

Billian UK Ltd Type Testing

Laboratory Report



4076



1.0 Introduction

Billian UK Limited approached PTS to determine the resistance to permanent deformation of an AC10 close grade surface course to BS EN 13108 containing pelletized bitumen

2.0 Laboratory Work

The material was heated to 155 deg C before being mixed and compacted in accordance with BS EN 12697-33. The subsequent 300mm square slabs were then conditioned and tested in accordance with BS EN 12697-22 small device procedure B at 60 deg C

3.0 Results Summary

The mean results were found to be: Mean Wheel-tracking slope in air WTS_{AIR} 0.0397mm/10³, mean rut depth of 2.3mm and a mean proportional rut depth PR_{DAIR} 4.5%.

3.1 Interpretation of results

The results obtained were then compared to the limits specified in PD 6691 table B.4 No.2 "Very heavily stressed sites requiring very high rut resistance"

The limit for the WTS_{AIR} is 1.0 compared to the result obtained of 0.0397 the value for PR_{DAIR} is to be reported but no limits have been specified.

Table B.4 also states the limits when tested to the former standard BS 598-110 whilst the rut rate per hour cannot easily be derived from the current method, results can be compared with the former limit for the maximum rut depth of 7mm

PD 6691	limits	Billian mix		BS 598-110	Limits	Billian mix
WTS_{air}	1.0	0.0397		Maximum rut depth	7 mm	2.3 mm
PR_{DAIR}	No specified limit	4.5%				

4.0 Conclusions

The results obtained indicate that the material is suitable to be applied to all sites where good resistance to permanent deformation is required.

Signed: 	Darren Foster Laboratory Manager
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EN 12697-22:2003+A1-2007 Wheel tracking Small Device Procedure B Report

Test Method	Wheeltracking EN 12697-22:2003+A1-2007	
Equipment Type	Coopers Modified Small Device Wheeltracker	
Project Number and Name	PTS1519-B-02 Billian	
Client	Billian	
Client Address	Billian UK Limited Butterthwaite Business Park Butterthwaite Lane Ecclesfield Sheffield S35 9WA	
Material Supplier / Material Source	Billian	
Material Type / Specification	AC10	
Details of Lab prepared samples	2 Slabs as per BS EN 12697-33 on 03/07/2015	
Core Locations	N/A	
Sample Certificate Taken / Attached (Y/N)	Y	
Storage Temperature (°C)	Ambient Until Testing	
Target Test Temp (0.1°C)	60°C	
Target Test cycles (N) and Rut Limit	10,000 / 20mm	
Mean Specimen Thickness (mm)	51.4	
Method used for density determination (in accordance with BS EN 12697-6:2003)	Dimensions	
TEST RESULTS	Specimens	
	1	2
PTS Sample Number	A15-4788 A	A15-4788 B
Client Ref	Slab A	Slab B
Date Laid	N/A	N/A
Date of Production	03/06/2015	03/06/2015
Date Sampled	N/A	N/A
Core Location Information	N/A	N/A
Bulk Density (in Kg/m ³)	2293	2259
Date of Test	06/07/2015	06/07/2015
Time of Test	03:00	03:00
Sample Thickness (mm)	51.0	51.7
Specimen Age at Test (days)	3 Days	3 Days
Actual Test Temperature (Target ±1°C)	60.3	61.2
Wheel-tracking slope in air (mm/10 ³ load cycles)	0.0374	0.0420
Rut Depth at N cycles (± 0.1 mm)	2.2	2.4
Proportional Rut Depth at N cycles (%)	4.3%	4.6%
Mean Wheel-tracking slope in air (mm/10 ³ load cycles)	0.0397	
Mean Rut Depth (mm)	2.3mm	
Mean Proportional Rut Depth at N cycles (%)	4.5%	
Any deviations, comments, anomalies, reasons for the deviation and, if possible estimates of its effect on the test.	None	

Tested By: Tom Houghton
Authorised By: D Foster
Report Date: 09/07/2015