Evaluation of test- parameters for the force-ductility (VSS1999/121)

Optimierung der Kraft-Duktilitätsprüfung von PmB

Funding: National (Switzerland)
Duration: May 1999 - Jun 2001
Status: Complete with results

Background & policy context:

At the time of introduction of the draft standard for polymer modified bitumen SN 671 400 no plastomer modified PmB were used in Switzerland. This standard only applies to elastomer-modified bitumen as plastomer modified bitumen currently cannot be characterised by simple test methods. The elastomer-modified binders can be distinguished from the pure bitumen with the examination of the elastic recovery in a simple manner a PMB.

There currently lacks the analog test methods for plastomer modified bitumen. As part of the CEN Standardisation, a proposal was introduced based on the force ductility testing of the French side. The proposed test method can be very good to distinguish between elastomer bitumen PmB and clean again; plastomer modified bitumen are unfortunately not recognised unambiguously as PmB.

Conclusion: plastomer modified bitumen are also used in Switzerland without their special properties can be measured for quality control.

It is to develop a simple and rapid test method to characterise plastomer modified bitumen. This test method is to be carried out in conventional road construction laboratories and not trigger costly purchases. In addition, the method should lead to rapid results in order to find their way into practice.

Objectives:

The project is aimed to development of a rapid, simple method for the characterisation of plastomer modified PmB.

Parent Programmes:  
ARAMIS - ARAMIS information system

Institute type: Public institution
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Partners:

Switzerland
Swiss Federal Roads Office
IMP Baustest AG Institut für Materialprüfung

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Key Results:
By varying the various parameters a test method has been established that it to distinguish it-permits, PmB bitumen standard, regardless, of whether the PmB with elastomers or plastomers modified. The repeatability of the test methods (an observer, a device) was determined. Based on a comparative study with 4 laboratories, although no comparison could be determined, at least showed that the laboratories came to very similar conclusions.