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PROJECT REPORT

Project Number: 17435C

Performance of Viacore AC 11 Resistance to Permanent Deformation - Wheel Tracking Test (WTT)

by

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Bernhard Hofko**

and

Ing. David Valentin

On behalf of
Österreichische Vialit GmbH
Josef-Reiter-Straße 78
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Vienna, August 2018

This report contains 5 pages and one annex with test reports.

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1. Contents of this Project

The Institute of Transportation, Research Center of Road Engineering, Vienna University of Technology was contracted by Österreichische Vialit GmbH, Josef-Reiter-Straße 78, A-5280 Braunau, represented by Mr. Thomas Schinkinger to carry out performance based tests for a Viacore AC 11.

The following tests have been conducted:

Test Method	Standard	Remarks
Production of asphalt mix slabs by steel segment compactor	EN 12697-33	
Dimensions of specimens	EN 12697-29	
Bulk density	EN 12697-6	SSD Method
Wheel Tracking Test	EN 12697-22	According to EN 13108-20, table D.1, reference D.1.6 at +60 °C

2. Materials and Specimen Production

For this project, asphalt mix samples of Viacore AC 11 were provided by the client in January 2018.

For specimen production, the asphalt mix was homogenized in a laboratory mixer according to EN 12697-35 at room temperature with 3 M% of water. Subsequently, the loose mixture was conditioned in a metal pan for 24 h at room temperature and for another 5 h at 155°C in a heating cabinet. The mix was then compacted to slabs in a steel segment compactor. After another 24 h storage at room temperature, the slabs were cut and cored into specimens. Dimensions and bulk density of the specimens were determined before testing.

3. Asphalt Mix Test Results

3.1. Resistance to Permanent Deformation of Viacore AC 8 - WTT

Figure 1 shows the evolution of the rut depth during the wheel tracking test for the Viacore AC 11. The WTT results in a mean proportional rut depth of 4.1%. This corresponds to a $PRD_{AIR-max5,0}$ according to EN 13108-1

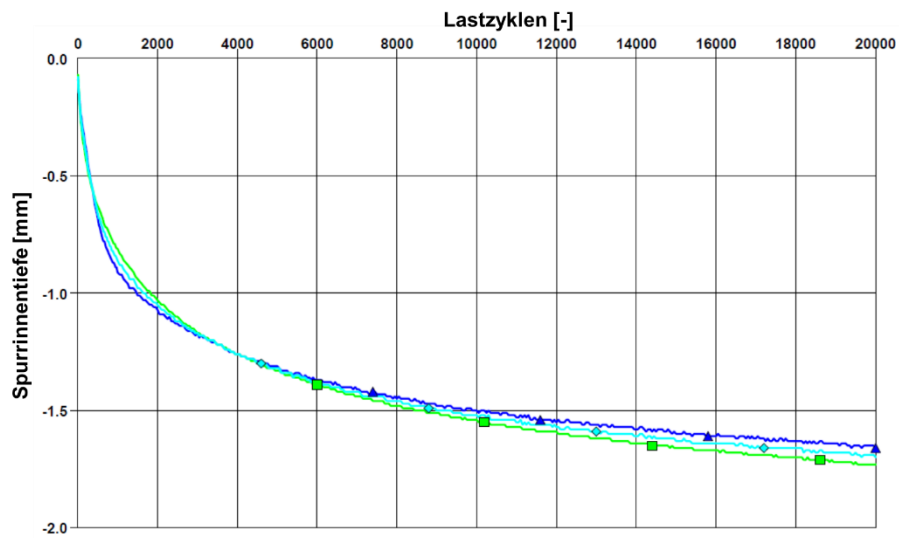



Figure 1: WTT results of Viacore AC 11


Ass. Prof. DI Dr. Bernhard Hofko
Head of Laboratory
Vienna, August 2018


Ing. David Valentin
Project Manager

APPENDIX

Project Number: 17435C

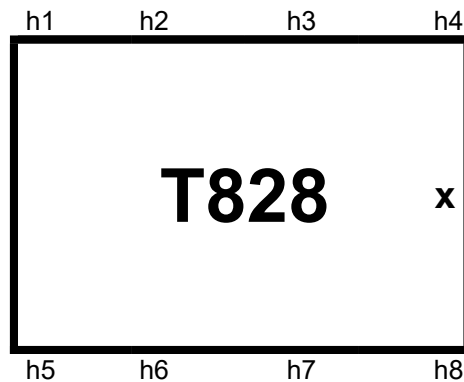
This Annex contains all test reports.

Test Report: Determination of Dimensions of Asphalt Mix Slabs
P432
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Client	Österreichische Vialit GmbH
Date	15.05.2018
Project	17435
Project Manager	David Valentin
Tester	David Valentin
Standard	EN 12697-29, Version 2002

Sample Data

Asphalt mixture	Viacore AC 11	Lab Code	AS1195
Asphalt sample	Viacore AC 11	Lab Code	A688
Origin	Österreichische Vialit GmbH		

Test Results

Dimensions [mm]

Length	500,0	h1	41,3	h5	40,7
Width	260,0	h2	40,2	h6	41,0
		h3	40,8	h7	41,4
		h4	41,0	h8	42,0
Mean Value Height			40,8		41,3

Determination of Bulk Density Method D - Measuring

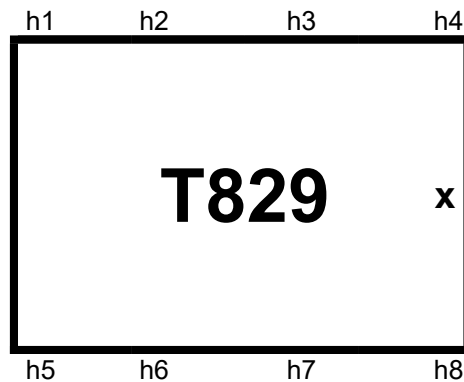
Dry Mass [g]	12422,0	Bulk Density [Mg/m³]	2,330
Volume [cm³]	5336,5		

Test Report: Determination of Dimensions of Asphalt Mix Slabs
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Client	Österreichische Vialit GmbH
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Standard	EN 12697-29, Version 2002

Sample Data

Asphalt mixture	Viacore AC 11	Lab Code	AS1195
Asphalt sample	Viacore AC 11	Lab Code	A688
Origin	Österreichische Vialit GmbH		

Test Results

Dimensions [mm]

Length	500,0	h1	42,1	h5	41,1
Width	260,0	h2	41,5	h6	40,7
		h3	41,7	h7	40,9
		h4	40,5	h8	40,9
Mean Value Height			41,5		40,9

Determination of Bulk Density Method D - Measuring

Dry Mass [g]	12476,0	Bulk Density [Mg/m³]	2,330
Volume [cm³]	5352,1		

Wheel Tracking Test

EN 12697-22 (Method B)

Test Specimen: T828_T829

Sample	Wheel Tracking Rate [mm/1000cycles]	Wheel Tracking Rate (linearer Part) [mm/1000cycles]	Rut Depth [mm]	PRD [%]
Left	0,03 <small>(d10000-d5000)</small>	0,02 <small>(d9525-d7525)</small>	1,7	4,0
Right	0,04 <small>(d10000-d5000)</small>	0,03 <small>(d9575-d7575)</small>	1,7	4,2
Mean Value	0,04	0,03	1,7	4,1

