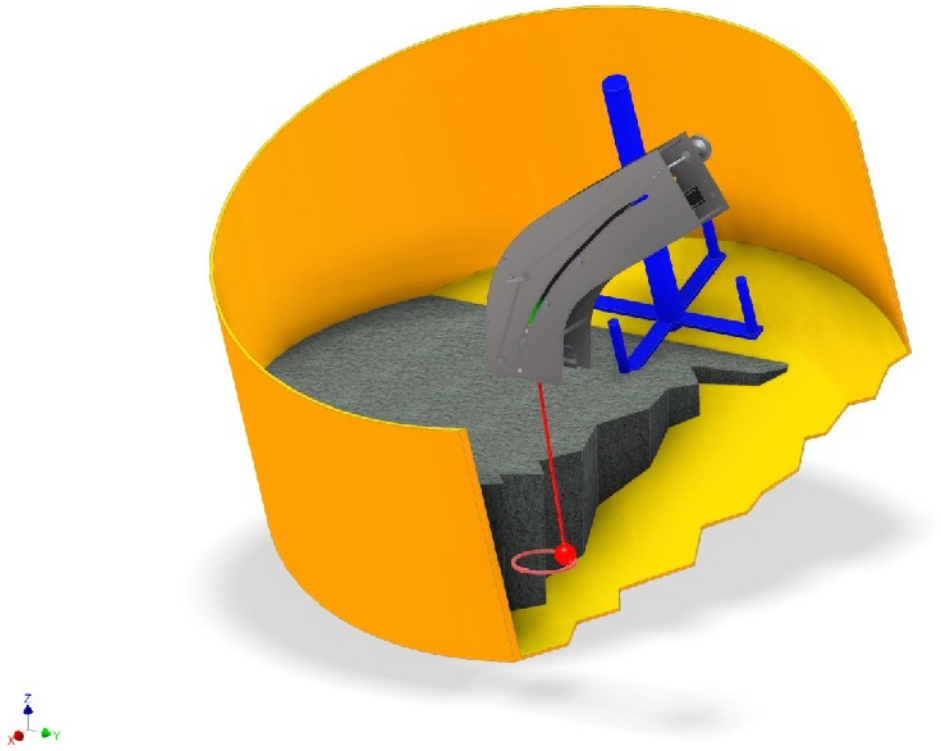


Implementation in the mixer



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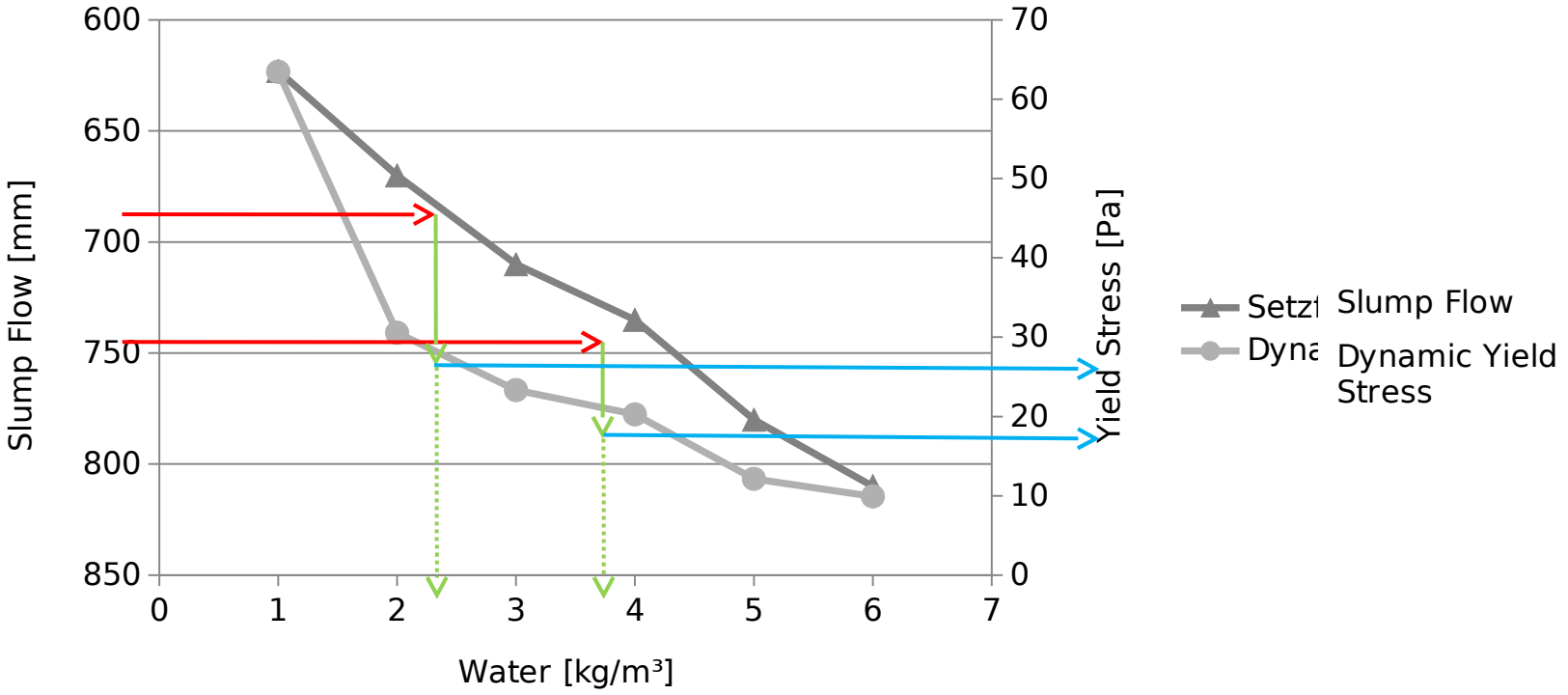
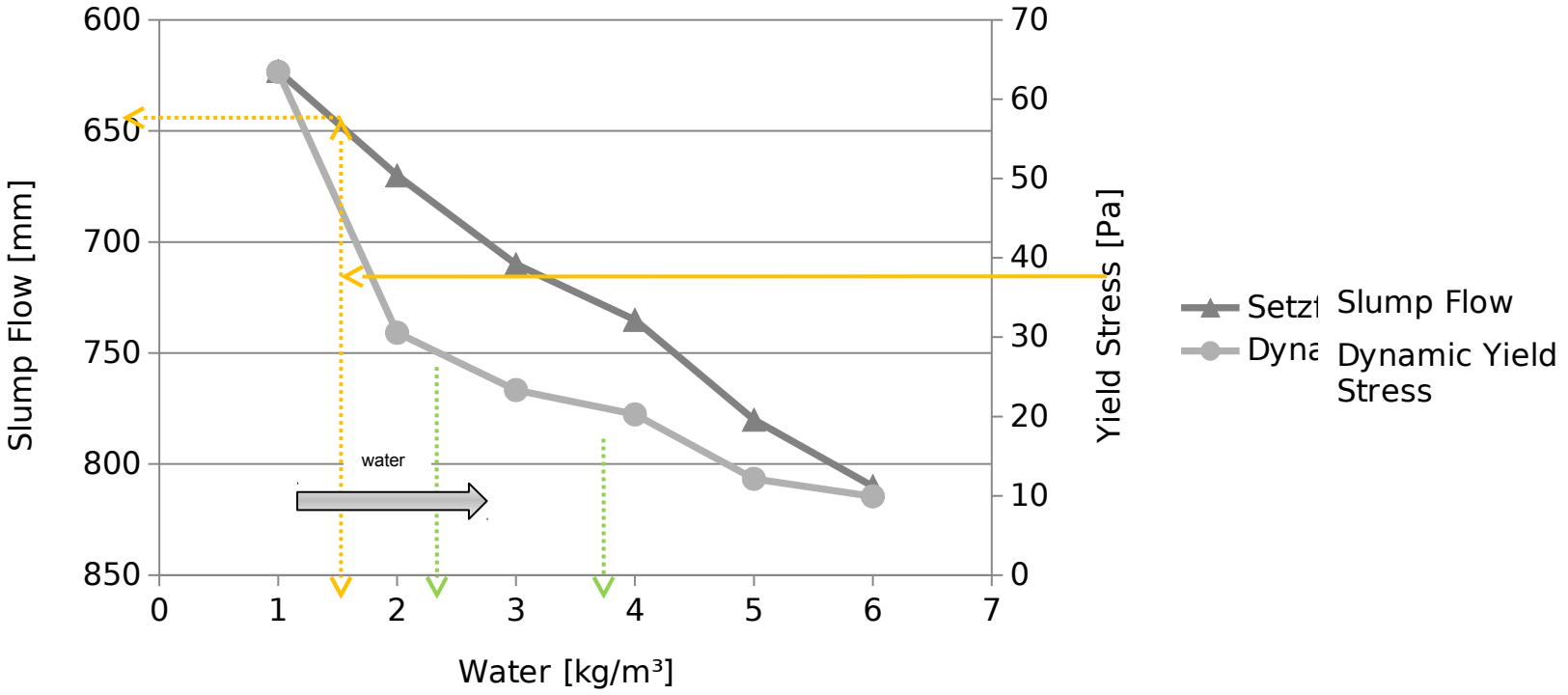


Control of the water-content



Conclusion

- Concrete rheometer for use in a concrete plant
- Rheological Values
- Quality control
- Fast test results
- More uniform SCC
- Less wastage
- Financial success

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Thank you

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